RIO ANAPU-PACAJA REDD PROJECT

4K Earth Science Private Limited

Project Title	Rio Anapu-Pacaja REDD Project
Version	04
Project Location	State of Para, Brazil
Report ID	2002-VCS

Report Title	Rio Anapu-Pacaja REDD Project
Client	Brazil Agfor LLC
Pages	103
Date of Issue	16/08/2021
Prepared By	4K Earth Science Private Limited
Contact	No.20, 'SNS Arcade', Basement Floor, Old Airport Main Road, Konena Agrahara, Bangalore-560017, Karnataka, India
Approved By	Chandrakala .R Director
Work Carried Out By	Ma Paa Puratchikkanal (Team Leader) Ms. Zainab Hassan (Technical Expert) Mr Ewerton Alves Nazareno (Technical and Local Expert) Dr. Sudha Padmanabha (Expert to Technical Reviewer) Mr. Narendra Kumar (Technical Reviewer) Mr. Victor Rosalino Ferreira (Video coverage and Interview)

Summary:

4K Earth Science Private Limited (4KES) was commissioned by Brazil Agfor LLC, to validate the project activity “Rio Anapu-Pacaja REDD Project” in Brazil.

The purpose of the Validation is to confirm that ‘Rio Anapu-Pacaja REDD Project’ and all related project documentation are in accordance with all rules and requirements of the VCS and CCB.

The VCS Standard v4, VCS Methodology Requirements, v4.0, the applied GHG methodology “Methodology for Avoided Unplanned Deforestation (VM0015)” version 1.1 and its associated tools 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 Rio Anapu-Pacaja REDD Project primary objective is to promote forest conservation and reduce potential greenhouse gas emissions (GHG) under Reducing Emissions Deforestation and Degradation (REDD) project category. The project is designed to avoid and prevent unplanned deforestation in native forests thus avoiding the net emission of 39,489,204 tCO_2e through the project lifetime of 30 years. Specifically, the project is of the “Avoided Unplanned Deforestation” (AUD) project category. The project area, of 165,707 ha, is in a critical region of the eastern amazon biome”, which is located northwest of Brazil, in the State of Para.

During the validation process 09 clarifications, 48 corrective actions and 0 forward action request concerning CCB validation were raised.

In conclusion, it is 4KES’s opinion that the project activity “Rio Anapu-Pacaja REDD Project” in Brazil, meets all relevant requirements for VCS and CCB standard and guidelines, and correctly applies the methodology VCS VM0015 Methodology for Avoided Unplanned Deforestation v1.1 of 03/12/2012 for the calculation of baseline, for determining additionality and to monitor emission reductions through its entire crediting period between 1 January 2016 – 31 December 2045; 30 years. It is also 4KES’s opinion that the Project.

Table of Contents

1 INTRODUCTION

1.1 Objective

4KES has been contracted by Brazil Agfor LLC, to undertake the validation of the project activity "Rio Anapu-Pacaja REDD Project" in Brazil" (which was under the VCS pipeline with ID PL1953).

The purpose of this validation is to have an independent third party assessment of whether the project activity conforms to the qualification criteria set out in the VCS Standard Version 4.0 on the basis of the project design.

In particular, the project's baseline, monitoring plan, and the project's compliance with relevant VCS requirements and host Country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Carbon Units (VCUs).

1.2 Scope and Criteria

The validation scope is given as an independent and objective review of the project design, the project's baseline study and monitoring plan which is included in the VCS PD and other relevant supporting documents.

The scope of work covered in the validation is described below:

- To validate whether the project activity meets the requirements of VCS Standard v4.0, VCS Validation, VCS program guide v4.0 & VCS Methodology Requirements v4.0
- To evaluate whether the baseline and monitoring plan are in conformance with the applied methodology from the VCS
- To confirm that the information presented are completed, consistent, transparent and free of omission or material error
- Background investigation and follow up interviews
- Issuance of draft validation report with CARs, CRs & FARs, if any
- Final validation opinion

4KES has performed validation based on a risk-based approach focusing mainly on the significant risks to meet the qualification criteria and the ability to generate Verified Carbon Units (VCUs).

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

Rio Anapu-Pacaja REDD Project primary objective is to promote forest conservation and reduce potential greenhouse gas emissions (GHG) under Reducing Emissions Deforestation and Degradation (REDD) project category. Specifically, the project is of the "Avoided Unplanned Deforestation" (AUD) project category. The project is designed to avoid and prevent unplanned deforestation in native forests thus avoiding the net emission of 39,489,204 tCO_2e through the project lifetime of 30 years. The average annual reductions in emission by the project is 1,316,307 tCO_2e /12/.The native forest conservation will be able to support and protect more flora and fauna. The project area, of 165,707 ha, is in a critical region of the eastern amazon biome" which is at high deforestation risk and is located northwest of Brazil, in the State of Para. Specifically, the project is of the "Avoided Unplanned Deforestation" (AUD) project category.

The proponent of the project is 'Brazil Agfor LLC and other party involved in the project is Association de Ribeirinhos e Moradores de Portel, Para Ltda.

The other benefits of the projects are explained in the Section 2.2.1 of the PD. The summary is provided as below:

Climate Benefits: The project is expected to reduce the annual average GHG reduction of 1,316,307 tCO2e and for the GHG reduction of the crediting period is 39,489,204 tCO_2e

Community benefits: one of the major goals of the project is to provide land tenure security to the identified communities in the project area. The project also building the capacity of communities living outside the Project Boundary steps required to get the land title. The project has and will build capacity and skill of the communities in the project area and help in additional livelihood generation. Also, the project will provide cook stoves for the local population and conduct training on sustainable land use practices like agroforestry to conserve the native forest and increase tree cover. With the project implementation people will now have strengthened governance and forest management framework which will be in line of their traditional land management techniques and customs.

Biodiversity Benefits: The project will create of animal corridor, maintain forest cover and reduce habitat fragmentation. The project will ensure the conservation of threatened animal and plant species. The project also strengthens governance in and around the project area by employing security guards for forest protection.

2 VALIDATION PROCESS

2.1 Audit Team Composition (*Rules* 4.3.1)

The Competency Certificate of each of the Team Memebers is provided in the Appendix 3 of this report:

Mr. Ma Paa Puratchikkanal is the Team Leader for the project, he has over 24 years of experience in water, environment and energy sector projects. He has validated and worked as a Team Leader, Technical Expert and Technical Reviewer for more than 300 projects of CDM,

VCS, WCD, Gold Standard Projects for various sectors & methodologies as per UNFCCC norms in various stages of Validation. He has been qualified as per the evaluation process of 4KES for competency for CDM/VCS/GS. He has worked with DOEs such as DNV, TUV Nord, TUV Rheinland and KBS.

Mr. Ewerton Alves has been working on the Forestry projects for in the country of Brazil. He is a Technical and Local Expert for sectoral scopes 14 in Country of Brazil and is a native local language speaker, he has assisted the TL in meeting with the local stakeholders and assessing the requirements of the projects, especially those related to the land-owners, involved stakeholders.

Ms. Zainab Hassan has more than 8 years of experience and has primarily worked on Forestry Projects. She is Technical Expert for sectoral scopes 14. She has been qualified as per the evaluation process of 4KES for competency for CDM/VCS/GS. She has primarily worked on REDD+, VCS-CCB Projects. She has Strong exposure in developing and managing PES and Plan Vivo forestry and clean energy projects apart from CDM and VCS projects. She is skilled in developing REDD+ strategies and projects.

Mr. Narendra Kumar is the Technical Reviewer for the project and has more than 10 years of experience in the field of Energy, CDM, GS, VCS validation and verification. He has carried out validation & verification of GHG mitigation projects under various carbon market mechanisms such as CDM, VCS & Gold standard projects for DOEs TUV Nord, TUV Rheinland and KBS d. He has completed more than 100 projects has validator/verifier and technical reviewer and has been qualified as per the evaluation process of 4KES for competency for CDM/VCS/GS. He is a Energy Auditor Certified by Bureau of Energy Efficiency.

Ms. Sudha Padmanabha is a Technical Expert to the Technical Reviewer. She has more than 30 years of experience and is forestry expert, she has been qualified as Technical Expert in sector 14 as per the evaluation process of 4KES for competency for CDM/VCS/GS. She is a Technical Advisory Committee member for the forestry sector for Gold Standard panel for assessment of strategies and projects in forestry areas. She is also a RIT member for CDM projects with UNFCCC.

Mr. Victor Rosalino Ferreira is a specialist in videography and has local language command and was used to do the video coverage and interviews.

2.2 Method and Criteria

Validation was conducted using 4KES procedures in line with the requirements specified in the VCS Standard v4.0, VCS Methodology Requirements v4.0, the applied GHG methodology “Methodology for Avoided Unplanned Deforestation (VM0015)”, v1.1 and its associated tools as well as applying standard auditing techniques.

The validation process is undertaken by validation team that involves the following:

- The desk review of documents and evidences submitted by the project proponent in context of the reference VCS rules and guidelines,
- Undertaking site visit, interview or interactions with the representative of the project proponent,
- Reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate and
- Preparing a draft validation report
- Resolution of outstanding issues and the issuance of final verification report and opinion

2.3 Document Review

The VCS Project Description submitted by Brazil Agfor LLC and additional background documents related to the project design and baseline (i.e. VCS Project Description Template, Approved VCS methodology, Validation Requirements) as well as scientific literature and country law were reviewed in the light of VCS Standard v4.0 and CCB Climate, Community and Biodiversity Standards v3.1 rules.

All documents reviewed are referenced throughout the validation report as well as in validation findings in Appendix 1.

2.4 Interviews

The interviews were carried out with communities during on-site visit conducted from 07/05/2021 to 15/05/2021 and earlier through video coverage visit to the Project Zone 08/06/2020 to 15/06/2020.. Out technical expert visited the site and inspected the implementation of the project as described in the PD. The stakeholders were interviewed on the land-ownership, community benefits and biodiversity asepcts.

An on-site inspection was conducted 07/05/2021 to 15/05/2021 to ascertain the claim on implementation of the project as described in the PD.

Below is a list of people interviewed.

Sr. No	Date	Name of the person	Role/Designation	Topic
1	07/05/2021 & 08/06/2020	Mr. Micheal Greene	Director, Brazil Agfor LLC	VCS PD, Excel Sheets, VER calculations, financials, Project Roles

				and Responsibilities allocated, Ownership and project details. Sampling and ecological survey points for data correction.
2		Wonete Pereira De Souza Auxiciar		
		Raimundo Neres Leal		
		Maria Benedita Gonsalves Da Silva		
		Benedito Gomsalves De Aquino		
		Irene Gonsalves Da Costa		
		Zenita Gonsalves Ataide		
		Ordenizio Barbosa Souza		
		Milena Sautana Zobato		
		Zuraita Barbosa Lafite		
		Manoel Raimomoo Freitas Da poems		
		Sebastiana Dos Salhas Souza		
		Erika Pinheiro De Souza		
		Walter B. Nascimento		
		Edmilson N. Serrão		
		Francilene Gonsalves		
		Francidalra J. Santos		
		Francitrente S. Santos		
		Roberto S. Santos		
		Graciano Oeda Silva		
		Ediana Oeda Silva Oliver		
		Maria Oliver Da Silva		
		Antonio S. Da Silva		
		Manoel S. Da Silva		
		Samara Silvae Silva		
		Faratina O. Dos Santos		
		Ita dos Santos Sila		
		Clebson A. Rocha		
		Josi naldo Santos		
		Mavriete do N. Serrão		
		Maria go Carmo C. Pantoja		
		Franciete S. Santos		

In addition to the above site visit, earlier the following personnel were interviewed :

Sr.	Date	Name of the person	Role/Designation	Topic

No				
1	08/06/2020	Mr. Micheal Greene	Director, Brazil Agfor LLC	VCS PD, Excel Sheets, VER calculations, financials, Project Roles and Responsibilities allocated, Ownership and project details. Sampling and ecological survey points for data correction.
2	08/06/2020	*Members*	Association de Ribeirinhos e Moradores de Portel, Para Ltda.	Mandatory licenses, Ownership and legal requirements, extent of forest coverage Community participation and benefits.
3	08/06/2020	Dr. Evelise Pires	*Association de Ribeirinhos e Moradores de Portel, Para Ltda*	*Human Resources Coordination*
4	09/06/2020 to 15/06/2020	1. *Geovane da gama alves* 2. *Joebe de Silve Conceicao* 3. *Unilo Volodmes* 4. *Maria do Conmo Condojo* 5. *Eraldo Santos des Anges* 6. *Maria Jose de Lima Bonboga* 7. *Oliveiria Santos des Anges* 8. *Gelson Broga Alvez*	Stakeholder and community participants	Project stakeholders, farmers issues, community benefits, participation, extent of implementation, continued progress scenario, farming production and expectation from the project. Training programs provided, Agroforestry,

		9. *Nelton Broga Alvez* 10. *Ma Nazori Alvez Braga* 11. *Alaus Braga freitas* 12. *Elzo Machado Sekkóe* 13. *Adriel mom Braga freitas* 14. *Mario Elza Braga Freitas* 15. *Antonio Alves Brago* 16. *Dfalema de freetos Broga* 17. *Vendillo Valodares de silva* 18. *Lourengo Rodrigves da* 19. *Aldamir de freitas Braga* 20. *Julia Braga* 21. *Ana Ruth Primavera Braga* 22. *Edileuza Praga Teixeira* 23. *Luzia Qsmarina Primavera Braga* 24. *Salomao de Souza da Silva* 25. *Erenildo Palheta de Melo* 26. *Kilma Silva Melo* 27. *Sinair Vilarimao da Cruz* 28. *Bianca da Cruz Gomes* 29. *Piaggio da Cruz Gomes* 30. *Jardeaone Tenorio Barboga*		ccookstove implementation, extent and future steps. Grievances and its addressal.

		31. *Mauricio De Almeida Braga* 32. *Cristiane de Almeida Braga* 33. *Jose Lino Alves Braga* 34. *Francisca Alves Pimentel* 35. *Elen de Jesus Gomes* 36. *Maria Raimunda Ribeiro* 37. *Levida Silva Gomes* 38. *Raimundo Sergo Gibson* 39. *Jean Carios S Gibson* 40. *Gilserjo Silva Da Gama* 41. *Mario Cilio M. Prestes* 42. *Maria Benerita P Des Santos* 43. *Edinaldo Ovveida des Santos* 44. *Louiz Balexo Paz* 45. *Adalberto Rodriores Gongalves* 46. *Pedro Rodrgves Ferrera* 47. *Jobson Santos Gibson*		

2.5 Site Inspections

Duration of on-site inspection: 07/05/2021 to 15/05/2021	
No.	**Activity performed during remote on-site audit**

1.	**Stakeholders and community interaction involved in checking and assessing on :** An assessment of the implementation and operation of the VCS project activity as per the submitted PD.
2	A review of information flows of the project design 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	Stakeholder meetings, outcomes, issues, resolved issues, participation and expectations from the project. The benefits thereof and future scenario, awareness on these benefits.
6	A review of the project boundary, mapping pattern, calculations and assumptions made in determining the GHG data and ERs.

2.6 Public Comments (*Rules* 4.6)

In accordance with the requirement in clause 3.16.5 of the VCS standard v4 "All VCS projects are subject to a 30-day public comment period. The date on which the project is listed on the project pipeline marks the beginning of the project's 30-day public comment period".

The PP listed their project activity in the VCS pipeline for 30 days from 05/05/2020 to 04/06/2020 (https://registry.verra.org/app/projectDetail/CCB/2252)/13/ for public comments.

No comments received during the commenting period, as evident from the VCS pipeline in the web interface

2.7 Resolution of Findings

As an outcome of the validation process, the team can raise different types of findings:

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS & CCB requirements have been met

Where a non-conformance arises the team leader shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The VCS & CCB requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.
- The validation process may be halted until this information has been made available to the team leader's satisfaction. 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.

In the course of the validation 47 CARs**, 09** CLs **were raised and successfully closed. No Forward Action Request**s (FARs) **has been raised in the validation.**

2.7.1 Forward Action Requests

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the VCS requirements for registration.

No FAR has been raised during the validation of this project activity.

3 VALIDATION FINDINGS

3.1 Summary of Project Benefits

The unique Benefits of 'Rio Anapu-Pacaja REDD Project' are summarized in table in Section 1.1 of the PD/11/ which are:

- Protection and conservation of 165,707 ha in the Amazon rainforest. This will help in protection of large number of flora and fauna including the rare and endangered species. This will also help in habitat restoration.
- The project helps the land owners in the project area gaining their land rights. This will prevent displacement and will result in prevention of land grabbers entering the area. The project so far has helped 127 families in getting the Cadastrol Ambiental Rural (CAR) certificate.
- The project has distributed 50 efficient and eco-friendly cookstoves in the project area.

The Project will manage the land as a private protected area, thus conserving local ecosystems through avoided unplanned deforestation and will enhance ecosystem functionality by allowing patched of deforestation to regenerate thus eliminating ecosystem fragmentation.

The medium-term goal is to allow forest regeneration thus increasing the amount of carbon sequestered in the forest.

With interventions like fuel efficient improved cookstoves, the project will have a potential positive impact on the overall community health especially women and children.

CL 01 was raised and was resolved successfully. Hence, the unique benefit considered for the project is found to be appropriate.

The standardized Benefits of 'Rio Anapu-Pacaja REDD Project' are summarized in table in Section 1.2 of the PD/11/ and the assessment is provided as below:

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
GHG emission reductions or removals	Net estimated emission removals in the project area, measured against the without-project scenario	N/A	
	Net estimated emission reductions in the project area, measured against the without-project scenario	39,489,204	2.1.17
Forest[1] cover	For REDD[2] projects: Estimated number of hectares of reduced forest loss in the project area measured against the without-project scenario	165,707 hectares	2.1.5
	For ARR[3] projects: Estimated number of hectares of forest cover increased in the project area measured against the without-project scenario	NA	-
Improved land management	Number of hectares of existing production forest land in which IFM[4] practices are expected to occurred as a result of project activities, measured against the without-project scenario	NA	-
	Number of hectares of non-forest land in which improved land management practices are expected	5,000 hectares	4.4.1

[1] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)
[2] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)
[3] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)
[4] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
	to occurred as a result of project activities, measured against the without-project scenario		
Training	Total number of community members who are expected to have improved skills and/or knowledge resulting from training provided as part of project activities	50 families	4.4.1
	Number of female community members who are expected to have improved skills and/or knowledge resulting from training as part of project activities	50	4.4.1
Employment	Total number of people expected to be employed in project activities,[5] expressed as number of full-time employees[6]	11	2.3.15
	Number of women expected to be employed as a result of project activities, expressed as number of full-time employees	3	2.3.15
Livelihoods	Total number of people expected to have improved livelihoods[7] or income generated as a result of project activities	193	2.1.6
	Number of women expected to have improved livelihoods or income generated as a result of project activities	50	2.1.6
Health	Total number of people for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	193	2.1.19
	Number of women for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	50	2.1.19

[5] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.
[6] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from the UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])
[7] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
Education	Total number of people for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario	43	4.2.1
	Number of women and girls for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario	22	4
Water	Total number of people who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	50	4
	Number of women who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	50	4
Well-being	Total number of community members whose well-being[8] is expected to improve as a result of project activities	193	4.2.1
	Number of women whose well-being is expected to improve as a result of project activities	93	4.2.1
Biodiversity conservation	Expected change in the number of hectares managed significantly better by the project for biodiversity conservation,[9] measured against the without-project scenario	5,000	5
	Expected number of globally Critically Endangered or Endangered species[10] benefiting from reduced threats as a result of project activities,[11] measured against the without-project scenario	5	5

[8] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Livelihoods, Health, Education and Water), and may also include other benefits such as strengthened legal rights to resources, increased food security, conservation of access to areas of cultural significance, etc.
[9] Managed for biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation, e.g. enhancing the status of endangered species
[10] Per IUCN's Red List of Threatened Species
[11] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

Validation team checked section 1.2 of the PD/11/ and found that the section is completed appropriately. The estimated benefits are included and benefits that will not be monitored and/or are not applicable are labelled accordingly. Validation team also confirms that all achievements reported in the PD are substantiated with information provided in the body of the document.

3.2 General

3.2.1 Summary Description of the Project (G1.2)

Rio Anapu-Pacaja REDD Project seeks to combine elements of conventional integrated conservation and development projects (ICDP) with a "payments for ecosystem services" (PES) approach. Project is mainly focused on conserving the native forest through protection and the avoiding further actors of deforestation who are seeking to degrade, the native forest conservation will be able to support and protect more flora and fauna.

Apart from the ecological benefits, the project is helping the communities in the project area to gain a permanent title document in exchange for their support for the project. The project is developed by 'Brazil Agfor LLC in collaboration with Association de Ribeirinhos e Moradores de Portel, Para Ltda /69/. This project involves preserving 165,707 ha native forest /16/ in the Amazon that are prone to deforestation. The native forest conservation will be able to support and protect more flora and fauna. The project will become economic viable with the commercialization of carbon credits through REDD+ mechanisms.

The Project is located in northwest of Brazil, in the State of Para, micro region of Portel, municipality of Portel. Main transportation mean to arrive in Portel is by boat. The trip takes approximately, 12 hours from Belém. This project area covers 165,707 hectares /16/ of Amazon forests and is located 300 km from Belem, the capital of Para State, Brazil.

The project initiated in 02/06/2012 on which the agreement between Brazil Agfor LLC and landowners /20/. Since this is the date of starting of implementing the planned conservation activities, considering the same as start date is appropriate. However, the main work like forest protection initiatives and socio-economic activities of the project started from 2016 and hence the project start date is 1/1/2016.

As per PD /12/, the projects climate, community and biodiversity objectives are as below:

Climate Objective: The Climate objective of the Project is to avoid and prevent unplanned deforestation of 165,707 in native forests thus avoiding the net emission of 39,489,204 /12/ tCO_2e through a period of 30 years of Project's crediting period. The average annual emission reduction is 1,316,307 tCO_2e /12/.

Community Objective: The project is aiming for helping the community groups in the project area to get their land titles and thus protecting them from illegal land grabbing and disputes. Other community objectives are to direct the community toward livelihood opportunities in the area. In addition to this project has provided cook stoves for the local population and conducts bi-annual training on sustainable land use practice like agroforestry to conserve the native forests and enhance livelihood.

Biodiversity Objective: Project has created animal corridor by creating a larger critical mass forest area with the National Reserve of Caxiuana. This creates a larger corridor for animals and

protecting large number flora and fauna. Also, since the government has opened up sustainable forestry to the Caxiuana National Forest, there has been a large increase in activity in this old growth forest. Strengthening governance in and around the project area by employing security guards for forest protection.

CL 02 was raised and resolved successfully. The revised PD /11/, according to the VVB the project description is accurate, complete, and provides an understanding of the nature of the project.

3.2.2 Physical Parameters (G1.3)

The Project is located in northwest of Brazil, between the Anapú and Pacajá rivers in the municipality of Portel, State of Pará in Brazil. Main transportation mean to arrive in Portel is by boat. The trip takes approximately, 12 hours from Belém. About 50% of Portel population is rural. The project is located on private properties which is made up of 5 separate blocks of land representing 165,707 ha land. Geological coordinates of the project are:

2°30'10.16"S 51° 3'2.35"W

2°42'20.84"S 50°53'31.76"W

2°11'16.43"S 51°17'49.24"W

2° 0'43.77"S 51° 8'56.24"W

2°39'58.80"S 51°22'21.97"W

The total project boundary area is 182,210 ha which includes the project Area (PA) (165,707 ha) and the Leakage Management Area (LMA) (16,503 ha). The Climate, soil, hydrology, geology and land use of the area as well as the types as well as the distribution of the flora and fauna description in the PD were validated from the on-site observation, interviews and respective references given in the PD.

The validation team crosschecked the references such as KML files for coordinates /21/ and Rodrigues et al. (2013), EMBRAPA, 1988, Viera (1988), MMA, 2006, Mesner & Wooldridge (1964), Góes (1995), Del'Arco & Mamede (1985), Soares-Filho et al., 2006 and Laurance et al., 2001; Carvalho et al., 2002; Soares-Filho et al., 2006 /22/ for the physical and climatic parameters of the PA and found the details provided in the PD are correct.

Validation team finds the information in the PD /11/ is consistent with the observation of audit team and outcome of the interviews with local communities during the on-site visit.

CL 04 and CAR 01 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /20//21//22//23//24/ and /25/.

3.2.3 Social Parameters (G1.3)

The social parameters described in the PD /11/ have been validated were validated from the on-site observation, interviews and respective references given in the PD.

The validation team crosschecked the references such as KML files /21/, State Law n. 3,225, dated 04-01-1965 /26/, State Law n. 5,087, of 09-14-1983 /27/, State Law n. No. 5,450, dated 05-05-1988 /28/, Brazil Agfor LLC marketing studies /29/, Participatory Rural Appraisal results /30/ and website (ibge.gov.br) /31/.

CAR 02 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /21//28/29//30/ and /31/. Validation team finds the information in the revised PD /11/ is consistent with the observation of audit team and outcome of the interviews with local communities during the on-site visit.

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

The boundaries of the Project Area and the Project Zone have been correctly indicated in the PD. The accuracy of the project zone map was validated from the vertices in the file Vertices_Glebas_Para.shp, downloaded from the INCRA (National Institute of Colonisation and Land Reform) website (www.SIGEF.incra.gov.br) during site visit /32/.

The boundaries of the project activity are validated in section 3.3.3 of this report.

Positioning of communities was checked by visiting a sample of these during site visit. Hence, validation team concludes that this indicator has been correctly addressed in the PD.

CAR 03 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /32//23//24/ and /25/

3.2.5 Stakeholder Identification (G1.5)

The PD provides an explanation of the process of stakeholder identification and analysis used to identify communities, community groups and other stakeholders.

Based on the IBGE"s 2010 Census data, PP identified the relevant stakeholders. The second step was Free, Prior and Informed Consent (FPIC) workshop followed by Participatory Rural Appraisal (PRAs) activities. The surveys were conducted in PA and Leakage Belt. Participatory rural appraisal (PRA)) was performed in the project zone through a series of field visits, observations, surveys, workshops and interviews to local leaders and experts whom were informed about the project idea, its activities, the potential benefits to the communities and their participation in the project. The project team carried out meetings and one on one discussions has been one element of great relevance for the design of the project in PRA. This has helped the Project Proponent (PP) to build rapport and trust with the stakeholders (affected directly or indirectly by the project). The report of PRA and attendance list /30/ of meetings carried out were provided of the audit team, describing the process of stakeholder identification and its assessment. As can be seen from table in section 2.4 above, the VVB also met with nearly all the

members of the Riverine and Traditional Rural Villagers community in the project zone directly involved in the activities of the project.

From the review of IBGE"s 2010 Census data /33/, PRA report /30/, MoM of FPIC workshop /42/ and interview with communities, the validation team concludes that the stakeholder identification and analysis used to identify communities are found to be appropriate and was as per the accepted standards and procedures. Hence, the indicator has been correctly addressed in the PD.

3.2.6 Stakeholder Descriptions (G1.6, G1.13)

As mentioned above, based on the IBGE"s 2010 Census data, PP identified the stakeholders which are relevant and are directly impacted or are impacting/influencing the project and its goal. The stakeholders were identified as anyone who lives within the project area or leakage management area. Two communities' group were identified who are direct beneficieries of the project; 1) *Riverine People, and 2)Traditional Rural Villagers*. Riverine People community is further subdivided into two community groups 1) Female, and 2) Male and the Traditional Rural Villagers community is subdivided into four community groups (1) Male, (2) Female (3) Children (4) Teenagers.

The riverine people are a suppressed community group that is under-educated and thus are open to abuse by both illegal loggers, land grabbers and even leaders of the community that are making agreements to allow illegal loggers to cut, in exchange for sub-par fees. The main abuse that this community group faces is they are being deprived of property rights. Riverine community are all interconnected for each river affluent, thus cousins, uncles, aunts, all have houses somewhere along the river. They have intermarried with each other. It was about 1 family per river branch that came to the region.

The Traditional Rural Villagers are the impoverished communities, living in rural villages, that are directly adjacent to the project area. These community group stakeholders listed in this section are directly targeted to be directly impacted by the project. Each forest block, of the project area, has focused on 2 or 3 villages directly adjacent or nearest to the project area

The other stakeholders identified are:

- **Other workers and their families on the property:** This group live within the project boundary and leakage management area are stakeholders and would be considered the working poor from a city. They are not the stakeholders (as they do not belong to any community mentioned before) in the project but have strong benefits from the project and also affects the project development and implementation.
- **Neighbors:** are stakeholders and the neighbors have been consulted and informed of the project. This group would be considered an indirect beneficiary of the project. Upon completion of the current project the validation for a grouped jurisdictional REDD project is to start involving these neighbors. Thus, the neighbors have an indirect benefit by the project's success. However, they are not the direct beneficiaries and not a community group but a stakeholder with a strong potential benefit from the project.

- **Direct stakeholders:** Project owner, Land Owner

Institutional Stakeholders: Mayoral office of the Municipality of Portel and Breves.Based on the review of IBGE"s 2010 Census data /33/, PRA reports /30/, FPIC reports /42/ and onsite observation and interview with communities, the validation team concludes that the all the relevant stakeholders are correctly identified. Hence, the indicator has been correctly addressed in the PD.

3.2.7 Sectoral Scope and Project Type

The sectoral scope of the project is correctly identified in the PD as Sector Scope: 14 Agriculture, Forestry and Other Uses of the Land (AFOLU) and a REDD category project /34/ as its objective is to reduce emissions form deforestation and degradation of forests through engagement of the communities that will make it feasible. For this the PP correctly chose as the methodology VM0015 for avoided unplanned deforestation.

In the baseline, project estimate and monitor GHGs emissions of activities that avoid unplanned deforestation and account for carbon stock enhancements in private forests land that would be deforested in the baseline. Credits for reducing GHG emissions from avoided degradation are excluded /12/. The major interventions to reduce deforestation are - protection, conservation and regular monitoring of forests, helping in gaining land rights and land security to the local people in the PA and introduction of improved cookstoves & agroforestry practices. Hence, the choice of using methodology VM0015 /4/ is justified.

CAR 04 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /04/ and /02/.

3.2.8 Project Activities and Theory of Change (G1.8)

The climate benefits have a causal relationship with the reduction in unplanned deforestation of an estimated 165,707 ha. The actions described in table 6 of the PD, which will be implemented to reduce unplanned deforestation are:

Capacity building and training: This will help in better understanding of the importance of secures land tenure, protecting the forest, biodiversity and how forest conservation will benefit their livelihoods and will provide opportunity to develop local businesses through an external fund. This will also help in minimizing the illegal activity and enhance the protection.

Reduced GHG Emission Reduction and Removal due to the project Activities: The project aims to reduce and stop deforestation in the PA leading to reduction in the GHG emissions. The project is helping in increasing the forest tree cover and hence increasing the CO_2 sequestration capacity.

Improve local livelihoods for villagers: This will help in diversification of livelihood as well as food production through agroforestry practices. The activities will result in improvement in provision of local nutrition and also promote more efficient technologies to produce farinha and reduce time consumption. This activity will improve agricultural practices, enhanced soil nutrition & quality and promote income from other activities.

Improvement of health: This will be achieved through distribution of improved cook stoves to households to reduce use of firewood which will improve indoor air quality in households. This will also help reducing drudgery of women and children who walk long distances to collect firewood.

Improvement in biodiversity: This aims in building the capacity of local people in understanding the importance of biodiversity protection and the role it plays in maintaining the ecological balance. The project has built animal corridors and it aims in strengthening governance in and around the project area and hence entails active measures for biodiversity conservation and improvement which encompasses the conservation and enhancement of wildlife and habitats.

Also, the project is not located within a jurisdiction covered by a jurisdictional REDD+ program.

Based on the review of PRA report /30/, ecological survey report /63/, on-site observation and interview with PP and stakeholders, the validation team confirm that all the activities suggested in table 6, section 2.1.11 of the PD is feasible.

The validation team concludes that the theory of change provided in the PD /11/ is accurate, complete, and provides an understanding of the nature of the project and how it will achieve its climate, community, and biodiversity objectives.

CAR 05 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /8//11//30//41//63/ and /64/.

3.2.9 Sustainable Development

In section 2.1.12 of the VCS PD, the PP has provided the sustainable development contributions of the project. PP claims the following sustainable development contributions:

No Poverty (SDG1): The project provides new productive alternatives to the small holders and increasing the productivity of their current activities which reduces the poverty among the communities. Also, activities such as improving pastures and promoting agroforestry will improve the productivity of the communities and thereby reducing poverty.

The agroforestry activities will give new ways of production to the community as well as better livelihood options. Improving pastures in association with the establishment of forest species as part of a silvopastoral system results in higher productivity per unit area.

Zero Hunger (SDG2): Through the implementation of agroecological family gardens and agroforestry activities, diversifying the agricultural production with the implantation of nurseries to supply seedlings of varied species and generating guarantee of food security for the families, the project activity aim to reduce hunger, achieve food security, improved nutrition, and promote sustainable agriculture.

Responsible consumption and production (SDG12): Project promote scientific research focused on the efficient use of natural resources, seeking greater integration among the parties involved in the project and concentrating on sustainable business chains, generating income and well-being for local communities and making the use of natural resources available more responsible and conscious.

Climate Action (SDG13): All activities undertaken by the project aim to take action to combat climate change and its impacts through the reduction of deforestation in the project area and consequently reducing the emission of greenhouse gases. The project activity aims to reduce GHG emission of 39,489,204 tCO_2e over 30 years.

Gender Equality (SDG5): All project activities are open and stimulated for the participation of all the residents of the acting communities, especially women, youth and marginalized people.

Life on Land (SDG15): By reducing the pressure on natural forests, the project seeks to protect, restore, promote sustainable use of terrestrial ecosystems, sustainable managed forests, halt deforestation and biodiversity loss.

The VVB confirms that through the validation process it became confident that the PP correctly chose the Contribution to the UN Sustainable Development Goals /11/ and /35/ it will help to achieve. These are listed in Section 2.1.12 of the PD.

CAR 06 was raised and resolved successfully. Please refer Appendix 2 for the same. Documents referred are /11/ and /35/.

3.2.10 Implementation Schedule (G1.9)

In section 2.1.13 of the PD the PP identifies the key milestones for the project activity. Below are some of the milestones considered by the VVB and the most important and how they have been validated:

Date	Milestone(s) in the project's development and implementation	Validation team assessment.
June 2nd, 2012	Signing of contract between the PP and land owner	The project signed the contract with the landowners /20/ has been verified and found that the date mentioned in the PD is consistent with the agreement date.
September 2015	Free, Prior and Informed Consent (FPIC) process	The FPIC workshop MoM and photographs were verified and found to be OK /42/ and /66/
2016	The community groups were contacted and one-on-one meetings took place to gain support for the project signature goal of inserting into the government database the necessary documentation to allow each family to gain land tenure documents.	The meetings and PRAs reports were verified and found to be OK /30//36//37/ and /42/
January 1st, 2016	Start date of crediting Period	The actual activities i.e. conservation of forest resources and socio-economic activities started in 2015 and 2016. Also, in

		2012 the carbon market has crashed and the investors would not provide money to move forward with project activities until an improvement in the market could be seen. Thus, the improvement did not come until 2016 and this is when the project started. Hence, the project start date and emission reduction will be calculated from the date at which the conservation started. The meetings report and plantation records were assessed and found to be in-line with the description mentioned by the PP in the PD /11/. Documents referred are /30//36//37//42/ and /64/.
January 15th 2016	Initial Participatory Rural Appraisal (PRA)	PRA reports verified and found to be OK /30/
March 2nd 2016	Stakeholder's meeting on carbon credits	Stakeholders meeting reports, attendance sheets and photographs verified and found to be OK /70//71/ and /72/
January 1st, 2017 to July 30 2019	Eco-Stoves were delivered for to around 51 families Some land survey work was completed for each family.	The meeting report is verified and found to be OK /30//36//37/ and /42/.
September 2nd, 2017	Implementation of biodiversity monitoring plan	Biodiversity monitoring plan was verified and found to be OK / 38/
January to July 2019	The first land tenure documents were inserted into the government database	The land tenure documents were assessed and the details of submission into the government database was verified and found to be OK /68/ and /67/.
May 10th, 2018	Resource Management Plan completed and signed	The Resource Management Plan /40/ is checked and found to be OK.
August 20th 2020	Completion of PD	The date of initial PD /11/ is checked and found to be OK.
January 1, 2020 to April 20, 2020	Additional land survey work for each family parcel is being completed so that the data can be submitted to the government for the final step in a long process to gain land title deeds for	Evidences and supporting documents provided was found to be OK.

	each Riverine family.	
2020 onwards (Until the end of December 2045).	- Development and monitoring of environmental and social management activities - Monitoring of deforestation and emissions - Monitoring of biodiversity (Fauna and Flora) and High Conservation Value Areas - Development of scientific research - Verification of credits (Selection and contracting of verification body; Production of follow-up bulletins for Verification Project; Monitoring of field audit; Registration of credits) - Baseline updation - Conducting of credit marketing processes	The Standard Operating Procedures (SOPs)-Monitoring – Rio Anapu REDD+ Project /14/, Biodiversity monitoring plan /38/ and Resource Management Plan /40/ checked and found to be OK. Also, the plans during the project lifetime were discussed with the Project Management Team are in accordance with the REDD practices.

CL 05,CAR 37, CAR 47 and CAR 48 were raised and resolved successfully. Refer Appendix 2 for the same. Documents referred are /11//20//36//37//38//39//40//41//42/ and /64/.

3.2.11 Benefits Assessment and Crediting Period (G1.9)

On 2nd June 2012, when the agreement signed between Brazil Agfor LLC and the landowners. However, the starting date of the Project and crediting period is 1st January 2016. The end of the crediting period will be 31st December 2045 (30 years crediting period). The crediting periods for VCS and CCB are the same

3.2.12 Risks to the Project (G1.10)

A comprehensive risk assessment to the climate aspect of the Project is validated in section 3.3.10 of this report.

Section 2.1.18 of the PD lists 8 main risks and what will be done to mitigate it which are assessed as below:

Risk	Assessment of Measure
Non continuity of the project activities	The project owners signed conservation agreements /20/ with the landowners on voluntary basis. The validation team checked the conservation agreement and found that the owners are committed to conserve the productive systems implemented in their properties. As per the agreement, if a beneficiary want/must to sell the land, he/she may transfer the commitments and benefits to the new land owner; it will favor the permanence of project benefits regardless the changes in

	ownership. It also ensures that even policy changes should not affect the conservation program of the project area. Hence the Validation team finds that the mitigation measures provided by PP are adequate for the risk.
Invasion of project land by outsiders	PP proposes regular patrols, signage, purchasing of more vehicles to conduct patrols, increasing awareness of community members about conservation and the rules of the resource plan, strengthening and authenticating land rights. Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Climate change /drought	PP proposes reduces carbon emissions and creates a better local ecosystem though reducing deforestation. Also, PP proposes diversification of livelihood sources to reduce reliability on livestock which will reduce the impact of climate change/draught over communities. Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Weak leadership /governance	PP proposes providing leadership training and capacity building activities for the community leadership and village leadership teams, measures to increase transparency around income and expenditure of funds as mitigation measures. Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Limited allocation of income	As described in PD, most of the project activities are designed to reduce the maintenance costs and/or increase the profitability of the systems. Also, the land owners are trained along with the implementation of the activities, in order to enable that subsequently, the activities can be developed by themselves. The same is confirmed though interview with PP and verification of sample training records. Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Lack of budget for implementation of activities and / or project monitoring	As described in PD, most of the project activities are designed to reduce the maintenance costs and/or increase the profitability of the productive systems. Also, the land owners are trained along with the implementation of the activities, in order to enable that subsequently, the activities can be developed by themselves. Brazil Agfor LLC has an extensive trajectory in implementing projects with rural communities (especially in the project region) related to forest conservation and productive alternative systems. Based on the interview with PP and checking the track records of PP, the validation team confirms the same. Therefore, this risk is mitigated based on its certified experience and management and mobilizing resources capacities at the country and international level.

	Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Forest fires and other threats	As per interview with PP, the PP has confirmed that the land owners are trained by PP in order to perform the technical tasks in an appropriate manner. As per discussion with monitoring team validation team also confirms that the PP conducts regular visits to the properties which allow them to monitor as well as identify potential risks. This will reduce the risk of forest fires and other threats Validation team finds that the measures provided by PP are adequate to mitigate/reduce the risk.
Policy change by local governments	Since REDD+ requires governments to establish national carbon-oriented forest management plans, reliable baseline data, MRV mechanisms, and national institutions for the trading and payment of carbon stocks in the forests, the governments could be inclined to recentralize their forest management systems. Hence, the policy change by local government against the project activity is unlikely.

PP has identified all relevant risks of the projects and the mitigation measures provided for each risk is adequate to minimize/mitigate the relevant risks. /5/ and /11/.

CL 07 and CAR 07 were raised and resolved successfully. Please refer appendix 2 for the same. Documents referred are /2//5//9/ and /11/.

3.2.13 Benefit Permanence (G1.11)

In order to maintain and improve the benefits for the climate, community and biodiversity for the duration of the Project and beyond the lifetime, the project focuses on following strategies:

1. **Skill and capacity development:** Conduct capacity building and training within the communities and land owners. These relate to better land resource management. The project has initiated several awareness programmes for efficient use of land for agricultural practices and has also provided cook stoves which have the benefit of lessening the time for Farinha production and the overall cooking time. Around 200 community members have received training during this monitoring period.

2. **Goal of permanent Land ownership:** land ownership to the communities is one of the main initiatives of the project and this provides permanent ownership even beyond the project lifetime. This provides the community to implement the skills and learnings on their own land which is self-sustainable and provides benefits beyond the project's lifetime. Around 220 CARs have been distributed during this monitoring period.

3. **Health benefits:** to the women and to the overall community is expected to continue beyond the project's lifetime. Soot (black carbon) emitted from traditional stoves will be considerably reduced by the usage of improved cookstoves distributed in the project. This will provide health benefits as well as help in GHG emission reduction.

4. **Greater scientific knowledge on Biodiversity and Maintenance of High Conservation Value Attributes:** Project has created animal corridor by creating a larger critical mass forest area with the National Reserve of Caxiuana. This creates a larger corridor for animals and protecting large number flora and fauna. Also, since the government has opened up sustainable forestry to the Caxiuana National Forest, there has been a large increase in activity in this old growth forest. Strengthening governance in and around the project area by employing security guards for forest protection.

5. **Improvement in patrimonial surveillance procedures:** through the provision of additional tools such as remote monitoring of high-resolution satellite images, acquisition of support equipment, and provision of training to the patrimonial surveillance team, the Project aims to increase efficiency and reduce costs of patrimonial surveillance operations. In this way the surveillance operations will have a great increase in the intelligence process related to territorial monitoring and management, which should directly reflect the maintenance of long-term climatic benefits;

6. Providing livelihood and job opportunities for the locals in and around the project activity.

Reframing and reinvigorating the resource management plan /42/ and community understanding of the potential for forest conservation to create and maintain native forest.

VVB through validation of the above measures and through interview with PP & stakeholders, confirms that the measures included in the PD /11/ to maintain and enhance the climate, community, and biodiversity benefits beyond the project lifetime is adequate.

CAR 38 was raised and resolved successfully. Please refer appendix 2 for the same. Documents referred /11/ and /9/

3.2.14 Financial Sustainability (G1.12)

The PP has raised funds and invested the same in the project implementation activities including community capacity building on technical issues and monitoring for the first years. It will allow that subsequently, the activities can be developed by the land owners and the project's climate, community and biodiversity benefits can be achieved, without depending on additional funds that might be obtained in the future.

Furthermore, the Project has projected revenues from GHG emissions reductions. This has been validated in detail in section 3.3.5 of this report.

CAR 39 was raised and resolved successfully. Please see appendix 2 for the same. Documents referred /10//11/ and /55/.

3.2.15 Grouped Projects

This is not a grouped project.

AR 08 was raised and resolved successfully. Please see appendix 2 for the same. Documents referred /11/ and /2/.

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

This has been validated in depth in section 3.3.4 of this report.

CAR 09 was raised and resolved successfully. Please see appendix 2 for the same. Documents referred /2//5//9//11//30/ and /41/.

3.2.17 Most-Likely Scenario Justification (G2.1)

This has been validated in depth in sections 3.3.4, 3.3.5, 3.4.4, 3.5.4 of this report.

The most likely land-use scenario described on those sections, with development which leads for illegal timber harvesting, grazing and expansion of the agricultural frontier; all these activities are practiced traditionally for their survival which gives continuity to management practices that generally are detrimental to natural resources.

CAR 10 was raised and resolved successfully. Please see appendix 2 for the same. Documents referred /2//5//9//11//30/ and /41/.

3.2.18 Community and Biodiversity Additionality (G2.2)

This has been validated and detailed justification is given in section 3.3.5 of this report. The section justifies that without the support of carbon benefits the project is not viable and the business as usual (BAU) scenario will continue.

CAR 09 was raised and resolved successfully. Please see appendix 2 for the same. Documents referred /2//5//9//11/ and /43/.

3.2.19 Stakeholder Access to Project Documents (G3.1)

The access of project documents to the stakeholder is described in section 2.3.1 of the validated PD. The PP has provided the information through the following methods:

Writing: a printed version of each document related to the Project, such as the Project design document, monitoring report, validation and verification report and the summary will be available for consultation at the office in Portel, Para. Information and news about the Project are disclosed through local public notices /36//37/ and /39/.

Virtual: documents related to the Project are available through virtual means on the VCS and on website www.ribeirinho.org websites /44/. The circulars of the project are also digitally accessible.

Oral: information and news about the Project will also be conveyed orally during one-on-one meetings. This will be conveyed via community leaders as well /36//37/ and /39.

This was validated during the site visit and documents proof submitted by the PP. Validation team finds that the measures provided by PP are adequate to provide the information to the stakeholders and ensure their full participation in the project development and implementation process.

CAR 40 was raised and resolved successfully. Please refer appendix 2 for the same. Documents referred /9//10/ and /11/.

3.2.20 Community Costs, Risks and Benefits (G3.2)

Community costs, risks and benefits are described in section 2.3.4 of the validated PD /11/. This information was passed more communities in the stakeholder meetings carried out by the PP in August 2016 and June 2017. These discussions were also part of the PRA conducted with the stakeholders and ability of the community to understand the information was very clear which was assessed during the site visit. The minutes of meetings, PRA reports /30/, socioeconomic survey report /41/ and some in person discussions with the local stakeholders were assessed and analysed to validate the information.

Validation team finds that the measures provided by PP are adequate to provide the information about community costs, risks and benefits to the stakeholders and ensure their full participation in the project development and implementation process.

CAR 12 and CAR 41 were raised and resolved successfully. Refer Appendix 2 for the same. Documents referred /10//11/ and /45/.

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

The step was explained in section 2.3.5 of the validated PD. As stated, before in the report The Project's Project's executive summary, including project information and project benefits has been translated into Portuguese (local language) and is posted in public places in communities throughout the Project Zone.

During community meetings held by project staff as part of the project outreach process the monitoring and verification process was described.

A poster/notice in Portuguese advertising the Project's Project's public comment period and the validation /verification field visit was posted in communities throughout the Project Zone. Also, it was communicated to the stakeholders during the consultations, workshops, PRAs and one on one meetings /30//36//37/ and /39/.

Validation team finds that the measures provided by PP are adequate to provide the information to Stakeholders on Validation and Verification Process.

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

The step was explained in section 2.3.6 of the validated PD /11/. The PP has maintained constant and direct communication with the local households in the PA through there 6 Technicians. In the

rare event that someone from the team is not in the field, there are two people in the city of Portel that are able to communicate with the Riverine and Traditional Rural Villagers people.

The community leaders and public officials were informed about the Project - Public Comment Period and validation field visit.

Six weeks prior to the site visit in March 2020, verbal communication was done, and it was requested that up to 1 person from all 50 families be prepared to answer questions of the auditor. One-on-one interviews were arranged.

During the site visit, all the interviewees give positive reply to all the issues and they are satisfied with the project implementation and interventions. They also confirmed that the project process was explained to them during the consultations and meetings and most of them have participated in the stakeholder meeting which was held before the project start. Thus, it is verified that stakeholders participated in project development and implementation process.

3.2.23 Stakeholder Consultations (G3.4)

This is explained in section 2.3.7 of the validated PD. The PP carried out the consultations with the stakeholders in 2016 and 2017. The minutes of meetings, attendance sheets and photographs of the consultations with the comments from stakeholders were provided to the DOE. The comments raised during the consultations were addressed by the PP. Also, all the reports of PRA's conducted so far were assessed. All the stakeholders interviewed during the site visit gave positive response about the project. While checking all the reports, minutes of meetings, questionnaire responses during site visit, it is confirmed that all the stakeholders agreed to the implementation of the project.

3.2.24 Stakeholder Consultation Channels (G3.5)

This has been described in section2.3.9 of the PD. The PP has conducted a number of stakeholder engagement and consultation meetings with identified project communities and other stakeholders from the nearby villages and settlements. The technicians who go to the land stay in the houses of the Riverine and Traditional Rural Villagers people while doing survey work, eat at their table and greatly support the project, this has greatly help build trust with the stakeholders.

Apart from the survey teams the main form of communication followed was one-to-one meetings with the community.

The project has Sergio and 6 local technicians that live in Portel, who are reachable at all times by the local population. In addition to this the local community population has the project email, and most families have 1 working cell phone to be able to reach the team. Also, information about the project is available on the website www.ribeirinho.org.

This was validated from the PRAs /30/ and meetings reports /36//37//39/ and /44/ and other details submitted by the PP to the VVB. Hence, as per the VVB these steps deemed as the most

direct approach for the consultation and sharing information with the local stakeholders and land owners.

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

This is discussed in section 2.3.10 of the validated PD. The PP PPs have gone to considerable lengths to consult with local stakeholders and engage them in the project during the project development and implementation process. The PP has conducted free, prior and informed consent (FPIC) /42/ as well as PRAs /30/ which insure full and effective participation of the stakeholders in decision making and implementation of the project since beginning. The stakeholder's inputs were seriously considered and has influenced the overall project development and implementation. This was validated by the FPIC meeting and PRAs reports. Consolations have ensured to engage with both men and women, and more marginal stakeholder groups in culturally appropriate ways to ensure that the project can hear a wide range of perspectives. Apart from the survey teams the main form of communication followed was one-to-one meetings with the community.

The VVB consider these steps appropriate to ensure stakeholder participation in decision-making and implementation. .

3.2.26 Anti-Discrimination Assurance (G3.7)

The step has been described in section 2.3.11 of the validated PD. has company policies to prevent discrimination and outline a course of action, should it occur, the human resource (HR) policy provides a clear statement on discrimination relating to gender, religion or sexual discrimination. The stakeholder involvement was inclusive without any discrimination of gender, cultural identity and religion. The HR policy of the PP company /48/ has been reviewed and assessed by the VVB and guarantee that no type of discrimination is tolerated at any point of the project development. .

3.2.27 Feedback and Grievance Redress Procedure (G3.8)

The step has been discussed in section 2.3.12 of the validated PD. The PP company grievance policy /49/ has outlined clear grievance redress mechanism. Furthermore, the concept of feedback and grievance and the channels of using the mechanism have been explained to the community at all these levels. The policy has been assessed by the VVB and found to be appropriate in addressing any grievance in the future of the project. As of now no grievance was reported till date for the project. .

3.2.28 Worker Training (G3.9)

The step has been discussed in section 2.3.14 of the validated PD. PP has extensive experience in conservation and community development projects. The list of trainings provided to the stakeholders has been documented by the PP and same has been provided to the VVB for validation.

Via checking the records /50/, VVB finds the trainings to be apt and good efforts are made for skill development of the employee/workers/. .

3.2.29 Community Employment Opportunities (G3.10)

This has been described in section 2.3.12 of the validated PD. The recruitment policy /51/ and company code of conduct /52/ were validated by the VVB. From the supporting documents submitted by the PP, it has been concluded that the project provides equal employment to people from communities.

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

The details are provided in section 2.3.16 of the validated PD and it states that the project meets all the applicable laws and regulations related to worker's rights. To confirm the same, employment contract /53/ and company polices were validated /51//48//49/ and /52/. Hence, it has been concluded that the project is implemented and adhere to the respective laws and regulations of the project area.

3.2.31 Occupational Safety Assessment (G3.12)

This has been explained in section 2.3.17 of the validated PD. The VVB checked that the PP has a safety inspection procedure /54/ in place.

3.2.32 Project Governance Structures (G4.1)

This has been explained in section 2.4.1 of the validated PD. The same has been checked and validated during the site visit. In the opinion of VVB, the project governance structure is robust to ensure successful implementation and sustainability of the project.

CAR 15 were raised and resolved successfully. Refer Appendix 2 for the same. /11/ and /44/.

3.2.33 Required Technical Skills (G4.2)

This has been explained in section 2.4.2 of the validated PD. The same has been checked and validated during the site visit. In the opinion of VVB, the PP and its team has robust technical skills to ensure successful implementation and sustainability of the project.

CAR 16 were raised and resolved successfully. Refer Appendix 2 for the same. /11//51//53/ and /44/.

3.2.34 Management Team Experience (G4.2)

This has been explained in section 2.4.3 of the validated PD. The same has been checked and validated during the site visit. In the opinion of VVB, the PP and its team has robust management team experience to ensure successful implementation and sustainability of the project.

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

This is defined in section 2.4.4 of the validated PD. This has been developed in collaboration with Dr. Evelise da Cruz Pires Greene – Project Coordinator (Association de Ribeirinhos e Moradores de Portel, Para Ltda.) and is responsible for assisting in coordinating social activities. No other

organizations needed to support the project through partnerships, management team have the sufficient experiences to implement the project and already filled any gaps.

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

The VVB has checked and assessed the financial audits /55/ of the company since the project has started and confirms financial health of the PP. Predicted credit sales and an accurate estimated annual budget demonstrate sufficient cash flow from predicted contracted sales to sustain the project through the end of the crediting period. The project partner are all well-funded and sufficiently capitalized organizations, Hence, it is concluded by the VVB that the PP financial strategies are sound enough to develop and sustain the project

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

This is explained in section 2.4.5 of the validated PD. The VVB has checked and assessed the company policies /48/ and /52/ and audit reports /55/ and found that that its resources are allocated responsibly and free of corruption. Additionally, the project comply with all law and regulation of the host country including anti-corruption law.

Hence, it is concluded that the project is not involved or allows any form of corruption.

3.2.38 Commercially Sensitive Information (*Rules* 3.5.13 – 3.5.14)

Not applicable.

3.2.39 Statutory and Customary Property Rights (G5.1)

This is explained in section 2.5.1 of the validated PD. The project area does not belong to any indigenous communities or the government. The local people are the project land owner. The conservation agreements signed freely between PP and the owners are the result of the socialization workshops and the commitment of both parties. The properties in the project area have Certified Geo-Reference map with the FEDERAL Land Agency of INCRA. Only two properties don't have it due to ongoing disputes as explained in section 2.5.6 of the PD.

The VVB has checked and assessed the land use agreement /20/, land records /56/, applicable laws and regulations /43/ and onsite observations and interview with local stakeholders residing in the project areas. The project proponents have proven ownership to the land on which the project is designed and implemented /20/.

3.2.40 Recognition of Property Rights (G5.1)

This is explained in section 2.5.2 of the validated PD. The VVB has checked and assessed land and partnership records /20/ and /56/. It is concluded that all property rights and recognized, respected and supported. All properties involved in the project either have property titles or equivalent documents to certify and assure rights over the land. Within the project area, there are no communities of Brazil or indigenous heritage with collective property titles.

3.2.41 Free, Prior and Informed Consent (G5.2)

This step is explained in section 2.5.3 of the validated PD. The project proposes to conduct a process of FPIC /42/ to continue the informative process initiated with the PRA /30/ in order to promote a reasonable understanding about the project and their activities, an equitable participation in decision-making processes and the involvement of the population in the implementation of the proposed project. Consultations ensure to engage with both men and women, and more marginal stakeholder groups in culturally appropriate ways to ensure that the project can hear a wide range of perspectives. The project will not encroach uninvited on private property, community property, or government property. , The Project has not developed any activity on private property, belonging to indigenous and traditional communities or to the government. In relation to social activities and monitoring of biodiversity, it is guaranteed that no activity will be carried out without the free, prior and informed consent of the parties involved. No activity related to the Project has resulted in the involuntary removal or relocation of the Property Rights Owners of their lands or territories, nor has been forced to relocate activities important to their culture or livelihoods. The FPIC consultation minutes of meetings, attendance sheet & photographs, land records, partnership agreement /11//20//36//37//39//42//46/ and /48//56/.and onsite interaction with the local residents has been checked and assessed by the VVB. Hence, with the evidences it is concluded that the project is respecting the property rights of the communities.

3.2.42 Property Rights Protection (G5.3)

This is explained in section 2.5.4 of the validated PD. As discussed above the project activities do not lead to involuntary removal or relocation of property rights holders from their lands or territories, and do not force rights holders to relocate activities important to their culture or livelihood. To ensure this The FPIC consultation minutes of meetings, attendance sheet & photographs, /36//42//46/ and /47/ land records, partnership agreement and onsite interaction with the local residents has been checked and assessed by the VVB. However, CAR 47 was raised and closed successfully to ascertain the ownership records.

3.2.43 Illegal Activity Identification (G5.4)

Illegal timber harvesting is one of the major issue in the project area. The project has trained local villagers to work as a monitoring staff inside the project area and at the leakage management area (LMA). This is one of the main activity to identify, prevent and avoid illegal activities which was taking place in the project area. Stakeholders in neighbouring villages will be encouraged to report encroachers and illegal loggers trying to get into nearby forests. The project will help to make the respective denounce to local authorities in case such type of the situation is occurring in the project area. Through this mechanism the project will be generating positive leakage. During the site visit interview with the project management team and local residents it has been assessed that the project management team has a robust strategy to identify such illegal activities and stop such actions on immediate effect. Hence, it is concluded that the project's climate, community and biodiversity impacts will not be affected by any illegal activities.

3.2.44 Ongoing Disputes (G5.5)

There is an ongoing dispute in the project area.

The project area has a dispute with the government. The government re-zoned part of the area from private property, to private property deemed in need of settling. In Portuguese this is known as: “assentamentos” or “settlement areas. The project has 15,936 hectares which is affected by a settlement area, but it is not invaded by any individual or group. The government of President Bolsanaro has canceled the settlement area, however the settlement area still shows up in the system. Title Matricula 278 and INCRA CCIR Rural Code number 045.071.051.829-2 as well as Matricula 166 a total of 4,356 hectares for this property is affected by this dispute. The other land affected is Title Matricula 166 which has Rural Code Number: 045.071.051-900-00 a total of 11,580 hectares is affected from these titles which have a total of 21,780 hectares. Upon the moment that the settlement area is removed from the government system the following lands surveys will be registered and will be certified with INCRA.

The project does not foresee a control issue of these lands due to the project having possession of the area. The VVB assessed the land documents /56/ and INCRA process and found that this does not possess risks to the project area and its proposed implementation.

3.2.45 National and Local Laws (G5.6)

The project activities are in compliance with all the laws and regulations listed in section 2.5.7 of the validated PD. The laws and regulations are confirmed through checking the public websites which has been compared with the actual situation of the project by on-site observation /43/.

3.2.46 Approvals (G5.7)

This is explained in section 2.5.8 of the validated PD. The Project is developed on privately owned land and complies with all the required laws and regulations regarding forest protection in private lands. Given the fact that in Brazil there are not regulations regarding REDD projects and the fact that the Project will not undertake extractive activities but will preserve 100% of its Project Area, permits are not required from municipal, state or federal authorities.

Land ownerships /20/ and /56/ and applicable laws were assessed /43/. The VVB concluded that no approval from any government authority is required for project development and implementation.

3.2.47 Project Ownership (G5.8)

This is explained in section 2.5.9 of the validated PD. The ownership of the lands of the project area is supported by legal documentation. The PP have the right to develop and implement the project in the allocated project area which is confirmed by the agreement of partnership between Brazil Agfor LLC and land owners /20/.

3.2.48 Management of Double Counting Risk (G5.9)

This is explained in section 2.5.10 of the validated PD. The project has not nor does it intend to create non-VCS/CCB GHG emissions reductions or any another form of environmental credits. Declaration letter /57/ for the same has been submitted by the PP to the VVB.

CL 08 and CAR 17 was raised and successfully closed. Refer Appendix 2 for the same. Documents referred are /11/ and /57/

3.2.49 Emissions Trading Programs and Other Binding Limits

The PP declared in the section 2.5.11 PD v3 that it does not apply.

CAR 18 has been raised and resolved successfully. Please refer appendix 2 for the same. Documents referred are /11/ and /57/

3.2.50 Other Forms of Environmental Credit

The Rio Anapu-Pacaja REDD Project is not intended to generate any other form of environmental credits related to the reductions and removals of GHG emissions claimed under the VCS (Verified Carbon Standard) program. The same is mentioned in section 2.5.12 of the validated PD.

3.2.51 Participation under Other GHG Programs

The Project did not receive or sought to be registered in any other GHG program, in addition to submitting the Project to validation and verification in the VCS (Verified Carbon Standard) and CCBS (Climate, Community and Biodiversity Standard). The same is mentioned in section 2.5.13 of the validated PD.

3.2.52 Projects Rejected by Other GHG Programs

The Project has not undergone validation/verification of any other GHG program and is therefore not rejected by any other GHG program. The same is mentioned in section 2.5.14 of the validated PD.

3.2.53 Double Counting (G5.9)

To date, the State of Pará, Brazil does not have a defined State REDD+ Strategy or any Forum for Climate Change registry, that would be the main organization to lead discussions on the subject, is currently inactive. In addition, the State Government does not provide formal procedures for registering or recognizing private voluntary projects under any jurisdiction REDD+ project. Also, the project does not intent to get the project registered any other carbon market registry. Hence, it is concluded that there will be no issues of double counting of carbon credits generated from the project.

CAR 19 was raised and resolved successfully. Please refer appendix 2 for the same. Documents referred are /11/ and /57/

3.3 Climate

3.3.1 Title and Reference

VCS Methodology for Avoided Unplanned Deforestation (VM0015 v1.1), sectoral scope 14, Agriculture, Forestry, Land Use /4/.

- VCS-approved VT0001Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities v3.0 /5/.

- VCS AFOLU Non-permanence Risk Tool /7/.

3.3.2 Applicability

Table 8: Applicability conditions of the methodology VM0015

Condition	Applicability	VVB Assessment
a) Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.	Baseline activities include unplanned utilization. This scenario considers the conversion of native forest areas into agriculture and pasture through unplanned deforestation.	The baseline activities include unplanned deforestation caused by illegal logging, agricultural and pasture activities confirmed during the site visits and satellite images provided by the PP.
b) Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology (Table 1 and Figure 2 of the methodology).	At a baseline deforestation, The main Project activity is to protect the forest. As a secondary activity it is envisioned controlled logging activities to provide timber resources to local settlers.	Was discussed and confirmed during the site visit.
c) The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of "forest".	The Project Area is more than 90% Dense Ombrofile Forest. Forests in the Project Area are primary, secondary and degraded forests all of them in compliance with Brazil's definition of forest. http://cdm.unfccc.int/DNA/index.html). (According to the UNFCCC, Brazil's definition for forest is 1 hectare with 30% crown cover and 5 meters tree height.	The project area include different types of forests mainly old growth forests. Imagery preprocessing performed by the PRODES project
d) At project commencement, the project area shall include only land qualifying as "forest" for a minimum of 10 years prior to the project start date.	Landsat TM images from the year 2004 to 2016, 12 years before the Project start date have been analyzed to identify only forested areas according to Brazil's definition of forest. At the beginning of the forest, the project area includes only forest more than 10 years back according to the definition of forest of Brazil that consider a minimum of land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use. (unfccc.int).	Landsat TM images /58/ from more than 10 years before the Project start date have been analyzed to identify only forested areas according to Brazil's definition of forest. This was assessed and validated from the 10 year historical land use analysis from 2004 to 2016 and site visit investigation.

	Landsat TM images from more than 10 years before the Project start date have been analyzed to identify only forested areas according to Brazil's definition of forest.	
e) The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes forested wetlands growing on peat (e.g. peat swamp forests), this methodology is not applicable.	The Project does not include forested wetlands.	Via checking the satellite images from google earth /59/ and on-site investigation, it is validated that the project area is not involved any wetland area.

CAR 20 was raised and resolved successfully. Please refer appendix 2 for the same. Documents referred /11//58/ and /59/.

3.3.3 Project Boundary

The PD defines the project area, which is 165,707 ha, inside the rainforest of Amazon. The Project is located in northwest of Brazil, in the State of Para, micro region of Portel, municipality of Portel.

A Reference Region (RR) of 1,991,227 Ha land presents a historical deforestation rate (between 2004 and 2016) of 1.91%.

Project Area: Rio Anapu-Pacaja REDD Project Area covers an area of 165,707 ha.

Leakage belt and Leakage management area (LMA): The leakage belt was defined using the mobility approach (option II available in VCS Methodology VM0015). The physical location also includes LMA in each of the project location. The total area under LMA is 16,503 Ha.

The area and location has been confirmed via checking the project design and shape files of project boundaries submitted by the PP. The boundaries include the administrative boundaries of the county. The following table present the carbon pool considered within the project boundary:

Carbon pools included/excluded (Refer to Table 3 - VM0015)

Carbon pools	**Included / TBD/ Excluded**	**Justification / Explanation of choice**
Above-ground	Included	Carbon stock change in this pool is always significant

Below-ground	Included	Included to account for all the trees biomass.
Dead wood	Excluded	This pool is less present in the baseline scenario than in the Project scenario, thus is conservatively excluded.
Harvested wood products	Excluded	This pool didn't pass the 5% significance test.
Litter	Included	According to the VM0015 methodology (version 1.1) it can be included.
Soil organic carbon	Excluded	Not to be measure when forest is converted to pastures in the baseline scenario according to VCS VM0015 methodology.

Table . Carbon sources included/excluded (Refer to Table 4 - VM0015)

Gas		Included?	Justification/Explanation
Baseline	CO_2	Excluded	Registered as changes in carbon stocks
	CH_4	Excluded	Considered insignificant, according to VCS Program updates, on May 24, 2010
	N_2O	Excluded	Considered insignificant, according to VCS Program updates, on May 24, 2010
Livestock Activities	CO_2	Excluded	Not a significant source
	CH_4	Excluded	The project does not include livestock activities, so it is conservative to exclude such emissions once they are present in the baseline scenario
	N_2O	Excluded	The project does not include livestock activities, so it is conservative to exclude such emissions

			once they are present in the baseline scenario

By checking the information and evidences available /4//11/ and /12/ during on-site observation and by the supporting documents submitted by the PP, the VVB team concluded that the appropriate carbon pools have been considered and the description in the PD is accurate and complete, and also the selected carbon pools are justified for the proposed project activity.

CAR 21 and 22 were raised and resolved successfully. Please refer appendix 2 for the same. Documents referred /4//11/ and /12/.

3.3.4 Baseline Scenario

The explanation detailed in sections 3.1.4 and 3.1.5 of the PD. The baseline (continuation of BAU) for the project has been developed as instructed in the methodology VM0015 v1.1. the RRD there are two well-defined fronts of deforestation that are linked by a common dynamic, a Pioneer and a Consolidated Frontiers.

On one side, there is a Pioneer Frontier where Riverines live alongside the shores of primary and secondary rivers within the LMA. The traditional rural villagers lives directly adjacent to the project area. At the same time, squatters and illegal loggers encroach unprotected dense forests building pioneer roads from secondary rivers, away from primary rivers and out of sight of law enforcers and legal landowners. On the other side, there is a Consolidated Frontier, close to main roads like the Transamazonica highway (BR-230) and where deforestation is already wide spread.

The baseline scenarios to project future deforestation for the project is determined by the following steps:

Continuation of land use activities prior to Project scenario (modelling scenario) and;

Project scenario (conservation and protection of forests, sustainable land use management practices and extra monitoring activities) which is the project activity on the land within the project boundary performed without being registered as the VCS AFOLU project.

STEP 1 is PART 2 of the methodology which is defining project boundary. The same has been explained in the above section of the report

STEP 2 is PART 2.2 of the methodology which is Analysis of land use land cover change.

2.1 Collection of appropriate data sources

For the mapping of the changes in the classes of use and soil cover, the PP has used data from the PRODES Digital program (INPE, 2014) in vector format (shape file) with spatial resolution of 30 meters. A total of 83 Landsat satellite images were used to map forest, non-forest vegetation, hydrography and anthropogenic vegetation (deforestation). According to the methodology of PRODES Câmara et al. (2006) (Câmara G, Valeriano D, Soares JV (2006) Metodologia para o Cálculo da Taxa Anual de Desmatamento na Amazônia Legal. INPE, Sao Jose dos Campos), these images underwent geometric correction with displacement error less than 1 pixel (30 x 30 m). These images cover the historical reference period (2000 to 2014) and can be located

through four Orbits/ Point in the Landsat scene. The main activities carried out by the PRODES Project to monitor the forest cover of the Brazilian Amazon was done as prescribed in the applied methodology, i.e. Pre-processing, Interpretation and classification, Post processing of the images and Map accuracy assessment.

The forest area for the year of 2014 was identified based on results of PRODES. PRODES is a project coordinated by INPE (The National Institute for Space Research) and the data produced by this project is used by the Brazilian government to monitor deforestation in the Legal Amazon. This data is also reported by the Ministry of Science Technology and Innovation in the Brazilian National Communications to the UNFCCC.

2.2 Definition of classes of land-use and land-cover

The following are the description the classes used in the Project and its area at the beginning of the historical period (2000):

- Forest (1,293,784 ha): area of forest remnant belonging to different Phyto-physiognomies of the ombrophilous forest;

- Non-forest vegetation (339,536 ha): area consisting of vegetation with physiognomy diverse from forest such as Arboreal-Shrub Savannah (Savanna), Gramineous-Woody Savannah (Clear Field of Savanna), Campinarana, among others;

- Hydrography (60,732 ha): water bodies (rivers, lakes, streams, among others);

- Anthropogenic Vegetation (Deforestation – 297,175 ha): area where there was forest, but that was removed through the shallow cutting process (removal of forest cover). These areas are converted to other uses of land, different from forest areas (mosaic of different types of vegetation that includes pastures, plantations and secondary vegetation, according to Fearnside, 1996).

2.3 Definition of categories of land-use and land-cover change

For Rio Anapu-Pacaja REDD Project, the transition between two categories of land use was projected, with the change of areas with forest cover to areas of anthropized vegetation (deforestation) as per the below mentioned table (Table 7b of methodology VM0015, page 33);

.

ID_{cl}	Name	Trend in Carbon Stock	Presence in	Activity in the Baseline case[1]			Name	Trend in Carbon Stock	Presence in	Activity in the Project case[1]		
				LG	FW	CP				LG	FW	CP
I1/F1	Forest	Decreasing	PA	Yes	Yes	No	Deforestation	Constant	LM	Yes	Yes	No
I2/F1	Forest	Decreasing	LK	Yes	Yes	No	Deforestation	Constant	LM	Yes	Yes	No

The other steps i.e. 2.4 Analysis of the historical Land-Use and Land-Cover change and 2.5 and Map accuracy assessment carried out as per the applied methodology.

Based on the data obtained in the previous steps, the analysis of the historical change in land cover between 2000 and 2014 was carried out in the Reference Region of the Rio Anapu-Pacaja REDD project Area. The subtraction map analysis resulted in a deforested area between 2000 and 2014 of approximately 102,923 ha (6% of forest remnant in 2000).**STEP 3 is PART 2.3** of the

methodology i.e. Analysis of agents, drivers and underlying causes of deforestation and their likely future development. The following steps were taken by the PP to achieve the results:

3.1 Identification of agents of deforestation

a) Name of the agents of deforestation in the Reference Region: the main agents of deforestation are squatters for grazing, agriculture and other activities such as timber extraction.

b) Relative importance of the amount of historical deforestation assigned to each agent or group: The identified squatters account for 100% of the unplanned deforestation observed in the Reference Region.

c) Brief Description: the deforestation agents of the Project region are mostly migrants who came especially from other cities in the northern region of the country and the northeast region. These agents are historically attracted to the region by enterprises such as those linked to the Rio Anapu-Pacaja REDD Project, infrastructure projects, mining, among others. In addition to the possibility of job offer, such agents are attracted by the possibility of taking on indefinite or theoretically disputed areas. Such agents usually invade areas belonging to the PP/land owners claiming to be in lands that belong to the state government or federal government. They clean up areas aims to take ownership, build improvements, and initiate small-scale plantations and small-scale animal husbandry. Through these activities, which impact and change the forest cover, the squatters seek to legitimize their occupation[12].

3.2 Identification of deforestation drivers

a) Driver variables that explain the quantity (hectares) of deforestation

- Population growth;
- Demand for new areas for agriculture and small pasture.

3.3 Identification of underlying causes of deforestation

As per the applied methodology was carried out to find out the possible underlying cause of deforestation. From the results obtained from the above sub-steps of Step 3,

3.4 Analysis of chain of events leading to deforestation was done

The chain of events leading to deforestation and drivers for identifying and describing the location of deforestation is clearly explained in Step 3.1 of Section 3.1.4 of the validated PD /11/ . In the project region is initially driven by planning for infrastructure implementation, which promote migratory movements along with the need to open up forest areas, generating real estate speculation and access to previously remote areas.

The deforestation identified in the project region within the historical reference period shows great influence from the proximity of roads, branches, navigable rivers and previously deforested areas.

[12] (LIMA and POZZOBON,2005) (LIMA, Deborah and POZZOBON, Jorge . Socio-environmental Amazon : ecological sustainability and social diversity . Estud. av. [online]. 2005, vol.19, n.54, pp.45-76. ISSN 0103-4014)

This pattern is common throughout the Amazon, but becomes more evident in the project region, since most of the region's forests are still preserved due to difficult access.

Based on the above activities, it was concluded by the PP that the the socioeconomic diagnoses carried out by the project (FAO, 2018) and other survey studies used as reference, deforestation data (PRODES, 2014), land use after deforestation (INPE and EMBRAPA, 2014) and consultations with local experts, it was possible to find conclusive evidence explaining the relationships among agents, drivers, underlying causes, chain of events leading to deforestation and the deforestation pressure in the Reference Region. Thus, the hypothesis presented is that population growth influenced by infrastructure projects and undertakings projects in the region, coupled with the inefficiency of the government for regularization and monitoring of rural properties, the precariousness of public services and the weak performance of the State to curb illegal activities, contribute to the deforestation scenario observed during the period analyzed. Considering these evidences, the tendency for the baseline in the future is to maintain the influence of the agents, drivers and underlying causes evidenced during the historical period analyzed in the Reference Region.

STEP 4 is PART 2.4 of the methodology i.e. Projection of Future Deforestation. To achieve the results following steps were taken by the PP:

4.1 Projection of the quantity of future deforestation

The Reference Region is not stratified, since the characteristics of the agents, drivers and causes of deforestation are the same throughout its area.

4.1.1 Selection of the baseline approach

The modeling scenario was used to assess the rate of deforestation. After analyzing the evidences indicated in step three and the conclusions obtained, the modelling scenario approach of the historical mean of deforestation (method 3 given in the applied methodology) was adopted. Approach 1 was selected because the rate of deforestation analyzed does not show a significant trend (R^2 <80%) of increase or decrease in the future, that is, is higher than the average rate observed between 2000 and 2014. The R2 found from PRODES annual deforestation rates was 0.10%.

In addition, a correlation analysis was performed among the data collected for different variables (IBGE/SIDRA) of the project region during the historical reference period and deforestation evidenced in the same period. These variables could be used to perform a modelling scenario however in this analysis no variable had an adequate correlation index. Therefore, the evaluation of variables explaining deforestation (Figure 57, Figure 58 and Figure 59) showed low correlation index, it was chosen the "a" approach (historical average) to design the baseline of future deforestation.

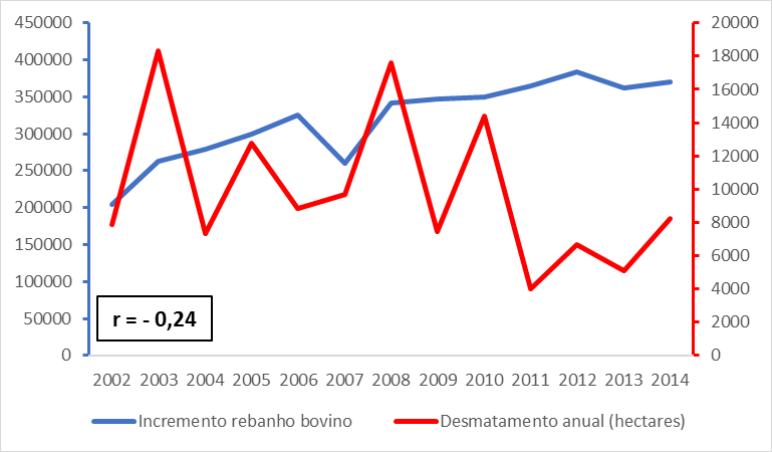

Figure. Correlation between the variables of Deforestation and cattle herd (grazing)

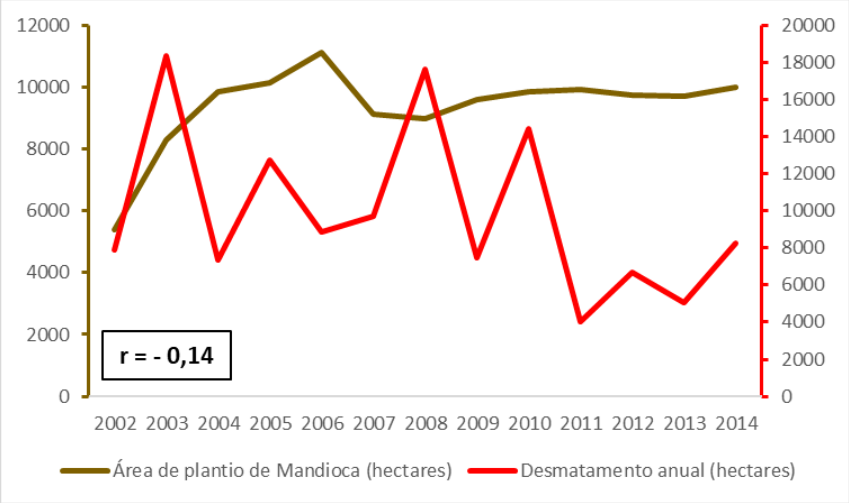

Figure Correlation between the variables of Deforestation and Area for plantations

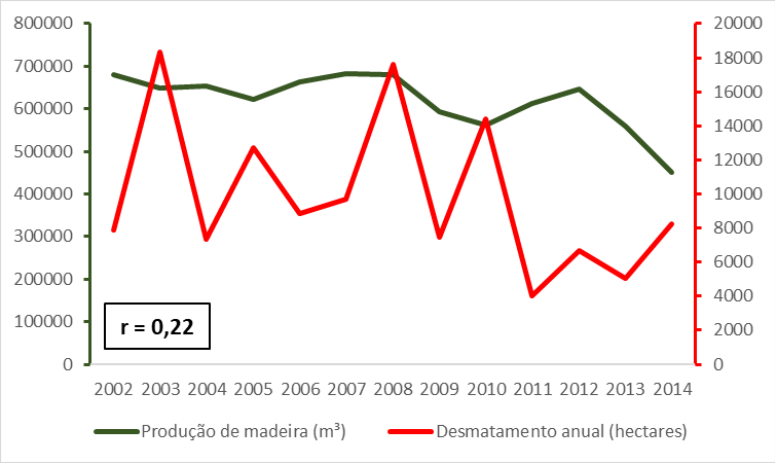

Figure: Correlation between the variables of Deforestation and timber production

4.1.2 Quantitative projection of future deforestation

Projection of the annual areas of baseline deforestation in the Reference Region As presented in the previous item, method 1 (historical average) was selected to estimate future deforestation and to design the annual deforestation areas in the baseline in the Reference Region. The annual area of deforestation at baseline in year t within the Reference Region was calculated according to Equation 2 of methodology VM0015 version 1.1 (page 44).

4.2 Projection of the location of future deforestation

In this section, projection of the future location of the risk of deforestation for the year 2044 as of the preparation of the factors maps, or that encourage the occurrence of deforestation. This was done using the TerrSet software, Land Change Modeler (LCM) module.

4.2.1 Preparation of factor maps

Based on the steps and analysis mentioned above in the section, the spatial variables that most likely explain the patterns of baseline deforestation in the reference region were identified. The histogram and complete list of variables, maps and factor maps are mentioned in step 4.2.1 of Section 3.1.4 of the validated PD /11/.

4.2.2 Preparation of deforestation risk maps

The deforestation risk models are developed from a series of minimum inputs and main steps are shown in figure 61 in the PD. The minimum inputs are at least three land cover maps covering the beginning, an intermediate point and the end of the historical period and the factors variables and limiting variables to the occurrence of deforestation. Among key steps include calibration, validation, and scenario generation.

4.2.3 Selection of the most accurate deforestation risk map

The assessment on the quality of the generated model was conducted applying option “a” - calibration and confirmation using two historical subperiods - available in VM0015 methodology version 1.1 (page 53). Deforestation data, occurred between 2000 and 2007, were used to calibrate the model, while the deforestation map occurred by 2014 was used for the confirmation process. In this process, a deforestation map for 2014 was simulated from the data observed in the years 2000-2007.

The FOM technique (Figure of Merit) was applied to evaluate the accuracy of the map simulated in 2014. The FOM is the reason of the intersection of observed changes (changes between reference map at time 1 and time 2), and simulated changes (changes between the reference map at time 1 and the reference map at time 2), to gather the observed change and the expected variation, according to VM0015, equation 9. The deforestation risk map developed at this stage showed acceptable accuracy to project land use changes by 2045 at Rio Anapu-Pacaja REDD Project reference region.

4.2.4 Mapping of the locations of future deforestation

For the projection of future deforestation, the whole historical period of the project (2004-2016) was considered, with annual deforestation maps projected between 2014 and 2044. The deforestation rate calculated for the historical period was projected until the year 2045. For the spatial allocation of deforestation the starting point was the combination of the auxiliary variables identified in the model calibration. The old deforestation distance variable was calculated dynamically in each model interaction. The entire process was conducted in TerrSet software. Figure 41 below shows deforestation in the Reference Regions, Project Area and Leakage Belt (Tables 9b and 9c of methodology VM0015, pages 49 and 50). Index A – Reference region, B – Project area, C- Leakage area and D – Future deforestation rate.

The VVB with the provided data (ER sheets, spatial/ remote sensing data and land records) and assumptions concludes that the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable. The procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project. Relevant national and/or sectoral policies and circumstances have been considered and are listed in the project description (section 2.3.16 and 3.1.5).

CAR 23 and 43 were raised and resolved successfully. Refer Appendix 2 for the same. /4//11//15//16//17/ and /32/.

3.3.5 Additionality

The PP, for the additionality analysis the most recent version of the VCS "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities - VT0001", Version 3.0, is used.

Step 1. Identification of the alternative scenarios of land use to the activities of the Project.

This step includes identifying the credible land-use scenarios for the Project Area and assessing the consistency of each scenario based on local regulations.

Sub-step 1a: Identification of alternative land use scenarios for proposed REDD project activities

Three scenarios were analysed first two without project scenario and last one with the project scenario.

1. Forest encroachment by pioneer activities followed by deforestation to implement pastures (without project scenario)

2. Timber extraction by the legal landowner

3. Proposed AUD Project activities

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

The consistency Analysis shows that all three scenarios are in compliance with mandatory legislation and regulations taking into account their enforcement in the region. In the case of unplanned logging that is an agent that precedes deforestation by ranchers, it has been proven that there is lack of enforcement is widely spread in entire State of Para.

Sub-step 1c. Selection of the baseline scenario

Described in Section 3.1 – Application of the Methodology, specifically in item 3.1.4 – Baseline scenario.

STEP 2: Investment analysis to determine that the proposed Project activity is not the most economically or financially attractive of the identified land-use scenarios

Sub-step 2a. Determine appropriate analysis method

The PP considered the fact that the Project is a conservation Project with no other sources of income besides carbon revenues, a simple cost analysis will be applied to prove additionality.

Sub-step 2b. Option 1 – Simple cost analysis

The PP has provided the PP's annual operational expenditures those that had been planned and that incurred in actuals, the aspects on governance, administration have been considered for the years 2016 to 2020. It is demonstrated that the expenditures for the Project, in the absence of carbon revenue, is very much below especially considering the scenario of effective protection and management of the area. PP has demonstrated that the annual budget requirement of US$138,479 would not be feasible without the securing the carbon sales and revenue. Thus, it is demonstrated that a large amount of initial capital is required for the set-up of the Project.

STEP 3. Barrier analysis

Not applicable.

STEP 4. Common practice analysis

The project activity, Alternative 2, involving sufficient financing and effective implementation of the Project is not common practice. The clearly-demonstrated financial challenges of PP are not peculiar to forest areas in Brazil. Most forest areas are not earning sufficient revenue to cover costs. Brazil needs compensation if it is to protect the Amazon. An evaluation from National and Subnational Analysis for the Period 2009 through 2016 from A forest trend REDDX report says that;

"More financial resources are needed. Over US$2.2 billion has been committed to the development of REDD+ activities in Brazil from 2009 through September 2016, and this helped Brazil to become a global leader in reducing its emissions from deforestation. But in order to continue this progress and meet its current and future deforestation reduction goals, they need to find additional resources that are predictable and can generate a large amount of resources for performance-based payments".

Similarly, a recent evaluation of the financial viability of forests in Brazil (2016) assessed more than half of those forest types evaluated as "marginally viable" or "non-viable."

All the steps are explained in detail in section 3.1.5 of the validated PD.

From the above analysis it is concluded that the project is not viable in BAU scenario, and additional financial support is required to develop, implement and sustain the project.

CAR 24 was raised and resolved successfully. Refer Appendix 2 for the same. /5/ and /11/

3.3.6 Methodology Deviations

Not applicable .

3.3.7 Quantification of GHG Emission Reductions and Removals

Quantification of baseline emission:

Step 5: definition of the land-use and land-cover change component of the baseline
Following sub-steps were applied:

5.1 Calculation of baseline activity data per forest class

The goal of this step is to calculate activity data of the initial forest classes (*icl*) that will be deforested and activity data of the post-deforestation classes (*fcl*) that will replace them in the baseline case.

This calculation combined the maps of annual baseline deforestation of each future year produced with the land-use and land-cover map produced for the initial situation in Step 2 to produce a set of maps showing for each forest class the polygons that would be deforested each year in absence of the project activity. Were extract from these maps the number of hectares of each forest class that would be deforested and the results of the baseline projections showed a deforestation of approximately 563,638 ha in the RR, 49,910 ha in PA and 513,729 ha in the

Leakage Belt. Annual areas deforested per forest class icl within the RR, PA and leakage belt in the baseline case is given in Table 19 and 20 respectively of the validated PD

5.2 Calculation of baseline activity data per post-deforestation class

As available in methodology VM0015, method 1 was used to determine the substitute class of forest cover in the baseline of the Project (indicated as anthropic Vegetation in Balance). Table 22 of the validated PD shows the area of project zone, which comprises the Project area, the leakage belt and the leakage management areas, as well as the corresponding areas of each class of use and coverage after deforestation.

The reference region for rate of deforestation (RRD) has a total area of 1,991,227 ha and is delineated as shown in Figure 68 of the validated PD. It excludes the project area and leakage belt, and all non-forested areas at the start of the historical reference period in the year 2005. Further, the RR has been defined with knowledge of the drivers of unplanned deforestation in the region. A guiding principle in the delineation of the reference region was, to the extent possible within the requirements of the VM0015 methodology, to reflect political boundaries (districts), to facilitate any eventual alignment with an anticipated Government of Brazil jurisdictional REDD framework. The main agents of deforestation in the RRD are small scale farmers who intend on establishing croplands through conversion of forest land. The proportion of agriculturalist to ranchers is the same in the RRD as is expected in the project area in the baseline case. Landscape factors (i.e., soil type, vegetation type, elevation, and slope) do not drive agricultural decisions for small scale farmers. Maps of the landscape factors, including forest type, soil type, slope, and elevation that were used to help define the reference region and ensure similarity to the project area can be found in the project database. Incorporation of these landscape factors had little effect on delineating the RRD as almost all land in the RRD is suitable for conversion to agricultural land. Land tenure was also used to help delineate the RRD. Specifically, national parks, forest reserves, and game reserve were excluded from the RRD as these areas differ from the privately-owned project area. Comparison of the area covered by landscape factors, transportation networks and human infrastructure are detailed in the Table 23 of the validated PD. Table 24 and 25of the validated PD shows the area projected to be deforested in each zone for the Project Area and Leakage Belt, respectively.

Physical boundaries considered for of the project are as following

Reference Region for Deforestation (RRD)	*Where the baseline assessment and historical analysis carried out* Area: 1,991,227 Ha Historical deforestation rate: 1.91% Vegetation: Ombrophilous Forest Elevation range: 0 to 150 m Average slope: 12 Annual average precipitation: 2000 mm Agents and drivers of deforestation: main agents of deforestation are cattle ranchers (98%) followed by smallscale farmers (2%) Land Tenure: both public and private lands Law enforcement on land tenure rights: weak..

Project Boundary (PB)	*Refers to the total area under control of the Project Proposer and includes the Project Area and LMA* Area: 182,210 Ha Agents and drivers of deforestation: small-scale Farmers, illegal logging, grazing and others Land Tenure: private lands Law enforcement on land tenure rights: weak.
Project Area (PA)	*Forested land where GHG emission reduction benefits will be accounted. The Minimum Mapping Unit (MMU) was the Brazilian definition of Forest, which is 1ha with more than 30% forest cover, and 5 meters of tree height.* Area: 165,707 Ha Vegetation: Ombrophilous Forest Elevation range: 0-40m Average slope: 6 Annual average precipitation: 2300 mm Land Tenure: private lands Law enforcement on land tenure rights: weak.
Leakage Belt (LK)	*Cumulative of areas that presents the highest risk of deforestation due to displacement of deforestation agents by the Project Activities.* Area: 16,503 Ha Agents and drivers of deforestation: illegal loggers, squatters, and small-scale farmers
Leakage Management Areas (LMA)	*Non-forest areas within the PB. It is currently in these areas that local population and communities live and where the Project Activities will take place.* Area: 16,503 Ha

Step 5.3 i.e. Calculation of baseline activity data per LU/LC change category is not applicable

Step 6 of VM0015 - Estimation of Changes in Carbon Stocks and Non-CO2 Emissions at Baseline

The estimate of the carbon stock for the Forest class was reached through forest inventory carried out by the technical team of PP, in the year 2019. The main results found in this study will be described below,

6.1.1 Estimate of average carbon stock by use class and change in land cover

The implementation of the forest inventory in the REDD project area adopted the recommendations presented in the VCS approved methodology VM0015, distributing the plots proportionally to the area of each typology and considering a uniform distribution of plots in the

management area. Physical Parameters a total of 3 strata were identified in the Project area, which resulted in a total of 146 planned initial sample units. In addition, it was also considered an analysis for the plots implanted in managed areas and unmanaged areas. All plots were evenly distributed to cover much of the Project area.

Average carbon stocks are estimated for the following area:

1. The forest classes existing within the project area

2. The forest classes existing within the leakage belt

3. The post-deforestation classes projected to exist in the project area in the baseline case

4. The post-deforestation classes projected to exist in the leakage belt in the project case

5. The non-forest classes existing in leakage management areas

According to E. Tomppo et al. (eds.), National Forest Inventories (2010), the permanent plots may be have a circular, square or rectangular shape. However, the most used shape is the square in tropical forests. Based on this guideline, the inventory was carried out in 1-hectare square plots, as it was found that with this format and dimension it is possible to obtain greater representivity and less difficulty of operation.

For each plot, data will be collected from the arboreal stratum, collecting individuals with Diameter at the Chest Height (DCH) of more than 15 centimeters and for better ordering each plot was divided into subunits of 0.25 hectares. Each implemented plot received an identification plate with the unit number, this numbering was allocated at the start point of each plot, and was also done for the subunits

Estimated Variables: Biomass and Carbon

Dry Biomass

The above-ground dry biomass of the Project area was estimated using allometric equations, and ten different models were tested (Chave et al., 2005; Tre allometry and improved estimation of carbon stocks and balance in tropical forests. Oecologia 145(1):87-99). All of them adopt the diameter above the soil (DCH> 10 cm) of the trees sampled as an independent variable, while others consider, in addition to the DCH, the basic density of the tree species. DCH values above the maximum value used for the development of the allometric equations tested were truncated to the maximum value. Basic wood density values were obtained from the Global Wood Density Database. Due to the fact that the database reports more than one density value per species, the average of the values reported by species for the Project region was preferably used.

For cases where this information was not present, the global averages of the values reported for the species were adopted. However, when species-specific values were not available, the average biomass of the arboreal genus was adopted, according to the standard procedure typically reported in the literature (IPCC default values). We emphasize that below-ground biomass is already included in the estimation. To quantify the biomass, we used the allometric

equation described by Nogueira et al. (2008) (Euler MeloNogueira, 2008. Estimates of forest biomass in the Brazilian Amazon: New allometric equations and adjustments to biomass from wood-volume inventories. Forest Ecology and Management.256(11):1853-1867), showing more appropriate for the region of study. The following is a description of equation (4):

$$B = \exp(-1.716 + 2.413 * \ln(DAP))$$

Carbon Content

In accordance with the methodology VM0015, the carbon stocks were quantified in tons of carbon dioxide equivalent per hectare (tCO2-e ha-1). For calculations and conservatively, the estimated carbon stocks considered only the biomass reservoirs above and below the ground. The following equation was used for the conversion of the dry biomass into tCO2-e ha-1 based on the sampled trees and their respective plots and subplots (equation 5):

$$C_{i,j,k} = \sum_{i=1}^{N} \left(\frac{B_{i,j,k} \cdot (1+S) \cdot FC \cdot \left(\frac{44}{12}\right)}{1000} \right)$$

The carbon fraction of biomass used for the calculations was 0.485, value reported by Silva (2007) and previously used in other REDD+ Projects implemented in the Brazilian Amazon. The proportion of below-ground biomass was estimated with the standard value reported by Nogueira et al. (2008), corresponding to 25.8% of above-ground biomass.

Sampling Effort

The sampling effort (number of plots to be implanted) was estimated according to the equation A3-1 of the methodology VM0015 (equation 6):

$$n = \frac{t_{st}^2 \cdot CV^2}{E^2 + \frac{t_{st}^2 \cdot CV^2}{N}}$$

Furthermore, VM0015 recommends the adoption of different strata in order to reduce sample effort in the area of carbon project. For this purpose, strata were tested based (1) on managed areas and unmanaged areas and (2) based on the different forest typologies present in the study area.

Number of Individuals

A total of 8,668 individuals distributed in 376 species were identified in the 75 inventoried plots. The identified species that presented the greatest wealth were: Breu vermelho (4,90%), Cariperana (3,97%), Mandioqueira escamosa (1,56%) and Cupiúba (3,41%).

The 378 identified species are distributed in 58 families, in addition to 2 unidentified class, and the families that showed the greatest diversity were: Fabaceae (23.4%), Sapotaceae (6.5%), Lecythidaceae (7.3%) and Lauraceae (3.7%).

Carbon Stock

The adoption of a single stratum for the Project area is presented as the best sampling strategy for the biomass inventory. Still, this measure proves to be interesting in the context of the study because it tends to improve future calculations related to the baseline modelling of the REDD+ Project area.

For the estimation of the carbon stock an average final stock of total dry biomass 45,948 tCO2-e ha-1, was obtained, considering only one stratum. Considering the strata of forest typology, the typology that presented the highest carbon stock was the Montane Dense Ombrophilous Forest 604,545 tCO2-e ha-1.

Calculation of Reduced Emissions

For the determination of the reduced emissions, the estimated stock in the inventory should be multiplied by 3.6667 (44/12), due to the fact that 1 kg of C corresponds to 3.66667 kg of CO2 (mass of CO2 = 44 and the mass of C = 12; 44/12 = 3.66667). The average carbon values per hectare for each initial class of land use and cover considered for the baseline scenario present in the area of the project and leakage belt can be seen in the ER sheet and table 27 of the validated PD.

Post-deforestation classes projected for the Project area and leakage belt in the baseline scenario and non-forest classes existing in the areas of leakage management

The methodology VM0015 (Section 6.1.1, page No. 62) allows the use of estimates from local studies, and thus a value of 60.1 tCO2e ha-1 was taken as reference for the carbon stock of the anthropic vegetation class in equilibrium, the class projected to exist in the project area and the leakage belt in the Project scenario. [13]

6.1.2 Calculation of the carbon stock change factors

The requirements of the AFOLU VCS document require consideration of the carbon stock decay of carbon reservoirs in AGB, BGB, SOC, dead wood, litter and wood products.To calculate this decay, VM0015 version 1.1 applies a linear function to account for the initial carbon stock decay for the initial forest class (icl) and an increase in the carbon stock in the class after deforestation (fcl). Table 28 show how the carbon stock change factor was calculated.

6.1.3 Calculation of baseline changes in carbon stock:

[13] This estimation of carbon stock was obtained by Weighted average (by area obtained in Terra Class database):2006 IPCC Guidelines for National Greenhouse Gas Inventories, V. 4, Chapter 6: Grassland, pg. 6.27, Table 6.4 (for Pasture: 76.1% of area) 2006 IPCC Guidelines for National Greenhouse Gas Inventories, V. 4, Chapter 4: Forest Land, pg. 4.63, Table 4.12 (for Pasture with regeneration: 23.9% of area).
Wanderlli & Fearnside, P.M. 2015. Deforestation soars in the Amazon. Nature 521:423), through a long-term study of the landscape and average vegetation composition in deforested areas of the Brazilian Amazon, which consists of a matrix composed of pastures, small-scale agriculture and secondary vegetation, usually found in a post-deforestation scenario in the Amazon.

For the calculation of the baseline changes in carbon stock in the Project area and leakage belt for year t used Method 1 of VM0015 version 1.1,

6.2 Baseline of non-CO2 emissions from forest fires:

Non-CO2 emissions were not considered and accounted for the REDD+ Project.

The total project emission estimated in the project lifetime is 22,71,481 tCO_2e as calculated in table 36 of ER Excel sheet /12/.

The excel sheet submitted by the PP was evaluated and found to be appropriate and in line with the applied methodology.

Quantification of project emissions

Step 7 of VM0015 v1.1 was followed to calculate ex ante estimation of actual carbon stock changes and non-CO2 emissions in the Project Area

Based on the validated PD and calculation sheet, estimates of the ex-ante project emissions were calculated as the average annually opened areas, reaching an average area of 18788 hectares per year, for implementation of the project activity.

The total project emission estimated in the project lifetime is 73,344 tCO_2e as calculated in table 36 of ER Excel sheet /12/.

The excel sheet submitted by the PP was evaluated and found to be appropriate and in line with the applied methodology.

Quantification of leakage

Step 8 of VM0015 - Ex-ante leakage estimate

Ex-ante estimate of carbon stock reduction and increased GHG emissions due to leakage prevention measures

The Project's activities won't generate GHG emissions thus there won't be GHG emissions from leakage prevention activities. Tables 30a,b,c as well as Tables 34 and 35 of the VM0015 methodology do not apply to the Project. In the same way, the Project will not implement grazing activities in the LMA thus Tables 31, 32, and 33 of the VM0015 methodology do not apply.

GHG emissions by activity displacement could only be considered as leakage if such emissions are located within the leakage belt (LK) and happen above baseline projections. A mobility analysis was used to calculate the extent of the leakage belt of the Project and results from this analysis are presented in Section 3.1.3. (As indicated in the footnote in page 101 of the VCS VM0015 methodology "If deforestation agents do not participate in leakage prevention activities and project activities, the Displacement Factor shall be 100%. Where leakage prevention activities are implemented the factor shall be equal to the proportion of the baseline agents estimated to be given the opportunity to participate in leakage prevention activities and project

activities" thus if all the agents are given the opportunity to participate in the activities of the Project, then the Leakage Displacement Factor (LDF) should be zero).

Starting from 2012 the cattle were gradually sold as they reached maturity for the marketing of the meat. Since January 2016, of the beginning of the Project until today there are no cattle in the farm, except several milk cows owned by the farm keeper for his self-consumption. Because of that, no leakage management zone was identified.

Also, the VM0015 methodology indicates that the amount of leakage will depend on the LDF which is equal to the proportion of agents of deforestation that do not participate in the Project's activities.

Following these guidelines, the Project will not generate displacement leakage as the Project's activities are designed to provide all the deforestation agents that arrive to the Project's Boundary with the opportunity to participate.

The total ex-ante leakage during the project lifetime is 0 as given in table 36 of the ER excel sheet /12/.

The excel sheet submitted by the PP was evaluated and found to appropriate and in line with the applied methodology.

Summary of net GHG emission reductions or removals

Step 9 of VM0015 - Net ex-ante net reduction in anthropogenic GHG emissions

Following steps were followed:

9.1 Significance assessment

"Tool for testing significance of GHG emissions in A/R CDM Project activities" v01, EB 31 was used to carry out the significance assessment determination the significance GHG emissions by sources, carbon pools, and leakage emissions. The above-ground biomass will contribute 79% of the expected emissions in the baseline scenario and biomass below ground will contribute 21%.

9.2: Calculation of ex ante estimates of total net GHG emission reductions

The equation 19 suggested by VM0015 was used for the ex-ante estimation of the project emissions reductions.

$$\Delta REDD_t = (\Delta CBSLPA_t + EBBBSLPA_t) - (\Delta CPSPA_t + EBBPSPA_t) - (\Delta CLK_t + ELK_t)$$

9.3 Ex-ante calculation of Verified Carbon Units (VCUs)

To estimate the number of VCUs, we used equation 20 of VM0015. The Risk Factor parameter of the Project was estimated through the document *VCS AFOLU Non-Permanence Risk Tool*, resulting in 11.75%.

$$VCU_t = \Delta REDD_t - VBC_t$$

$VBC_t = (\Delta CBSLPA_t - \Delta CPSPA_t) * RF_t$

The net GHG emission reduction estimated in the project lifetime is 3,94,89,204 tCO_2e given in Table 36 of the ER excel sheet /12/.

The excel sheet submitted by the PP was evaluated and found to appropriate and in line with the applied methodology.

	Ex ante net anthropogenic GHG emission reductions tCO2e	**Ex ante VCUs tradable** tCO2e	**Ex ante buffer credits** tCO2e
Total	44,551,688	39,489,204	5,062,463
Average	1,485,056	1,316,307	168,749

CAR 25, 26, 27, 28 and 44 were raised and resolved successfully. Refer Appendix 2 for the same. /11//12//7//4//15/ and /12/.

3.3.8 Monitoring Plan

The VVB team checked all parameters presented in the monitoring plan against the requirements of the methodology and was found that all the parameters are as per methodology.

The monitoring plan in section 3.3.3 of the validate PD is confirmed as designed according to the methodology and applicable tool. The monitoring plan of the REDD+ Project is a combination of three components: climate, community and biodiversity. Brazil Agfor LLC is one of the proponents and implementing partners of this Project, being responsible for coordinating the monitoring processes during its life cycle. The climate aspects will be monitored directly by the Brazil Agfor LLC and the social and biodiversity aspects will be monitored by the land owners and partners hired with skills in the subject. The activities of the Project and their monitoring is grouped by the PP as following:

Forest monitoring: Monitoring of forest cover was be done mainly by remote sensing imagery. The choice of imagery depended on the availability of scenes, cloud cover, and related acquisition and processing costs. Remote sensing imagery could be either satellite (i.e. Landsat) or radar (i.e. Alos Palsar) or a combination of both. On ground monitoring will be conducted by forest monitoring patrols. On a monthly basis, brigade leaders will perform random site visits to verify that monitoring patrols are covering the assigned area and that each patrol is wearing the adequate field equipment. Finally, each patrol leader submits its information to the local police in Portel and to IBAMA in Portel and in Belem.

Biodiversity monitoring: Local people participating in the biodiversity component of the project will be in charge of reporting animal spotting at the boundaries of the LMA and the PA. Spotting frequency and animal species identified will indirectly assess net positive impacts on ecosystem health. Also, local people will be hired to monitor ants, bats and bryophytes.

All information will be properly reported following the protocols developed by Anapu-Pacaja after the fieldwork . Reports should provide geo-referenced information about biodiversity spotting and data as determined by the protocols. All data from the reports will be assembled into electronic format prior to the analysis. Maps, reports and records will be available to validators at each verification event.

Social Monitoring: will be undertaken by social monitoring squads. There will be a responsible for each monitoring squad who will generate monthly activities reports. The Project management teams in Protel and Belem will hold bimonthly meetings to assess the effectiveness of the activities in local villages. Based on the information supplied by the brigade leaders, the management teams will improve the proposed activities. Maps, reports and records will be available to validators at each verification event.

Climate parameters to be monitored

Sl. No.	Data/Parameter	Unit	Description	Determination method
1	Deforestation	Hectare (ha)	Maps of forest cover areas converted into non-forest cover areas	Data from the PRODES Digital program (official mapping satellite of Brazilian Amazon Forest) were used to map the deforestation and production of the Forest Cover Excellence Brand Map. During the analyzed period, a total of 46 Landsat images were used. And for the classification of the images in the mapping of forest classes, non-forest vegetation, hydrography and deforestation, the ISOSEG method of unsupervised classification was used
2	CF	T	Carbon contained in dry biomass	Value found in scientific literature Nogueira et al. (2008). Estimates of forest biomass in the Brazilian Amazon: New allometric equations and biomass adjustments of wood volume inventories. Forest Ecology and Management, v. 256, n. 11, p. 1853-1867, 2008
3	ABSLRRt	Ha	Annual area of baseline deforestation within the RR at year t	Calculated according to requirements of the VM0015 v1.1.
4	ABSLRR	Ha	Cumulative area of baseline	Calculated according to

			deforestation in the reference region at year t	requirements of the VM0015 v1.1.
5	ABSLPAt	Ha	Annual area of baseline deforestation in the project area at year t	Calculated according to requirements of the VM0015 v1.1.
6	ABSLPAicl,t	Ha	Area of initial (pre-deforestation) forest class icl deforested at time t within the project area in the baseline	Calculated according to requirements of VM0015 v1.1, 5.1 by applying land cover map to the result of Table 9b
7	ABSLPAi,t	Ha	Annual area of baseline deforestation within stratum (i) of the project area at year t	Calculated according to requirements of VM0015 v1.1, 4.1.2.2
8	ABSLPA	Ha	Cumulative area of baseline deforestation within the project area at year t	Calculated according to requirements of the VM0015 v1.1.
9	ABSLPAz,t	Ha	Area of the zone z “deforested” at time t within the project area in the baseline case; ha	Equal to values of Table 11b grouped by zones.
10	ABSLLKt	Ha	Annual area of baseline deforestation within the leakage belt at year t	Calculated according to requirements of VM0015 v1.1.
11	ABSLLKicl,t	Ha	Area of initial (post-deforestation) forest class fcl deforested at time t within the leakage belt in the baseline case	Calculated according to requirements of VM0015 v1.1, 5.1 by applying land cover map to the result of Table 9c
12	ABSLLKI,t	Ha	Annual area of deforestation in stratum (i) within the leakage belt at year t	Activity data for calculating GHG emissions. Calculated according to requirements of VM0015 v1.1.
13	ABSLLK	Ha	Cumulative area of baseline deforestation within the leakage belt at year t	Calculated according to requirements of VM0015 v1.1.
14	CFj	Dimensionless	Carbon fraction for tree tr, of species, group of species or forest type j	Default values IPCC GPG 2006, Chapter 6
15	Cabcl	t CO2e ha-1	Average carbon stock per hectare in the above-ground biomass carbon pool of LU/LC class cl	Derived from forest inventory data, IDEAM. See VCS Annex.
16	Rj	Relation factor	Root shoot ratio	Default value of 0.24 from IPCC Guidelines for National Greenhouse Gas Inventories. 2006. Table 4.3/Mokany 2006

17	Cbbcl	t CO2e ha-1	Average carbon stock per hectare in the below-ground biomass carbon pool of LU/LC class cl	Calculated by applying the default value of 0.24 from IPCC Guidelines for National Greenhouse Gas Inventories. 2006. Table Table 4.3/Mokany 2006
18	Ctot(icl)	t CO2e ha-1	Average carbon stock per hectare in the below-ground biomass carbon pool of LU/LC class cl	Derived from various forest inventory data. See Table Biomass, Annex GEI DB.
19	Ctoticl,t	t CO2e ha-1	Average carbon stock of all accounted carbon pools in forest class icl at time t	Significance analysis.
20	Cabfcl	t CO2e ha-1	Average carbon stock per hectare in the above-ground biomass carbon pool of final post-deforestation class fcl	Calculated according to requirements of VM0015 v1.1.
21	Cp	t CO2e ha-1	Average carbon stock per hectare in the carbon pool p	Requirements of the VM0015 sec. 6.1.2.
22	Ctotfcl, t	t CO2e ha-1	Average carbon stock of all accounted carbon pools in non-forest class fcl at time t;	Leakage management activities do not decrease carbon stocks.
23	ΔCabABSLKK	t CO2e	Cumulative baseline carbon stock changes for the above-ground biomass pool in the leakage belt	GHG accounting in the leakage belt.
24	ΔCbbABSLKK	t CO2e	Cumulative baseline carbon stock changes for the below-ground biomass pool in the leakage belt	GHG accounting in the leakage belt.
25	ΔCabBSLPA	t CO2e	Cumulative baseline carbon stock changes for the above-ground biomass pool in the project area	GHG accounting in the project area.
26	ΔCbbABSLPA	t CO2e	Cumulative baseline carbon stock changes for the below-ground biomass pool in the project area	GHG accounting in the project area.
27	ΔCADLK	t CO2e	Cumulative total decrease in carbon stocks due to displaced deforestation	GHG accounting from displaced leakage
28	ΔCBSLPA	t CO2-e	Total baseline carbon stock changes in the project area	GHG accounting in the project area
29	ΔCPSPA	t CO2-e	Cumulative project carbon stock change within the project area at year t	Calculation of net GHG emissions reductions
30	ΔCUDdPA	t CO2-e	Cumulative actual carbon stock change due to	Measure of project effectiveness

			unavoided unplanned deforestation at year t in the project area	
31	ΔREDDt	t CO2-e	Net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t	The cumulative result of applying the VM0015 methodology
32	DLF	%	Displacement leakage factor	ex-ante leakage
33	EI	%	ex-ante estimated Effectiveness Index	Estimate generated by the project
34	ELK	t CO2-e	Cumulative sum of ex-ante estimated leakage emissions at year t	The cumulative result of applying the VM0015 methodology
35	RFt	%	Risk factor used to calculate VCS buffer credits	VCS Non-Permanence Risk Analysis
36	VBCt	t CO2-e	Number of Buffer Credits deposited in the VCS Buffer at time t;	Calculated

Community parameters to be monitored

Sl. No.	Data/Parameter	Unit	Description	Determination method
1	Providing land ownership legal rights versus conservation results	Number/ year	Number of people getting land ownership	Monitoring report, annual report and land documents
2	Number of trained people in biodiversity and forest monitoring.	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants
3	Number of people participating in the monitoring activities each month.	Number/ year	Number of families participating in REDD+ Project activities	Monitoring report and annual report
4	Number of people returning to the monitoring work positions after one rotation	Number/ year	Number of families participating in REDD+ Project activities	Monitoring report and annual report
5	Number of community leaders trained to improve their level of organization,	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants

	management and democratic governability			
6	Number of local leaders participating in the development of an organization system	Number/ year	Number of families participating in REDD+ Project activities	Monitoring report and annual report
7	Number of local associations/organizations strengthened by the project activities	Number/ year	Number of local associations/organizations directly involved in REDD+ Project activities	Monitoring report and annual report
8	Number of people trained in agroforestry techniques	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants
9	Number of implemented agroforestry pilot projects	Number/ year	Number of agroforestry pilot initiated due to the REDD+ project	Monitoring report and annual report
10	Number of people trained in the use of efficient improved cooking stoves	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants
11	Number of improved cooking stoves pilots implemented in local families	Number/ year	Number of cookstoves pilot initiated due to the REDD+ project	Monitoring report and annual report
12	Number of people trained in the sustainable small scale timber extraction	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants
13	Number of people trained in the development and management of a small scale enterprise	Number/ year	Number of performed courses and training	Questionnaires and attendance list applied to participants
14	Number of small scale enterprises developed in the project area	Number/ year	Number of small enterprises initiated due to the REDD+ project	Monitoring report and annual report

Biodiversity parameters to be monitored

Sl.	Data/Parameter	Unit	Description	Determination method

No.				
1	Times endangered species were observed	Number/ year	Quantity of animal species monitored	Field data sheets, data sheet and fauna, monitoring report
2	Forest cover increased through restoration of degraded land	Ha	Area increased through restoration of degraded land due to the REDD+ project	Monitoring report and annual report
3	agroforestry system	Ha	Area undertaken for agroforestry system due to the REDD+ project	Monitoring report and annual report
4	Forest area conserved	Ha	Area undertaken for forest conservation system due to the REDD+ project	Monitoring report and annual report
5	Area usurped by illegal settlements	Ha	Area usurped by illegal settlement due to REDD+ project	Monitoring report and annual report
6	Reforestation in community polygons	Ha	Area undertaken reforestation due to the REDD+ project	Monitoring report and annual report

Monitoring reports should be numbered and filed appropriately. Once a month monitoring reports should be scanned to have digital copies in an archive as backup. Maps, reports and records will be available to validators at each verification event.

The Project is not expected to generate any type of leakage. Even so, as mentioned in item 1.1.2 of this Monitoring Plan, LULC-change analysis will be developed for the leakage belt using Landsat 8 imagery (and Alos Palsar when required) on a yearly basis during the first fixed baseline period. Key variables that will be used to recalculate the baseline in the second 10-year period of the project are:

- Socio-economic information retrieved from the Project"s monitoring activities
- Distance to new roads
- Average distance to selective logging activities from pioneer roads
- Distance to non-forest
- Planned infrastructure in the region

Carbon stocks in pre and post-deforestation classes are assumed to remain constant, as there are not significant decreases or increases of carbon stocks in the leakage belt. The monitoring survey will be conducted as per the Standard operating procedures developed by the PP for the project monitoring /14/.

The step has explained in detail in sections 3.3.3, 4.4.1 and 5.4.1 of the validated PD /11/.

CAR 29 and 33 were raised and resolved successfully. Refer Appendix 2 for the same. /12//15//4//14/ and /44/.

3.3.9 Dissemination of Monitoring Plan and Results (CL4.2)

It will be through the website of Brazil Agfor LLC group that the monitoring plan, as well as its results obtained will be available to the public on internet /44/. This has been validated during the site visit and personal interview with the management team of the project.

CAR 42 has been raised and resolved successfully. Refer Appendix 2 for the same. /12//4//14/ and /44/.

3.3.10 Non-Permanence Risk Analysis

The non-permanence risk report and risk calculation Sheet are provided by PP, the risk assessment was conducted according to the VCS Procedural Document "AFOLU Non-Permanence Risk Tool" (version 3.3).

Each risk category was calculated based on the VCS guidance. The information was validated and cross-checked through document review, onsite visits of the project area and interviews conducted. Details of the assessment are provided as follow.

Internal risk	
Project management risk	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. Therefore this mitigation has scored 2 There is a specific mitigation plan made by project proponent for potential risks to the project, which has been verified in the monitoring plan, therefore this mitigation is scored as -2. Hence the total score of the risk is 0
Financial Viability	Project Cash flow breakeven period is between 4 and 7 years from the current risk assessment. Therefore this mitigation is scored as 1. Project has secured 40% and less than 80% of funding needed to cover the total cash out before the project reaches breakeven. Therefore this mitigation is scored as 1. Hence the total score of the risk is 2
Opportunity cost	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with the project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated. Therefore this mitigation is scored as 8. Mitigation: Project is protected by legally binding commitment to

	continue management practices that protect the credited carbon stocks over at least 100 years (see project longevity). Therefore this mitigation is scored as -8. Hence the total score of the risk is 0
Project longevity	The project crediting period is 30 years. Agreements between the landowner and the project owner are available defining the validity and the land used. The right of forest planting and management within the project boundary during the project crediting period as verified by checking the project agreement is with the PP. Therefore this mitigation is scored as 0.
Total internal risk	0
External risk	
Land Tenure and Resource Access/Impacts	Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period. Therefore this mitigation is scored as 0.
Community Engagement	Less than 50% of the households living within the project area who are reliant on the project area, have been consulted. Therefore this mitigation is scored as 10.
Political Risk	The project is located in Brazil. Average score of all six indicators for the five most recent years (20012-2017) is -0.44. Therefore this mitigation is scored as 2 Brazil has an established Designated National Authority under the CDM and has at least one registered CDM Afforestation/Reforestation project, therefore this mitigation is scored as -2. Therefore this mitigation is scored as 0
Total external rsik	10
Natural Risk	
Natural Risk (eg, Fire, Pest and Disease outbreaks, Extreme Weather)	Major : Fire (F) 0.5 Pest and Disease Outbreaks (PD) 0 Extreme Weather (W) 1 Geological Risk (G) 0 Other natural risk (ON) 0.25 Therefore this mitigation is scored as 1.75
Overall risk rating	0+10+1.75 = 11.75

The calculation has been validated as per the VCS tool applied for the non-permanence risk calculation and it concluded to be appropriate. The AFOLU Non-Permanence Risk Tool /7/ requires a minimum risk rating of 10. The calculation of total tradable VCUs is done by multiplying the risk factor with the calculated net emission reductions as per the excel calculation sheets

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

Not applicable

CAR 30 was raised and resolved. Refer appendix 30 for the same.

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

Not applicable

CAR 30 was raised and resolved. Refer appendix 30 for the same.

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

Not applicable

CAR 30 was raised and resolved. Refer appendix 30 for the same.

3.4 Community

3.4.1 Descriptions of Communities at Project Start (CM1.1)

The step is explained in section 4.1.1 of the validated PD. It was confirmed from the onsite observation that no community, community groups or indigenous groups prior to the Project or after the project resides inside the project area. Communities identified living within the PA and LMA are Riverine and Traditional Rural Villagers (mentioned in section 2.1.6 of the PD). The spiritual situation in the region is that everyone is devote evangelical, nearly every community has a church and the churches may only have 4 or 5 houses that belong to the church. Most churches are made the same way as their houses, but some communities may have a church that cost more than all the housed combined. The surveys conducted in the RR and project area to assess the socio-economic condition i.e. family income, livelihood, health, education, of the people residing inside and outside the project area and analyse the impact they have and they could have on the project area's forests.

The major issues identified are:

- Lack of work and income generation options in the region
- High poverty rate.
- Inefficiency by the government to promote sustainable productive activities,
- No real communication, no internet it had not yet arrived into this region at this time, the only time they communicated with the outside world is when they travelled to the city, which is very expensive at the time as there is only one government funded boat per week and that still had a fee.

- The environment ten years ago was much more tree cover in the region, as poverty increased the communities have had to increase Cassava production to chase after miniscule profits

- The communities ten years ago were completely sustained on the Brazilian welfare system, but today with the new government welfare has been cut by half, thus making the communities more dependent on the success of the carbon credit project.

- The community is not treated well by politicians or other groups in the region. They have been told by local groups not to gain title and even have been told they are not allowed when clearly the law states differently. The illegal loggers make promises of help bring them a better life, in exchange for the right to gain access to the land behind their house.

- The local population uses open fire cooking scenario with their pot of rice or beans sitting on two logs with the fire in between. Some houses have gas stoves, but they have no money to buy gas.

- Increase in agricultural areas use to grow mainly cassava. Thereby, it is projected substantial increase in the forest areas affected by slash and burn. Incursion of illegal loggers and illegal activities (invasions) seeking areas to extract timber.

- Increase in timber extraction in the core sections of the project areas, with a related diminishment of timber resources nearby the households.

- Decline of fish stocks in rivers and water bodies due to over-fishing by large companies coming from Portel and Breves.

The project aims to have long and short-term impacts on the communities include increasing the land ownership of the community people, increase the number of forest workers and promoting professional expertise, increasing their incomes and promote improvements in professional career.

Reference documents like minutes of meetings of the consultations /36//37//39//46/ and /47/, PRAs report /30/ and site visit interviews with the local forest officers, small ranchers, farmers and squatters in rural areas, employees of the property, representatives of the local residents confirmed all these aspects.

3.4.2 Interactions between Communities and Community Groups (CM1.1)

The PD section 4.1.2 states observe a good interaction between communities and community groups. There are two community groups, are Riverine Community and Traditional Rural Villagers community.

In Riverine community there are two groups 1) male and, 2) female. There are no sub-groups, other groups that live in the land. All the people present are Riverine people. They are so intertwined with each other they all are related and are 1st, 2nd, 3rd, 4th cousins with each other. They are all brothers, or sisters, or sister in laws or brother in laws.

Traditional rural villagers: These primary stakeholders would be considered the impoverished communities, living in rural villages, that are directly adjacent to the project area. Within this community are different community groups: (1) male, (2) female (3) children (4) teenagers. The male and female are direct beneficiary and impact from the project as they are the adults and interact directly with the project and benefit from this. The children and teenagers have an indirect benefit and impact from the project as they are the children or teenagers of the direct beneficiary male community group and female community group. In this community also, the people are interlinked and closely related.

Therefore, the interaction between communities and community groups is frequent, effective and transparent.

The interactions between the project and the community group was a well-received interaction, they were very pleased to hear about the project. The REDD+ Project may encourage and increase to provide the proximity and interaction between communities and community groups inside and outside the project boundary. It is verified by site visit interviews with the local officers and stakeholders. CAR 15 was raised and resolved successfully. Refer Appendix 2 for the same. Documents referred /11//36//37//39//46//47/ and /50/.

3.4.3 High Conservation Values (CM1.2)

Community well-being high conservation value areas identified in section 4.1.3 of the PD /11/. The same has been discussed with the local residents and stakeholders.

3.4.4 Without-Project Scenario: Community (CM1.3)

As per the socioeconomic baseline /41/ of the project, without the project land use scenario will be continuation of grazing, agriculture and illegal timber harvesting activities which will lead to further deforestation of the forests land. This was confirmed by checking and assessing the socioeconomic survey reports & data and interview with local communities. The local farmers cannot improve their well-being in terms of salary, livelihood and skills, this is also confirmed during the site visit as no person in the communities have knowledge about the use of alternative land use practice except agriculture and grazing. This is explained in detail in section 4.1.4 of the validated PD.

3.4.5 Expected Community Impacts (CM2.1)

The audit team took the following steps to verify the reported impacts of project activities on identified community group.

- The VVB reviewed Section 4.2.1 of 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 under the with and without project scenario.

- The VVB confirmed that the project utilizes appropriate methodologies, including the recommended SBIA assessments, including predicted and actual, costs and risks, on each of the identified community groups.

- The indicators, impacts and change in well-being is clearly described in the PD, which allow easy assessment of project's community risks and benefits for the auditor and public.

- On the basis of on-site assessment, the audit team interviewed local community members who confirmed that the assumptions in the model with regard to community impacts, were clearly discussed and explained to them and are a result of the continuous consultations process. The PD includes a detailed breakdown of anticipated impacts including costs, risks and benefits by communities and shows the result to be net positive for all, therefore meeting the requirements of the CCB and VCS requirements.

This is explained in detail in section 4.2.1 of the validated PD. From the supporting documents submitted (like socioeconomic survey report /41/, PRA reports /20/, communities comments received during the consultations /36//37/ and /39/) and on-site discussions & observations, no negative impacts on identified stakeholders are expected. In fact, the project will have positive impacts of the project impact on areas outside the project area and therefore actors who are not involved directly in the project.

CAR 32 was raised and resolved successfully. Refer appendix 2 for the same. Documents referred /11//36//37//39//46//47/ and /50/.

3.4.6 Negative Community Impact Mitigation (CM2.2)

Based on Rio Anapu-Pacaja REDD Project theory of change there are no negative community impacts observed and hence there is no need for mitigation. This was validated from the supporting documents submitted (like socioeconomic survey report /41/, PRA reports/20/, communities comments received during the consultations/36//37/ and /39/) and on site discussions & observations,

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

The step is explained clearly in section 4.2.3 of the PD. The PD states that the project will generate positive community impacts and all groups are expected to have the same benefits. The following positive well-being are expected from the project activity during the project lifetime and beyond:

- Increasing and strengthening land tenure rights inside the community group for each family. Land title brings stability to the population and prevents displacements, brings security, helps incentivize the population to reinvest into the land. It also defines the riverine location and where they can do their traditional crops, without entering into the project area

- Improved living conditions, increasing local job opportunities, household income and living level so that to provide actual direct benefits to village community.

- Skill development in alternative land use practice i.e. agroforestry which will again generate additional livelihood option and source of income to the local communities
- Improved health benefits especially for women and children by introducing improved cookstoves
- Protected green cover in the project area which will improve and protect microclimate
- Increased interaction and exchange of ideas between communities inside and outside the project boundary.
- Better understanding of the importance of protecting the forest and how forest conservation will benefit their livelihoods and overall well-being

Descriptions in PD has been checked, it is verified that the information on the community groups in baseline scenario is correct via checking the socioeconomic survey report /41/, PRA reports /20/ and onsite observations and discussions with the local stakeholders of the project.

3.4.8 High Conservation Values Protected (CM2.4)

This is explained in section 4.2.4 of the validated PD. The HCVs related to community well-being will not be negatively affected by the project; on the contrary, only positive impacts are expected. The project is designed to protect and conserve these areas from misuse, enhance community understanding of their value and to improve overall community well-being.

Descriptions in PD has been checked, it is verified that the information on the community groups in baseline scenario is correct via checking the socioeconomic survey report /41/, PRA reports /20/, Biodiversity monitoring plan /38/ and onsite observations and discussions with the local stakeholders of the project.

3.4.9 Impacts on Other Stakeholders (CM3.1)

This is explained in detail in section 4.3.1 of the validated PD. The project is designed to generate only positive impacts to the stakeholders living in the LMA and other near-by communities. The project won't generate negative impacts to those living outside the 3 Km buffer identified during the PRAs. No other stakeholders have been identified to use or depend from the resources in the Project's Area or LMA.

Descriptions in PD /11/ has been checked, it is verified that the information on the community groups in baseline scenario is correct via checking the socioeconomic survey report /41/, PRA reports /20/ and onsite observations and discussions with the local stakeholders of the project.

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

Not applicable

3.4.11 Net Impacts on Other Stakeholders (CM3.3)

As shown in 4.3.1 and 4.3.2 of the validated PD and above section of this report, the project is anticipated to generate positive impacts on the other stakeholders and no negative impacts, hence leaving a net positive impact overall.

Descriptions in PD has been checked, it is verified that the information on the community groups in baseline scenario is correct via checking the socioeconomic survey report /41/, PRA reports /20/ and onsite observations and discussions with the local stakeholders of the project.

CAR 45 was raised and resolved. Refer appendix 2 for the same. Documents referred /23//25//39/ and /41/.

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

The PP established a detailed community monitoring plan in section 4.4.1 of the validated PD.

The VVB has assessed the monitoring plan and found that monitoring indicators are confirmed as consistent with the net positive change which created by the project. The parameters and indicators are listed in Section 3.3.8 above in the report. Also, in order to develop the social-environmental indicators for the results, several communitarian workshops will take place as a fundamental part of the Social Communitarian Monitoring System that will facilitate the follow-up and evaluation of the benefits of the project to improve the quality of life of the communities. This system will have trained communitarian monitors that will continuously carry out the follow up activities evaluating the commitments, project activities and communities every 3 to 6 months. also, the communitarian impacts monitoring plan will carry out an exhaustive annual assessment of the indicators.

The monitoring plan aims at creating an association and mutual responsibility sense between the project and local communities in the management of social environmental impacts, as well as improving the perception of the social responsibility adopted by the project. The monitoring survey will be conducted as per the SOPs /14/. This is was confirmed during the on-site visit and the interview with the management team.

The community monitoring planned is deemed reasonable and appropriate.

3.4.13 Monitoring Plan Dissemination (CM4.3)

It will be through the website of Brazil Agfor LLC group that the monitoring plan, as well as its results obtained will be available to the public on internet /44/. This has been validated during the site visit and personal interview with the management team of the project.

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

Not applicable

CAR 33 was raised and resolved successfully. Refer Appendix 2 for the same. Documents referred /9/ and /11/

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

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

3.5 Biodiversity

3.5.1 Existing Conditions (B1.1)

The Project has a primary focus of preserving native forest (most of the project area, which is verified by cross checking survey and ecological report, on-site observation and interview with local officers and residents /41//56/ and /63/) in the project area that is a critical region of the eastern amazon biome and is prone to high risk of deforestation. The Project Area they is home to many endemic, vulnerable and endangered populations of flora and fauna and an "ecological corridor" role, which connects several Conservation Units and many conservation priority species. The project area also includes the Caxiuana National Forest which is considered the oldest in the Amazon region and the second in Brazil. It is amongst the most known conservation units in north of Brazil, and it has been part of many national and international researches.

The dominant vegetation in this region is humid forest with predominantly oxisols perenefólia and Ultisols soils. The major forest type is Ombrofile Forest. The number of Endangered and Vulnerable species recorded in the area was significant, according to the International Union for

the Conservation of Nature (IUCN 2014) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 2014),

The project area is a part of the Eastern Amazon holds the biggest concentration of the timber industries (74% of timber production in Pará comes from the Eastern Amazon). The logging industry is responsible not only for feeding illegal logging schemes, but also cleaning the forest to build roads. Specifically these roads built by the loggers are determining a new pattern of occupation inside public lands (IBGE 2007). Non-authorized logging is more concentrated in the extreme east of Pará, but it is moving towards the Xingu-Tocantins interfluvium (Veríssimo et al. 2011).

Common activities practiced are livestock development which leads for grazing and expansion of the agricultural frontier; all these activities are practiced traditionally for survival of communities. Illegal logging, deforestation due to the expansion of township and for grazing is going to be continued in the project area without the project activity. This is general management practices in the area and are detrimental to natural resources. This in turn affects gradually the loss of soil fertility, increase erosion and decrease topsoil, and as a result, a decrease in productivity of forest and agriculture lands. It also has direct negative impacts on flora and fauna. In the future, rates of deforestation are likely to increase due to population increase and infrastructural development like roads, railroads, bridges, hydroelectric reservoirs, etc. are expected to be built through and near the project area.

The above mentioned activities are resulting to deforestation of native forest, forest fragmentation and reduction of ecological corridors. Due to these activities the area will lose many endemic species of flora and fauna which will cause ecological imbalance.

Rio Anapu-Pacaja REDD Project enhance and protects the native forestland for the benefit of local communities and forest habitat. Project has created the concept of animal corridor by the constructing the bridges for Capuchin monkey (which were very common in and around the project area but now to the increased rate of deforestation which are under threat and have been listed under endangered species under IUCN) by creating a larger critical mass forest area with the National Reserve of Caxiuana.

Existing conditions of biodiversity identified in section 5.1.1 of the validated PD. The section provides a complete description with the relevant species of flora and fauna. The FAO, IUCN sources and other scientific research papers referred were crosschecked and assessed by the VVB to confirm the description provided in the PD /11/.CAR 34 was raised and resolved successfully. Refer Appendix 2 for the same. /11/ and /60/

3.5.2 High Conservation Values (B1.2)

Biodiversity HCVs information is detailed in section 5.1.2. of the validated PD. The Cauxina National Forest is considered the oldest in the Amazon region and the second in Brazil. It is amongst the most known conservation units in north of Brazil, and it has the presence of many important researchers from Brazil and abroad. To identify HCVs in the PD, the guidelines for identification, management and monitoring of high values were considered by the PP, as stated in the “General Guide for the Identification of High Conservation Values” (BROWN et al., 2013) /61/, “Common Guidance for the Management & Monitoring of High Conservation Values” (BROWN,

SENIOR, 2014) /62/, "FSC Principles and Criteria for Forest Stewardship" (FSC, 2012) /60/ and "The Climate, Community and Biodiversity Alliance" (CCBA, 2013) /9/. The project description and IUCN red list were assessed to confirm the same by the VVB.

3.5.3 Without-project Scenario: Biodiversity (B1.3)

The step has been explained in detail in section 5.1.3 of the validated PD. In the absence of the project the BAU scenario would have continued i.e 1.91% of forest land will be deforested in the Project Area during the thirty years of the project which is a biodiversity hotspot. This would have resulted in huge loss of biodiversity.

This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

CL 09 was raised and resolved successfully. Please refer appendix 2 for the same. Documents referred /11/.

3.5.4 Expected Biodiversity Changes (B2.1)

The expected biodiversity impact of the project is positive and will help the protection and enhancement of biodiversity. The impacts are listed in detail in section 5.2.1 of the validated PD.

This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

3.5.5 Mitigation Measures (B2.3)

Mitigation measures as discussed across the PD to conserve and enhance the forests and biodiversity of the project area are consistent with the standard practices and sufficient to achieve the project aim.

This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

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

From the PD section 5.2.3 the VVB concludes that project's anticipated net impacts on biodiversity in the project zone will be positive compared with conditions under the without-project land use scenario.

This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

3.5.7 High Conservation Values Protected (B2.4)

Checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities the VVB concluded that the project will not negatively affect any biodiversity-related HCVs

3.5.8 Species Used (B2.5)

The PP has ensured and encouraged plantation of native species is used for plantation. The species used and detailed in the section 5.2.5 of the validated PD. This was assessed and validated during the site visit in interviews with project officers and communities.

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

None of the Project's activities will introduce invasive species or genetically modified organisms. This is validated by checking the plantation records /64/ and interview with community during the site visit.

3.5.10 GMO Exclusion (B2.7)

No GMO used in the project. This is validated by checking the plantation records /64/ and interview with community during the site visit.

3.5.11 Inputs Justification (B2.8)

Not applicable

3.5.12 Waste Products (B2.9)

Not applicable

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

No potential negative offsite biodiversity impacts have been identified and therefore no measures or activities have been developed. This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

3.5.14 Net Offsite Biodiversity Benefits (B3.3)

No potential negative impacts have been identified due to the environmental-friendly techniques adopted in the proposed project activity. This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

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

The biodiversity monitoring plan is detailed in section 5.4.1 of the PD. It is of the opinion of the VVB the biodiversity monitoring plan is appropriate and it meets the requirements of B4.1 and B4.2 of the CCB standard /9/.

3.5.16 Biodiversity Monitoring Plan Dissemination (B4.3)

It will be through the website of Brazil Agfor LLC that the monitoring plan, as well as its results obtained will be available to the public on internet 44/. This is confirmed during the site visit and the interview with the PP, project partner and local stakeholders.

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

Not applicable

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

Not applicable

4 VALIDATION CONCLUSION

Amazon Reforestation Consortium has contracted the 4K Earth Science Private Limited (also referred to as 4KES) to validate the project: "Rio Anapu-Pacaja REDD Project" in Brazil" with regard to VCS Standard v4 and CCB Standard v3.1 requirements and the information provided by the project proponent related to the project design, operation, monitoring and reporting.

A risk-based approach has been followed to perform this validation. In the course of the validation 48 Corrective Action Requests (CARs), 09 Clarification requests (CLs) were raised and successfully closed. No Forward Action Request has been raised in the validation.

No limitations or doubts were identified related to the validation of the project.

4KES has reviewed the project description documents and subsequently carried out site visit interviews to confirm the fulfilment of stated criteria.

The project activity has correctly applied the baseline and monitoring methodology "Methodology for Avoided Unplanned Deforestation (VM0015)" version 1.1, which is an approved methodology under the VCS programme and is acceptable under VCS Version 4. The baseline has been determined in accordance with the stated approved baseline methodology.

As summary the validation team able to conclude that:

- The project is in line with all relevant host country criteria (Brazil) and all relevant VCS version 4 program guidelines requirements.
- The project additionality is sufficiently justified in the VCS PD.
- The monitoring plan is transparent and adequate and in line with applied baseline and monitoring methodology of VM0015, version 1.1.
- The calculation formulae and use of parameter for the project emission reductions estimation are transparent and in line with the requirement of the applied methodology. The ex-ante projection of emission reductions given is found to be appropriate, conservative and in line with the requirement. The estimated Emission Reductions during the crediting period by the Project is expected to be 39,489,204 tCO_2e over the 30 year project lifetime.

- The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation as outlined under VCS Standard v4 and CCB Standard v3.1

Therefore, 4KES is able to certify that the project meets all relevant requirements of the above-defined criteria and recommend registration of the project activity.

Approved by:

Chandrakala R.

Director
4K Earth Science Private Limited

Date: 16/08/2021
Place: Bangalore, India

APPENDIX 1: DOCUMENTS REVIEWED DURING VALIDATION

Ref. No	Title of Document	Version	Date
1	VCS Program Guide	4.0	19/09/2019
2	VCS Standard	4.0	19/09/2019 (updated 09/03/2020)
3	VCS Validation and Verification Manual	3.2	19/10/2016
4	VCS VM0015 Methodology for Avoided Unplanned Deforestation	1.1	03/12/2012
5	VCS VT0001 "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities"	3.0	01/02/2012
6	VCS+CCB Project Development Process	3.0	26/11/2012
7	AFOLU Non-Permanence Risk Tool	4.0	19/09/2019
8	CCB Program Rules	3.1	21/06/2017
9	CCB Standard	3.1	21/06/2017
10	CCB VCS Project Description Template	CCBv3.0_VCSv3.3	-
11	Project Description (PD)	1.0	06/09/2019
		2.0	20/12/2019
		3.0	16/03/2020
		4.0	12/08/2021
		4.0	15/02/2021
12	Emission Reductions Calculation Spread sheet	1.0	06/09/2019
		2.0	16/03/2020
13	VERRA webpage with global consultation https://registry.verra.org/app/projectDetail/CCB/2252		05/05/2020 until 04/06/2020
14	Standard Operating Procedures (SOPs)-Monitoring of the REDD+ project - Brazil Agfor LLC	-	-
15	Carbon Inventory Report – Brazil Agfor LLC	-	-
16	Shape files – Project Area	-	-
17	Shape files – Reference Region	-	-
18	Shape files – LMZ	-	-
19	Shape files – Leakage area	-	-
20	Agreement between Brazil Agfor LLC and landowners	-	02/06/2012
21	Kml file of geographical coordinates	-	-
22	Research papers - Rodrigues et al. (2013), EMBRAPA, 1988, Viera (1988), MMA, 2006, Mesner & Wooldridge (1964), Góes (1995), Del'Arco & Mamede (1985), Soares-Filho et al., 2006 and Laurance et al., 2001; Carvalho et al., 2002; Soares-Filho et al., 2006	-	-
23	Maps showing location of communities	-	-
24	Maps showing any high conservation value (HCV) areas	-	-
25	Offsite project impact area	-	-
26	State Law n. 3,225, dated 04-01-1965	-	-
27	State Law n. 5,087, of 09-14-1983	-	-
28	State Law n. No. 5,450, dated 05-05-1988	-	-
29	Brazil Agfor LLC marketing studies	-	-

30	Participatory Rural Appraisal (PRA) reports		05/01/2016
31	ibge.gov.br website	-	-
32	Vertices_Glebas_Para.shp	-	-
33	IBGE"s 2010 Census data	-	-
34	VCS AFOLU Requirements	3.6	21/06/2017
35	Website - UN Sustainable Development Goals (www.undp.org)	-	-
36	Minutes of meeting (conducted on 25th June 2016)	-	25/06/2016
37	Workshop records - Climate change adaptation workshop and presentation of climate change	-	03/08/2016
38	Biodiversity monitoring plan – implementation record	-	02/09/2017
39	Minutes of Meeting - Stakeholders consultation	-	28/06/2017
40	Resource Management Plan	-	10/05/2018
41	Socioeconomic survey report	-	17/11/2018
42	FPIC – Workshop report	-	15/09/2015
43	Existing laws, regulations and governance arrangements of Brazil - http://domhelder.edu.br/revista//index.php/veredas/article/viewFile/1316/24704	-	-
44	Brazil Agfor LLC company details	-	-
45	Brazil Agfor LLC Project Financial Excel sheet	-	-
46	Attendance sheets – stakeholder consultations/workshop conducted on 02/03/2016, 12/04/2018 and 10/05/2019	-	-
47	Photographs – stakeholder consultations/workshop conducted on 02/03/2016, 12/04/2018 and 10/05/2019	-	-
48	Brazil Agfor LLC - HR Policy	-	-
49	Brazil Agfor LLC - Grievance Policy	-	-
50	Training records under Rio Anapu-Pacaja REDD Project	-	-
51	Brazil Agfor LLC – Recruitment Policy	-	-
52	Brazil Agfor LLC – Code of Conduct	-	-
53	Employment records – Rio Anapu-Pacaja REDD Project	-	-
54	Brazil Agfor LLC – Safety and occupational health	-	-
55	Brazil Agfor LLC REDD+ – Annual financial audit reports		From 2016 – 2019
56	Project area land records		
57	Brazil Agfor LLC Declaration letter – Management of double counting		02/03/2020
58	Landsat TM images	-	-
59	Google earth images of reference region and project area	-	-
60	FSC Principles and Criteria for Forest Stewardship" (FSC, 2012)	-	-
61	General Guide for the Identification of High Conservation Values" (BROWN et al., 2013)	-	-
62	Common Guidance for the Management & Monitoring of High Conservation Values" (BROWN, SENIOR, 2014)	-	-
63	Ecological survey report	-	14/03/2016
64	Brazil Agfor LLC REDD+ - Plantation records	-	-
66	Photographs – FPIC workshop		15/09/2015
67	Land tenure documents were inserted into the government database	-	-
68	Land details of Project landowners	-	-

69	Agreement between Brazil Agfor LLC and Association de Ribeirinhos e Moradores de Portel, Para Ltda	-	24/08/2017
70	Stakeholder's meeting on carbon credits	-	02/03/2016
71	Photographs - Stakeholder's meeting on carbon credits	-	02/03/2016
72	Attendance sheet - Stakeholder's meeting on carbon credits	-	02/03/2016
73	Project financials	-	Implementation phases
74	Ownership authentication from the authorities of Country Office	-	07/05/2021

APPENDIX 2: CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS, FORWARD ACTION REQUESTS (CAR/CL/FAR)

Table 1. CL from this Validation

CL ID	01	**Section no.**	1.1	**Date:** 02/07/2020
Description of CL				
This conservation project will protect large area of forests as well as also lead to protection of habitat of several flora and fauna? Why PP think it as not a unique benefit and not listed here the same? Clarify				
Project participant response				**Date:** 13/07/2020
The point has now been added as point 1 to the table 1 in section 1.1 of the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL01 is closed.				

CL ID	02	**Section no.**	2.1	**Date:** 02/07/2020
Description of CL				
This is a general practice for REDD and nothing unique which this project is undertaking. Rephrase. Why PP believes this is a exclusive initiative taken for the project. Clarify				
Project participant response				**Date:** 13/07/2020
The PD has been revised and required corrections has been made.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL02 is closed.				

CL ID	03	**Section no.**	2.1.4	**Date:** 02/07/2020
Description of CL				
How both PP and other entities involved in the project are same? Clarify.				
Project participant response				**Date:** 13/07/2020
The PD has been revised and required corrections has been made.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL03 is closed.				

CL ID	04	**Section no.**	2.1.5	**Date:** 02/07/2020
Description of CL				

1. What is the total actual area in which the project is implemented? The Section is not clear on the same.

Project participant response	**Date:** 13/07/2020
2.1.5 has listed the total actual area as 165,707 hectares. The total actual area of the project is 165,707 hectares. Leakage area: 16,503 Total Arae: 182,210 The corrections has been made in the revised PD.	
Documentation provided by project participant	
PD	
DOE assessment	**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL04 is closed.	

CL ID	05	**Section no.**	2.1.13 and 2.1.14	**Date:** 02/07/2020
Description of CL				
PP has mentioned in this section that “The project contracts were signed in 2012 with the landowners”. This is the major milestone of the project. The same is missing in the section 2.1.13. Clarify.				
Project participant response				**Date:** 13/07/2020
Section 2.1.3 updated the PD to add contract signing as a milestone. *However, the project does not consider 2012 as the start of the project. At that time the carbon market has crashed and the investors would not provide money to move forward with project activities until an improvement in the market could be seen. Thus, the improvement did not come until 2016 and this is when the project started.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL05 is closed.				

CL ID	06	**Section no.**	2.1.17	**Date:** 02/07/2020
Description of CL				
Why emission reduction of only first 20 years has been mentioned, while the project life is of 40 years? Why not.				
Project participant response				**Date:** 13/07/2020
This has been removed. It was showing the emissions reductions in the immediate period.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL06 is closed.				

CL ID	07	**Section no.**	2.1.18	**Date:** 02/07/2020
Description of CL				
Why this detailed description of census process is mentioned in this section? Clarify.				
Project participant response				**Date:** 13/07/2020

The census work and details has now been removed in the revised PD. This was added in the PD to show that the work was affective to prevent risk as there was common consent in the population to gain permanent title. *A table has been inserted and the previous wording has been removed.* *The PD has been updated*
Documentation provided by project participant
PD
DOE assessment **Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL07 is closed.

CL ID	08	**Section no.**	2.5.10	**Date:** 02/07/2020
Description of CL				
The PP needs to explain that how double claiming of GHGs emission reductions or sequestration will be avoided and not claimed by two different entities. Refer section G5.9 of CCB standard ver.3.1 and 3.20.2 o VCS Standard ver. 4				
Project participant response				**Date:** 13/07/2020
The project will not participate in any other carbon credit programs. The section was simplified to make it clear that the state of Para has no REDD carbon credit strategy. The federal government Brazil has no REDD carbon credit strategy. No other entity has the right to do a project on the land of the Rio Anapu-Pacaja REDD project and no other project is currently overlapping this area.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CL08 is closed.				

CL ID	09	**Section no.**	5.1.3	**Date:** 02/10/2020
Description of CL				
PP has mentioned that the increase in deforestation was 31,252 hectares of land in the Project Area during the thirty years of the project. Clarify.				
Project participant response				**Date:** 15/10/2020
This was written by mistake, the same has been deleted in the revisePD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CL09 is closed.				

Table 1. CAR from this validation

CAR ID	01	**Section no.**	2.1.5	**Date:** 02/07/2020
Description of CL				
PP has mentioned the LMA but have not mentioned the actual project area. If 165,707 is the project area, than the difference between PA and LMA is appx 150,000. Hence, the statement made by PP is wrong. Check and make the required corrections				
Project participant response				**Date:** 13/07/2020
The corrections have now been made in the revised PD..				
Documentation provided by project participant				

PD	
DOE assessment	**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR01 is closed.	

CAR ID	02	**Section no.**	2.1.6	**Date:** 02/07/2020
Description of CL				
1. The total households adds up to 90.9%. Please check the calculation and make required correction. *2.* PP says "The region of Portel is considered one of the poorest municipalities in Brazil. The neighboring municipality of Melgaço is the poorest in Brazil." The statement is contradictory. Make correction.				
Project participant response				**Date:** 13/07/2020
1- Yes because 9.1% have no income what so ever. The point has been added in the revised PD. *2- The state of Portel, is extremely Poor, however this was removed due to the fact that the statistic used to list that was not able to be found as evidence.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The justification provided is satisfactory and hence CAR02 is closed.				

CAR ID	03	**Section no.**	2.1.7	**Date:** 02/07/2020
Description of CAR				
VCS CCB template v.3.3, Section 2.1.7 also requires the following maps to be added: - Boundaries of the project zone, which is defined as the area encompassing the project area(s) in which project activities that directly affect land and associated resources, including activities such as those related to provision of alternate livelihoods and community development, are implemented. - Any high conservation value (HCV) areas (identified in "Sections 4.1.3 and "5.1.2). Areas where offsite climate impacts are predicted. - Areas were other stakeholders will be impacted ("Section 4.3). - Areas where offsite biodiversity impacts are predicted ("Section 5.3). Revise the section as per the requirements				
Project participant response				**Date:** 13/07/2020
Following maps are added in the revised PD: • *Boundaries of the project zone, which is defined as the area encompassing the project area(s) in which project activities that directly affect land and associated resources, including activities such as those related to provision of alternate livelihoods and community development, are implemented.* • *Any high conservation value (HCV) areas* • *Areas where offsite climate impacts are predicted.* • *Areas were other stakeholders will be impacted* • *Areas where offsite biodiversity impacts are predicted* • *Communities location*				

Documentation provided by project participant	
PD and maps shape files	
DOE assessment	**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR03 is closed.	

CAR ID	04	**Section no.**	2.1.10	**Date:** 02/07/2020
Description of CL				
1. Delete the standard and methodology mentioned in the section. 2. As per VCS CCB template v.3.3 requirement, PP need to mention whether the project is a grouped project. Add the same in the section				
Project participant response				**Date:** 13/07/2020
The standards and methodology name mentioned in this section has been deleted in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR04 is closed.				

CAR ID	05	**Section no.**	2.1.11	**Date:** 02/07/2020
Description of CL				
Appendix 2 only provides project's theory of change. As per VCS CCB template v.3.3 requirement, PP is required to provide the following other details required in the section: Provide a detailed description of the GHG emission reduction or removal activities, including: 1. *For all measures listed, include information on any conservation, management or planting activities, including a description of how the various organizations, communities and other entities are involved.* 2. *In the description of the project activity, state if the project is located within a jurisdiction covered by a jurisdictional REDD+ program.*				
Project participant response				**Date:** 13/07/2020
- *Information on any conservation, management or planting activities, including a description of how the various organizations, communities and other entities are involved has now been added in the revised PD.* - *the project is not located within a jurisdiction covered by a jurisdictional REDD+ program has now been added in the revised PD.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR05 is closed.				

CAR ID	06	**Section no.**	2.1.12	**Date:** 02/07/2020
Description of CL				
As per section 2.1.12 description and requirement of VCS CCB Project description template used, The PP needs to describe that how the project contributes to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting same. The same is not reflected in the section write-up. Hence, revise the write-up and provide required information				

Project participant response	**Date:** 13/07/2020
The SDGs has now been added in the revised PD.	
Documentation provided by project participant	
DOE assessment	**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR06 is closed.	

CAR ID	07	**Section no.**	2.1.18	**Date:** 02/07/2020
Description of CL				
What will happen in case of any policy change in the state? As per section G1.10 of the CCB Standard v.3.1, PP has to Identify likely natural and human-induced risks to the expected climate, community and biodiversity benefits during the project lifetime and outline measures needed and taken to mitigate these risks. In this PP has also to list all possible political risks in the area.				
Project participant response				**Date:** 13/07/2020
The project area is private property and completely owned by the private property owners. The government has no stake in the report. Hence, there is minimal risks of political conflicts in the Project area once the property owners get the CAR. *The project has consulted with carbon consultants from Brazil and it is stated they see little change to the project if the government comes up with a new system. Also, additional information has been added in the revised PD.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR07 is closed.				

CAR ID	08	**Section no.**	2.1.21	**Date:** 02/07/2020
Description of CL				
Section 2.1.21 is missing. Add the same in the PD as required in the VCS CCB template CCB V.3 and VCS V.3.3.				
Project participant response				**Date:** 21/07/2020
Section 2.1.21 has now been added in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 03/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR08 is closed.				

CAR ID	09	**Section no.**	2.2.1	**Date:** 02/07/2020
Description of CL				
Re-write the whole section. As the justifications/statements made are not clear.				
Project participant response				**Date:** 13/07/2020
The entire section was re-written focusing on illegal timber harvesting, livestock and agriculture, which are the common land use in the baseline scenario.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 27/09/2020
The revised PD has been checked and corrections made are found to be okay. CAR09 is closed.				

CAR ID	10	**Section no.**	2.2.2	**Date:** 02/07/2020
Description of CL				
To provide justification PP has referred the additionality tool. The steps mentioned are not complete as per the referred tool and hence the justification mentioned is wrong. PP can mention here to refer section 3.1.4 and 3.1.5.				
Project participant response				**Date:** 13/07/2020
The section has been re-written completely in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR10 is closed.				

CAR ID	11	**Section no.**	2.2.3	**Date:** 02/07/2020
Description of CL				
The description mentioned is not as per the requirement of section 2.3.3 of the CCB v.3.3 VCS v.3 PD template and section G3.1 of the CCB Standard version 3,1. Revise the description completely.				
Project participant response				**Date:** 13/07/2020
The community and biodiversity additionality has now been described in detail in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR11 is closed.				

CAR ID	12	**Section no.**	2.3.4	**Date:** 02/07/2020
Description of CL				
The write-up to be elaborated further as per the CCB requirements as mentioned in footnote 42, page 16 of the CCB Standard version 3.1 which is “All assessment of costs, risks and benefits include those that are direct and indirect and include those related to social, cultural, environmental and economic aspects and to human rights and rights to lands territories and resources. Costs include those related to responsibilities and also the opportunity cost”				
Project participant response				**Date:** 13/07/2020
The PD has been revised and updated as per the requirements of section 2.3.4 and section G3.2 of the CCB Standard V03.1.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR12 is closed.				

CAR ID	13	**Section no.**	2.3.13	**Date:** 02/07/2020
Description of CL				

Refer Section G3.8 of CCB Standard 3.1, third paragraph to last paragraph and revise section 2.3.13 accordingly. Following points required to be addressed: - *The third para od the Standard says that "The feedback and grievance redress procedure shall have three stages with reasonable time limits for each of the following stages.". Hence, include all the three stages as mentioned in the standard.* - *According to the last paragraph requires that the "* - *The feedback and grievance redress procedure must be publicized and accessible to communities and other stakeholders. Grievances and project responses, including any redress, must be documented and made publicly available." Hence, that needs to be mentioned in the section*

Project participant response	**Date:** 13/07/2020
The section has been re-written with numerous items added to address this situation with grievences and redress. The following information has now been added in the revised PD: Accessibility of the feedback and grievance procedure is ensured as grievances can be reported at multiple levels. Individual community members have direct communication access to technicians and social-worker staff, which is almost always in the project area, the community has bi-annual meetings designed for this specific purpose, and the leadership have direct formal channel to air grievances and general feedback. Furthermore, the concept of feedback and grievance and the channels of using the mechanism have been explained to the community at all these levels. The person in charge of the feedback and grievance redress procedure (for both channels mentioned in section 2.3.12) must be available during the days and times previously agreed with the community, to receive and / or make calls. In addition, the project is planning to set up several offices in each river to be able to provide video-conference technology to a centralized office in Portel town, bearing that the project is able to generate sufficient carbon sales. This video conference technology will allow individuals to voice grievances when they live in remote areas of the project, and have a proper redress on a live video feed, thus they will not need to look for the technicians in the field. Besides, the contact information was provided during the local stakeholder's consultation. This should allow direct communication with property owner representatives and answering questions that will arise during the project implementation.	
Documentation provided by project participant	
PD	
DOE assessment	**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR13 is closed.	

CAR ID	14	**Section no.**	2.3.14	**Date:** 02/07/2020
Description of CL				
As per Section G3.9 of CCB standard ver.3.1 it is required to mention in section 2.3.14 that how training is passed on to new workers when there is staff turnover, so that local capacity will not be lost.				
Project participant response				**Date:** 13/07/2020
This issue of turnover training has added, as we specifically have had this issue. The point has now been elaborated in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR14 is closed.				

CAR ID	15	**Section no.**	2.4.1	**Date:** 02/07/2020
Description of CL				
The description mentioned is not satisfactory. As per section G4.1, CCB Standard ver. 3.1. The PP needs to describe the project's governance structures and roles and responsibilities of all the entities involved in project design and implementation. Hence, re-write the section completely and provide all the required details.				
Project participant response				**Date:** 13/07/2020
The current governance structure and details of the project management of the project has now been described in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 27/09/2020
The revised PD has been checked and corrections made are found to be okay. CAR15 is closed.				

CAR ID	16	**Section no.**	2.4.2	**Date:** 02/07/2020
Description of CL				
Description mentioned is not satisfactory. Revise the section as per the requirement of section G4.2 of CCB Standard ver. 3.1.				
Project participant response				**Date:** 13/07/2020
The section was updated to show the skills of the PP as required in section G4.2 of CCB Standard ver. 3.1.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR16 is closed.				

CAR ID	17	**Section no.**	2.5.10	**Date:** 02/07/2020
Description of CL				
Revise the complete section write-up. PP needs to explain that how double claiming of GHGs emission reductions or sequestration will be avoided and not claimed by two different entities. Refer section G5.9 of CCB standard ver.3.1 and 3.20.2 of VCS Standard ver. 4 What in case if there is a jurisdictional REDD developed at national scale? How PP will avoid double counting then?				
Project participant response				**Date:** 13/07/2020
The PD has been updated to confirm the project has no intent to double count.				
Documentation provided by project participant				
PD and Undertaking for double counting				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR17 is closed.				

CAR ID	18	**Section no.**	2.5.11	**Date:** 02/07/2020
Description of CL				
Revise the section completely as per the requirement of section 2.5.11 of the CCB v.3 VCS v.3.3 PD template.				
Project participant response				**Date:** 13/07/2020

The section has been rewritten completely in the revised PD to address the concerns.
Documentation provided by project participant
PD and Undertaking for double counting
DOE assessment **Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR18 is closed.

CAR ID	19	**Section no.**	2.5.15	**Date:** 02/07/2020
Description of CL				
Revise the section completely as per the requirement of section 2.5.11 of the CCB VCS PD template and Section G5.9 of the CCB standard v.3.1. Section G5.9 of the CCB standard v.3.1 requires PP to “ Identify the tradable climate, community and biodiversity benefits of the project and specify how double counting is avoided, particularly for offsets sold on the voluntary market and generated in a country participating in a compliance mechanism				
Project participant response				**Date:** 13/07/2020
The carbon credits generated from the project will be registered under the Verified Carbon Standard and sold under that mechanism. Credits from the project will not be registered or sold under any current regulatory scheme, as these schemes currently do not allow REDD credits to be sold. If and when the credits become eligible under a regulatory scheme, the proper procedures will be taken to ensure that credits are not sold twice. The same has been added in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR19 is closed.				

CAR ID	20	**Section no.**	3.1.2	**Date:** 02/07/2020
Description of CL				
1. Why grazing is not mentioned in section 2.1.1 of the PD. If this is one of the major activity in the baseline, hence it should be part of project summary and description? Make correction where required. 2. Mention the time period considered for historical analysis of this project.				
Project participant response				**Date:** 03/08/2020
1. Grazing activity is mentioned in the section 2.1.1 of the PD and necessary corrections are done *2. Time period considered for historical analysis is mentioned as per the comments in the PD*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 27/09/2020
The revised PD has been checked and corrections made are found to be okay. CAR20 is closed.				

CAR ID	21	**Section no.**	3.1.3	**Date:** 02/07/2020
Description of CL				

1. As per the requirement of section 3.1.3 of the CCB v.3 VCS v.3.3 PD template, the PP needs to provide a diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in "Section 2.1.11 (Project Activities and Theory of Change) above. Include in the diagram or map the locations of where the various measures are taking place, any reference areas and leakage belts. *2.* Add the required details as per the requirements.
Project participant response **Date:** 13/07/2020
1- An additional map has been added showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in "Section 2.1.11 (Project Activities and Theory of Change) above. *2- Other required details are also updated as per the requirements.*
Documentation provided by project participant
PD and shape files of map
DOE assessment **Date:** 2/09/2020
The revised PD has been checked and corrections made are found to be okay. CAR21 is closed.

CAR ID	22	**Section no.**	3.1.3	**Date:** 09/02/2020
Description of CL				
Carbon pools table is missing in this section. Carbon pools included or excluded within the project boundary of the project to be mentioned.				
Project participant response				**Date:** 13/07/2020
The carbon pool table has been added in the revised PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 02/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR22 is closed.				

CAR ID	23	**Section no.**	3.1.4	**Date:** 02/07/2020
Description of CL				

1. Revise the section description and mention clearly the approach chosen to assess the baseline scenario and the step wise approach taken as mentioned in the applied methodology. The PP has provided only theoretical description that what was BAU scenario in the baseline. However, the section completely lack the technical part required by the methodology and the VCS CCB PD document requirement.

2. Revise the section as per the requirement of section 3.1.4 of the CCB VCS project description template V.3 i.e.

   - Identify and justify the baseline scenario for the GHG reduction and/or removal activities, in accordance with the procedure set out in the applied methodology and any relevant tools.

   - Where the procedure in the applied methodology involves several steps, describe how each step is applied and clearly document the outcome of each step.

   - Explain and justify key assumptions, rationale and methodological choices.

- Provide all relevant references.

The PP shall also include:

- Data sources and data used to identify and map historical LU/LC change analysis in the project area
- Quality and type of maps used to carry out the LU/LC analysis
- LU/LC existing classes in the area
- Type of forests and categories
- Analysis of historical land use
- Historical time period considered for the analysis and developing change matrix
- What are the major drivers of forest loss? How the drivers and underlying cause of drivers were assessed (method), socio-economic condition
- Etc.

Refer the methodology and guideline to update the section completely

3. PP should mention clearly that it has used approach it has selected for baseline assessment as per in the applied methodology. PD is not clear at many places that what are the steps, process and methods applied. This has to be corrected across the PD.
4. How it is possible. Is there no change in the land use in last 15-16 years? Clarify. Also, the last year map used is of year 2014 or 2016?
5. One of the main agent mentioned in section above is timber extraction. The same is not mentioned here? Clarify.
6. Refer section 5.2 of the applied methodology and provide clear description of the modeling approach used to project future deforestation. The given description is not clear of the steps and methods used.
7. PP in the above section mentioned that it has used modeling approach to analyse the baseline and here historical average approach is mentioned. Make the required correction across the section.
8. Make correction in the number of equation referred in the PD as per the applied methodology.

Project participant response	**Date:** DD/MM/YYYY

1. Section description is revised and more technical reliable details have been mentioned as per the meth requirements.

2. Entire section is updated with the required details as per the section 3.1.4 of the CCB VCS project description template V.3

3. Steps applied for baseline assessment as per the methodology is elaborated in the PD.

4. LULC map is updated in the appropriate section of the PD. 2014 maps are used.

5. Timber extraction is mentioned in the PD

6. Description of the modelling approach which is used for future deforestation is elaborated in the PD.

7. Correction in the modelling approach is done in the PD.

8. Equation numbers are updated in the PD

Documentation provided by project participant	
PD	
DOE assessment	**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR23 is closed.	

CAR ID	24	**Section no.**	3.1.5	**Date:** 02/07/2020

Description of CL

1. What are the secondary sources?
2. How the statement made by PP will help in limiting loss of forest inside the project area? Where do the cattle ranchers will go for cattle grazing? Elaborate
3. Clearly mention the steps and sub-steps as given in the referred tool of additionality.
4. In the justification given, PP needs 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”. Check step 2.2 of the applied tool. The comparative analysis is not given in the justification. How 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 to be in included in the justification.
5. Conclusion is not clear. How the PP is justifying that the project without the financial benefits of VCS-related carbon payments is not financially competitive with reasonable alternative economic activities?
6. The additionality analysis is incomplete and the further steps are not analysed and assessed. Complete process to be demonstrated as per the steps given in the VCS additionality tool VT0001 V.3.

Project participant response	**Date:** 13/07/2020

1. *Secondary sources include research papers and other documented materials from government and private institutions*
2. *Note on cattle ranchers and their future is elaborated in the section 3.1.5 of the PD*
3. *Steps and sub-steps are updated as per the requirement*
4. *Financial analysis of the proposed project activity is updated in the PD*
5. *Further explanation on the financial barrier for the project is elaborated*
6. *Additionality is revised to meet the requirements of VCS additionality tool VT0001 V.3.*

Documentation provided by project participant
PD

DOE assessment	**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR24 is closed.	

CAR ID	25	**Section no.**	3.2.1	**Date:** 02/07/2020
Description of CL				

1. Mention step and sub-steps clearly as given in the referred methodology.
2. Values in emission reduction calculation in most of the table are different from the excel sheet provided. Check and make required corrections.
3. Maintain consistency across the PD in mentioning the agents of drivers. Make corrections where required across the PD.
4. PP has not mentioned the parameters clearly. Like:
    a. LU/LC class, Forest type and forest density
    b. Zones in which the carbon calculation is done
    c. Number of strata in which the forest is divided
    d. Historical analysis
    e. The excel sheet provided for carbon calculation also do not provide a clear picture and nomenclature. Which is making difficult to assess and evaluate
5. Make corrections in the equation number referred.
6. PP only have to mention the carbon pool which it has considered in the baseline and not all as mentioned in section 6.1.2 of the applied methodology.
7. Table 22 and 23 provides data for carbon stock change factors. While as per the requirement of this section PP has to actually provide data of carbon stock changes in the baseline. Make corrections, complete the section and provide the required data.
8. How baseline non-CO2 emission concluded as insignificant? Elaborate and justify.

Project participant response	**Date:** DD/MM/YYYY

1. Steps and sub-steps are mentioned clearly as per the requirement
2. PD and ER sheet tables are made consistent
3. PD is made consistent related to deforestation drivers and others
4. All parameters regarding forest type, forest class, LU/LC, historical analysis and other required elements have been updated in the PD
5. Equation number is updated
6. Complete section is revised and updated as per the requirement
7. Data of carbon stock changes in the baseline is mentioned and the irrelevant details have been removed in the PD
8. Section is updated to get the clarity

Documentation provided by project participant
PD, carbon inventory report and ER sheet

DOE assessment	**Date:** 02/10/2020
The revised PD, carbon inventory report and ER sheet has been checked and corrections made are found to be okay. CAR25 is closed.	

CAR ID	26	**Section no.**	3.2.2	**Date:** 02/07/2020
Description of CL				

1. PD is not clear on the steps taken to assess the project emission. Clearly mention whether PP has chosen step 7.1 or step 7.2 of the applied methodology and provide justification of the selection. 2. Values in emission reduction calculation in most of the table are different from the excel sheet provided. Check and make required corrections. 3. Make correction in the table number referred 4. Most of the tables are part of section 3.2.1 which are included in this section. Make the required changes and corrections.
Project participant response **Date:** 10/07/2020
1. PD is updated with the project emission section as per the requirement *2. PD and ER sheet are made consistent* *3. Table number is updated in the PD* *4. All required tables in the section 3.2.1 is updated in the PD*
Documentation provided by project participant
PD and ER sheet
DOE assessment **Date:** 02/10/2020
The revised PD and ER sheet has been checked and corrections made are found to be okay. CAR26 is closed.

CAR ID	27	**Section no.**	3.2.3	**Date:** 02/07/2020
Description of CL				
PD is not clear on the steps taken to assess the leakage as per the applied methodology. make required corrections.				
Project participant response				**Date:** 13/07/2020
Leakage section in the PD is updated as per the requirements of the methodology				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR27 is closed.				

CAR ID	28	**Section no.**	3.2.4	**Date:** 02/07/2020
Description of CL				
1. Why PP has skipped Step 9.1 of the applied methodology i.e. Significance assessment? Elaborate and justify. 2. PD is not clear on the steps taken to assess the NER as per the applied methodology. make required corrections. 3. The values are not same as given in the excel sheet provided by PP. check and make required corrections in the tables.				
Project participant response				**Date:** 03/08/2020
1. Significance assessment is added in the PD *2. Steps are updated in the PD as per the applied methodology* *3. PD and ER sheet are made consistent*				
Documentation provided by project participant				
PD and ER sheet				
DOE assessment				**Date:** 02/10/20202
The revised PD and ER sheet has been checked and corrections made are found to be okay. CAR28 is closed.				

CAR ID	29	**Section no.**	3.3.3	**Date:** 02/07/2020
Description of CL				

1. *Re-write the section and provide all the steps, descriptions and flow diagram required in section 3.3.3 in the CCB VCS project description template CCB V. 3 VCS V.3.3 include the following:*
   - *The organizational structure, responsibilities and competencies of the personnel that will be carrying out monitoring activities.*
   - *Though PP has mentioned some of the steps, but it is not clear on the methods for measuring, recording, storing, aggregating, collating and reporting data and parameters. Where relevant, include the procedures for calibrating monitoring equipment.*
   - *The policies for oversight and accountability of monitoring activities.*
   - *The procedures for internal auditing and QA/QC. Though PP has mentioned, but write it using proper heading and sub-heading. In the current format it is confusing.*
   - *The procedures for handling non-conformances with the validated monitoring plan.*
   - *Any sampling approaches used, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures.*
   - *Where appropriate, include line diagrams to display the GHG data collection and management system.*
2. Why the table of carbon pool included in this section? Make corrections.
3. PP has mentioned that the criteria does not apply because the project will not claim carbon credits from carbon stock increase. Justify or make corrections.
4. Which section PP referring to? Elaborate the statement made.

Project participant response	**Date:** 13/07/2020, 24/09/2020 and 15/10/2020
1. Section 3.3.3 is elaborated and all required factors are explained in the updated PD *2. Irrelevant table is removed in the PD* *3. Corrections in the PD is made as per the requirement* *4. Elaborated in the required section of the PD*	
Documentation provided by project participant	
PD and carbon inventory report.	
DOE assessment	**Date:** 24/10/2020
The revised PD and carbon inventory report has been checked and corrections made are found to be okay. CAR29 is closed.	

CAR ID	30	**Section no.**	3.4.1	**Date:** 02/07/2020
Description of CL				

1. *Provide reference of a available study/studies conducted to verify the same in the footnote (as required in section GL1.1 of the CCB Standard Version 3.1).* 2. *How this is relevant in this section? Elaborate.*
Project participant response **Date:** 13/07/2020
Since we are not going to claim for gold level criteria, this can be omitted
Documentation provided by project participant
PD
DOE assessment **Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR30 is closed.

CAR ID	31	**Section no.**	3.4.2	**Date:** 02/07/2020
Description of CL				
Settlements inside the project area are found? Ensure the consistency. since, at many places in the PD, PP has mentioned that no human population is found in the project area.				
Project participant response				**Date:** 13/07/2020
The PD has now been revised and required corrections are made across the PD.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR31 is closed.				

CAR ID	32	**Section no.**	4.2.1	**Date:** 09/02/2020
Description of CL				
1. *Revise the points and mention the exact impacts resulting from the project activities. Most listed are repetition.* 2. *What is actual benefit? Elaborate* 3. *What is predicted benefit? Elaborate*				
Project participant response				**Date:** 13/07/2020
1. Exact impacts resulting from project activities is updated *2. Actual benefits are elaborated* *3. Predicted benefits is also elaborated in the updated PD*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 18/08/2020
The revised PD has been checked and corrections made are found to be okay. CAR32 is closed.				

CAR ID	33	**Section no.**	4.5	**Date:** 02/07/2020
Description of CL				

Since the project intends to meet the Gold Level for climate change adaptation benefits (GL1), the community monitoring plan must also include indicators for adaptation benefits for communities. *If the project intends to meet the Gold Level for exceptional community benefits (GL2), it must also include the following:* • *Indicators of well-being impacts and risks for smallholder/community members.* • *Indicators of impacts on women.* *Make the addition as per the requirements of section 4.4.1 of the CCB v.3 VCS v.3.3 PD template and sections GL2.2, GL2.3 and GL2.5 of the CCB Standard v.3.1* *If the PP is not claiming the Gold level criteria then skip section 4.5 of the PD template.*
Project participant response **Date:** 13/07/2020
Since we are not going to claim for gold level criteria, this section can be omitted
Documentation provided by project participant
PD
DOE assessment **Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR33 is closed.

CAR ID	34	**Section no.**	5.1.1	**Date:** 02/07/2020
Description of CL				
The PP has not provided the details of existing biodiversity condition of the project area. It has just mentioned the issues. Please refer Section B1.1 of the CCB Standrad v3.1 and section 5.1.1 of the VCS CCB PD Template requirements. Also, list the major fauna and flora of the region, which could be impacted by the project.				
Project participant response				**Date:** 13/07/2020 and 15/10/2020
Existing biodiversity and major fauna and flora have been listed in the table format in the revised PD				
Documentation provided by project participant				
PD and carbon inventory report.				
DOE assessment				**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR34 is closed.				

CAR ID	35	**Section no.**	Appendix 3	**Date:** 02/07/2020
Description of CL				
PP has mentioned list of tree species in this section. Where the heading of the section is project risks. Make required correction.				
Project participant response				**Date:** 13/07/2020
The appendix heading has now been updated in the revised PD.				
Documentation provided by project participant				
PD and carbon inventory report				
DOE assessment				**Date:** 20/07/2020
The revised PD has been checked and corrections made are found to be okay. CAR35 is closed.				

CAR ID	36	**Section no.**	Appendix 3	**Date:** 02/07/2020
Description of CL				

Demonstrate with evidence on non-overlap of other stakeholders. Many maps and evidences are contradicting to the other projects in the vicinity. Also the stakeholder participation in the project needs to be provided with complete evidence, exclusive to the project.
Project participant response **Date:** 05/08/2020
Non-overlap issue of stakeholders is updated in the appendix 3 of the PD and evidences of stakeholder participation documents are provided to DOE during audit.
Documentation provided by project participant
PD and PP's land agreements
DOE assessment **Date:** 18/08/2020
The revised PD, land agreement of landowners with the PP has been checked and found to be OK. CAR 36 is closed.

CAR ID	37	**Section no.**	2.1.13	**Date:** 25/07/2020
Description of CL				
• PP need to mention - start and end dates for the GHG accounting period, monitoring schedule, validation/verification schedule. The same are missing in the section. • Mention the exact date of each milestones where possible.				
Project participant response				**Date:** 05/08/2020
The PD has been revised and the corrections has been made as per the requirements of section 2.1.13 of the VCS CCB template v.3.3.				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR37 is closed.				

CAR ID	38	**Section no.**	2.1.19	**Date:** 04/09/2020
Description of CL				
Section 2.1.19 of the *CCB + VCS Project Description Template* requires a description of the measures needed and taken to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime. Section 2.1.19 of the project description describes how the community benefits will extend past the lifetime of the project but does not describe clearly how the climate and biodiversity benefits will extend past the project lifetime. PP is requested to add the same.				
Project participant response				**Date:** 15/09/2020
The PD has been revised and the corrections has been made as per the requirements of section 2.1.19 of the VCS CCB template v.3.3.				
Documentation provided by project participant				
PD and PP land agreements				
DOE assessment				**Date:** 27/09/2020
The revised PD has been checked and corrections made are found to be okay. CAR38 is closed.				

CAR ID	39	**Section no.**	2.1.20	**Date:** 04/09/2020
Description of CL				

Section 2.1.20 of the *CCB + VCS Project Description Template* requires a demonstration of the financial mechanisms adopted, including actual and projected revenues from GHG emissions reductions or removals and other sources, provide an adequate actual and projected flow of funds for project implementation and to achieve the project's climate, community and biodiversity benefits. Section 2.1.20 of the project description does not provide an adequate actual and projected flow of funds for project implementation and to achieve the project's climate, community and biodiversity benefits. PP is requested to update Section 2.1.20 to provide actual and projected flow of funds for project implementation and to achieve the project's climate, community and biodiversity benefits.
Project participant response **Date:** 15/09/2020
The PD has been revised and the corrections has been made as per the requirements of section 2.1.20 of the VCS CCB template v.3.3.
Documentation provided by project participant
PD and Company Audit reports
DOE assessment **Date:** 27/09/2020
The revised PD and PP company audit report has been checked and corrections made are found to be okay. CAR39 is closed.

CAR ID	40	**Section no.**	2.3.1	**Date:** 04/09/2020
Description of CL				
From the description, it can be inferred that the information or documents can only be accessed through PP's website. However, it is not practical that all the stakeholders have access to the internet. The write-up is required to be clear and in line as per the section G3.1 requirement i.e. on how full project documentation has been made accessible to communities and other stakeholders, how summary project documentation (including how to access full documentation) has been actively disseminated to communities in relevant local or regional languages and how widely publicized information meetings have been held with communities and other stakeholders. Was the PD and other project results were communicated to the parties/stakeholders by one on one discussions?				
Project participant response				**Date:** DD/MM/YYYY
The PD has been revised and the corrections has been made as per the requirements of section 2.3.1 of VCS CCB template v.3.3. and Section G3.1 of the CCB Standard v03.1				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** DD/MM/YYYY
The revised PD has been checked and corrections made are found to be okay. CAR40 is closed.				

CAR ID	41	**Section no.**	2.3.4	**Date:** 04/09/2020
Description of CL				
What are the 4 areas of risks *identified?* Mention the same in this section.				
Project participant response				**Date:** 15/09/2020
The PD has been revised and the corrections has been made as per the requirements of section 2.3.4 of VCS CCB template v.3.3. and Section G3.2 of the CCB Standard v03.1				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 02/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR41 is closed.				

CAR ID	42	**Section no.**	3.3.4	**Date:** 02/10/2020

Description of CL	
The information dissemination shall also be in local language. Mention the same in the description.	
Project participant response	**Date:** 15/10/2020
This was missed to be mentioned. The changes have been made as per the standard procedure. Portuguese (local language) added in the section.	
Documentation provided by project participant	
PD	
DOE assessment	**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR42 is closed.	

CAR ID	43	**Section no.**	3.1.4	**Date:** 02/10/2020
Description of CL				
1. Step 4.2.3 is missing. Elaborate. 2. The figures showing locations of future deforestation are missing. Please add the same 3. It is mentioned that deforestation maps projected between 2014 and 2044? Why 2044 when the project end date is 2045? Elaborate.				
Project participant response				**Date:** 15/10/2020
In the revised PD following points are added: *1. Section 4.2.3* *2. Future deforestation maps are added.* *3. The required corrections has been made and the correct year is mentioned.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR43 is closed.				

CAR ID	44	**Section no.**	3.2.1	**Date:** 02/07/2020
Description of CL				
PP has mentioned the requirements of the AFOLU VCS document require consideration of the carbon stock decay of carbon reservoirs in organic soil, below-ground biomass, dead wood, and timber products. 1. Why PP has not considered above ground biomass and litter? Elaborate. 2. Please use the same terminology of the carbon pools as mentioned in the applied methodology. 3. Check the table of carbon pool. PP has included litter in the table. Revise/ make correction in either of the section.				
Project participant response				**Date:** 15/09/2020
In the revised PD following points are added: *1. AGB and litter both are included and the same is revised everywhere in the document.* *2. Made consistent* *3. Made consistent.*				
Documentation provided by project participant				
PD				
DOE assessment				**Date:** 02/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR44 is closed.				

CAR ID	45	**Section no.**	4.3.3	**Date:** 02/10/2020
Description of CL				
PP has mentioned that there will be net Impacts on Other Stakeholders. Elaborate and explain.				

Project participant response	**Date:** 15/10/2020
It was missed to mentioned. The description I snow added in the revised PD	
Documentation provided by project participant	
PD	
DOE assessment	**Date:** 24/10/2020
The revised PD has been checked and corrections made are found to be okay. CAR45 is closed.	

CAR ID	46	**Section no.**	ER sheet	**Date:** 02/07/2020
Description of CL				
In the current form the excel sheet is not clear on the default values used for the parameters. The section will be reviewed after PP will add an assumption sheet in the excel sheet where all the default values considered for the parameters are mentioned				
Project participant response				**Date:** 15/09/2020
Default values used have been updated in the ER sheet				
Documentation provided by project participant				
ER sheet				
DOE assessment				**Date:** 02/10/2020
The revised ER sheet has been checked and corrections made are found to be okay. CAR46 is closed.				

CAR ID	47	**Section no.**	Site Observation	**Date:** 01/06/2021
Description of CAR				
Submit the land ownership verified document, which officially can be checked on the authority of the land ownership. If any other legal representation can also be submitted.				
Project participant response				**Date:** 23/07/2021
Ownership details are authentic and the same can be verified from Brazilian government website.				
Documentation provided by project participant				
Title Deeds and website link (https://sigef.incra.gov.br/consultar/parcelas/)				
DOE assessment				**Date:** 25/07/2021
The title deeds have been verified and checked to define the ownership of the project proponent. During the on-site audit the documents were also checked with the local government authorities and confirmed to be authentic. Hence CAR 25 is closed.				

CAR ID	48	**Section no.**	Site Observation	**Date:** 01/06/2021
Description of CAR				
It was observed during the site inspection that no strategic plan was available for maintenance and repairs of cook-stoves. Kindly clarify?				
Project participant response				**Date:** 23/07/2021
There is a trained team maintaining the cookstoves in the project area, local team members mobile number has been shared with the community members to contact them for any issues related to cookstoves. The complaint will be attended by our team members as and when it is required at the earliest time possible based on the needs.				
Documentation provided by project participant				
Grievance register				
DOE assessment				**Date:** 25/07/2021

The PP has established a community level plan to tackle repairs and maintenance, this was checked with the site personnel, some improvement required, still is ok. A grievances register also has been placed in the PP office. Hence CAR 26 is closed.

APPENDIX 3: COMPETENCE OF TEAM MEMBERS

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	**Ma Paa Puratchikkanal**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed		Yes	Yes	Yes	Yes	Yes	No
Appointed Date		29-07-2019					
Authorized to work as Technical Expert for:							
Authorized Technical Area		**Sectoral Scope**		**TA Code**	**Technical Area within the scope**		
		Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation		
		Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
		Energy demand		3.1	Energy demand		
		Construction		6.1	Construction		
		Waste handling and disposal		13.1	Solid waste and wastewater		
		Agriculture		15.1	Agriculture		
Authorized to work as Local Expert for:							
Country/Countries		India					
Compliance check by: Anand S. R.							

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	**Ewerton Alves Nazareno**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed		No	No	Yes	Yes	No	No
Appointed Date		01-08-2019					
Authorized to work as Technical Expert for:							
Authorized		Waste handling and disposal		13.1	Solid waste and wastewater		

Technical Area	Afforestation and reforestation	14.1	Afforestation and reforestation
Authorized to work as Local Expert for:			
Country/Countries	Brazil, Columbia		
Compliance check by: Anand S.R.			

Certificate of Competence

Name	☐ Mr. ☒ Ms.	**Zainab Hassan**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed		No	No	Yes	Yes	No	No
Appointed Date		29-07-2019					
Authorized to work as Technical Expert for:							
Authorized Technical Area		Afforestation and reforestation		14.1	Afforestation and reforestation		
Authorized to work as Local Expert for:							
Country/Countries		India					
Compliance check by: Anand S.R.							

Certificate of Competence

Name	☒ Mr. ☐ Ms.	**Narendra Kumar .R**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**

Appointed	Yes	Yes	Yes	Yes	Yes	No
Appointed Date	29-07-2019					
Authorized to work as Technical Expert for:						

Authorized Technical Area	**Sectoral Scope**	**TA Code**	**Technical Area within the scope**
	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy demand	3.1	Energy demand
	Waste handling and disposal	13.1	Solid waste and wastewater

Authorized to work as Local Expert for:	
Country/Countries	India
Compliance check by: Anand S. R.	

Certificate of Competence

Name	☐ Mr. ☒ Ms.	**Sudha Padmanabha**
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*

Appointed to work as:

	CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed	No	No	No	Yes	No	No
Appointed Date	01-08-2019					
Authorized to work as Technical Expert for:						

Authorized Technical Area	Afforestation and reforestation	14.1	Afforestation and reforestation

Authorized to work as Local Expert for:	
Country/Countries	India
Compliance check by: Anand S.R.	

APPENDIX 4: ABBREVIATIONS

4KES	4K Earth Science Private Limited
AFOLU	Agriculture, Forestry and Other Land Use
APU	Annual Productive Unit
ARR	Afforestation, reforestation and revegetation
AUD	Avoided Unplanned Deforestation
CAR	Corrective Action Request
CCB	Climate, Community & Biodiversity
CCBA	Climate, Community & Biodiversity Alliance
CDM	Clean Development Mechanism
CL	Clarification Request
DCH	Diameter at the Chest Height
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
FAO	Food and Agricultural Organization of United States
FSC	Forest Stewardship Council
GHG	Greenhouse Gases
ICDP	Integrated conservation and development projects
HDI/IDH	Human Development Index
HCV	High Conservation Values
IFM	Improved forest management
INCRA	Instituto Nacional de Colonização e Reforma Agrária (from the Portuguese National Institue of Colonisation and Land Reform)
INPE	National Institute of Space Research (from the Portuguese Instituto Nacional de Pesquisas Espaciais)
IPCC	Intergovernmental Panel for Climate Change
LK	Leakage belt
LMA	Leakage Management Area
MoU	Memorandum of Understanding
MP	Monitoring Period
MRV	Monitoring, Reporting and Verification
NTFPs	Non-Timber Forest Products
PD	Project Description
PES	Payments for ecosystem services
PP	Project proponent
PRA	Participatory Rural Appraisal
PRODES	Forestry Satellite Monitoring Project
QA/QC	Quality Assurance/Quality Control
REDD	Reduced Emissions from Deforestation and Degradation

RRD	Reference region for rate of deforestation
RRL	Reference Region for Location (RRL)
SBIA	Social Impact and the Biodiversity
SFMP	Sustainable Forest Management Plan
tCO_2	Tonnes of Carbon Dioxide
UNFCCC	United Nations Framework Convention on Climate Change
UPA	Annual Production Unit (from the Portuguese Unidade de Produção Annual)
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit