



**Verified Carbon
Standard**

NON-PERMANENCE RISK REPORT



REDD+ Project

By Carbonext

Document Prepared by Carbonext

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Project Title	<i>Fortaleza Ituxi REDD Project</i>
Version	2.2
Date of Issue	<i>18-January-2023 this version of the document issued</i>
Project ID	1654
Monitoring Period	<i>01-January-2020 to 26-December-2021</i>
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CONTENTS

1	INTERNAL RISK	3
2	EXTERNAL RISKS.....	7
3	NATURAL RISKS	10
4	OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION..	13
4.1	Overall Risk Rating	14
4.2	Calculation of Total VCUs	14

6 INTERNAL RISK

Project Management		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable: the project does not involve plantations.	0
b)	Not applicable: GHG credits previously issued are less than 50% of stocks.	0
c)	Not applicable, as the Management team does include individuals with significant experience in all skills necessary to successfully undertake all project activities. Specifically, the Management Team who will carry out the technical aspects of the Project Activity have the following skills and experience: Janaina Dallan MBA – Carbon markets specialist. Working in the coordination of projects related to sustainability strategy and projects to the Clean Development Mechanism. Part of the UNFCCC Registration and Issuance Team as an Expert. Has a bachelor's degree in Forestry Engineering and a Master's in business of the environment. Carbon markets specialist based in São Paulo working specifically in the carbon credit development department being responsible of managing the Brazilian projects and participating as a reviewer of projects in other countries, was part of the international Carbon Assets Team of Ecofys. Working with Carbon Market issues since 2002 when she worked with the Center for Advanced Studies on Applied Economics at the University of São Paulo while participating in two projects directed by the Ministry of the Environment. Ms. Dallan later managed CDM projects and Carbon market activities at the company Golder Associates São Paulo and provided support to other Golder offices throughout Latin American countries and North America. She has also worked as a Carbon Markets consultant for an Energy company being responsible for the implementation of the CDM department including staff training, project advisor and staff coordination. Luiz Fernando de Moura – Forestry Engineer, M.Sc. and Ph.D. in Wood technology by the Université Laval (Quebec, Canada). He is responsible to coordinate the technical group at Carbonext, working with projects for the Carbon Markets including Forestry projects. Dr. de Moura had participation in the preparation of "Energia Verde Carbonization Project - Mitigation of Methane Emissions in the Charcoal Production of Grupo Queiroz Galvão, Maranhão, Brazil", registered on March 21, 2011. Dr. de Moura has also participation as project designer in Florestal Santa Maria REDD Project and Fortaleza Ituxi REDD project.	0

	David John Morris Swallow – holds an undergraduate degree in Anthropology from Edinburgh University and a Masters in Ecology, Evolution and Conservation from Imperial College London. Based in São Paulo, he focuses on forest carbon, certified supply chains, and impact investment, with nine years' experience developing carbon and social aspects of REDD+ projects on the Brazilian market. Complete CVs are available to auditors. Based on the team's expertise, the Project Proponent and Project Developers are well qualified and confident to claim that the project generates climate, community and biodiversity benefits.	
d)	Management team maintains a presence in the country and is located less than a day of travel from the project site, considering all parcels or polygons in the project area. Evidence for this is presented in the "Project Management - Item d - Travel Time to Project Area" Word document for audit.	0
e)	Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (e.g., individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs, as described in item c) above.	-2
f)	Mitigation: Adaptative management plan in place Management plan includes strategic bases in place equipped with mobile phone and motorcycle. The plan is aimed at restricting invasions and risks of fire. (File: "Proced_Fortaleza_Ituxi Controle Patrimonial e Combate a Incendio")	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		-4

Financial Viability		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	This is not the case in the present project.	0
b)	This is not the case in the present project.	0
c)	This is not the case in the present project.	0

d)	Project cash flow breakeven point is less than 4 years from the current risk assessment. As demonstrated in the financial analysis of the project description, the breakeven be reached as early as the first project year, depending on the price of the VCU. Currently, with VCU sales from previous monitoring periods, the initial investment has already paid off.	0
e)	This is not the case in the present project.	0
f)	This is not the case in the present project.	0
g)	This is not the case in the present project.	0
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven. As demonstrated in the financial analysis of the project description, the proponent had sufficient wealth of its own to secure the project until the breakeven point, which has already been reached.	0
i)	This is not the case in the present project.	0
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero.		0

Opportunity Cost		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	This is not the case in the present project.	0
b)	This is not the case in the present project.	0
c)	This is not the case in the present project.	0
d)	This is not the case in the present project.	0
e)	This is not the case in the present project.	0
f)	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity The NPV calculated for the Project Area is R\$ 14.31 / hectare at the breakeven VCU price. This NPV, based on a discount rate of 12%, is comparable to that observed for the BAU activity (i.e. pasture).	-4

	For pasture activity, SCHNEIDER et al. (2000) reports negative NPV for a discount rate of 6 %, based on data presented in Table 7, page 44. Thus, for the discount rate adopted for comparisons in this analysis (12%), the NPV of pasture would be even more negative. For the current monitoring period, a new opportunity cost analysis was carried out for the pasture activity to the Fortaleza Ituxi project area. The study obtained a NPV value of -R\$37,13 / hectare for a 12% discount rate. Thus, it can be seen that the project activities are 359.47% more profitable than the alternative proposed. In the context explained above, it is concluded that the NPV from the most profitable alternative land use activity is expected to be at least 50% more profitable than the most profitable alternative land use activity.	
g)	This is not the case in the present project.	0
h)	This is not the case in the present project.	0
i)	This is not the case in the present project.	0
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)] Total may be less than 0.		-4

Project Longevity		
a)	This is not the case in the present project.	0
b)	With legal agreement to continue the management practice. As demonstrated in the PD, the project proponent detains the second biggest Operation License approved in the State of Amazonas. This license allows the landowner to harvest wood logs at left and right sides of Ituxi River. This constitutes a legal agreement to continue the management practice. Additionally, the Legal Reserve (LR) (80% of the property) is registered in property deed in the Real Estate Registry Office: its location is publicly known. Brazilian Forest Code determines that, once allocated, LR may not be changed even in cases of real estate transfer, land dismembering or area rectification.	30-(30/2)=15
Total Project Longevity (PL) May not be less than zero		15

Internal Risk	
Total Internal Risk (PM + FV + OC + PL)	7
Total may not be less than zero.	

7 EXTERNAL RISKS

Land Tenure and Resource Access/Impacts		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Ownership and resource / use rights are held by the same entity(s). Ricardo Stoppe Junior is the only owner of the property and it holds all the legal rights, including rights for using property resources. Ownership documentation is available to auditors.	0
b)	This is not the case in the present project.	0
c)	This is not the case in the present project.	0
d)	This is not the case in the present project. When the project description was prepared, there was a dispute over the rights to use part of the property with the Brazilian government, due to its location in a conservation unit. The situation was considered as a possible risk in this item, although this part of the property was not included in the project area. However, in December 2021, the Brazilian court decided to return to the proponent the exercise of the right of use, performing its activities in accordance with environmental legislation, with the issuance of carbon credits, according to the documentation made available for the audit.	0
e)	This is not the case in the present project.	0
f)	The Project area is protected by a legally binding commitment (protected area) to continue management practices that protect carbon stocks over the length of the project crediting period. According to Real State documentation, the landowner has to conserve 80% of the forest. The forest management activities can be considered as a way to	-2

	conservation and they must continue over the length of the project crediting period. Although there is a general non-compliance observed for this legislation aspect, the Brazilian Forest Code foresees the conservation of 80% of the land as Legal Reserve	
g)	Documented evidence is provided that the project has implemented activities to resolve the disputes or clarify overlapping claims. In regard to disputes with Brazilian Government on the establishment of a Conservation Unit on the Northern portion of the property, the project proponent has earned a favorable legal opinion regarding his property rights.	
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)] Total may not be less than zero.		0

Community Engagement		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	This is not the case in the present project: there are no households living within the project area.	0
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted. Given the lack of a more complex and detailed analysis on this topic, the project proponent attributed the maximum score for this item. The landowner has informed the farm workers about the project and about its relevant importance to keep the forest, jobs, natural resources etc.	5
c)	Mitigation: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area. The benefits generated by the project are presented in Table 1 Sustainable Development Contributions of the Monitoring Report.	-5
Total Community Engagement (CE) [where applicable, (a + b + c)] Total may be less than zero.		0

Political Risk

Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	This is not the case for the present project.	0
b)	This is not the case for the present project.	0
c)	A governance score was calculated from the mean of Governance Scores across the six indicators of the World Bank Institute's Worldwide Governance Indicators (WGI)¹ listed below: • Voice and Accountability • Political Stability and Absence of Violence/Terrorism • Government Effectiveness • Regulatory Quality • Rule of Law • Control of Corruption Furthermore, the score was averaged over the most recent five years of available data (2020 – 2016). Therefore, the governance score is -0,203 The spreadsheet (WGI_Score) with the rationale for the calculation is available for checking.	2
d)	This is not the case for the present project.	0
e)	This is not the case for the present project.	0
f)	Mitigation: Yes, Brazil is implementing REDD+ Readiness or other activities set out in the AFOLU Non-Permanence Tool, including: a) The country is receiving REDD+ Readiness funding from the FCPF, UN-REDD or other bilateral or multilateral donors b) The country is participating in the CCBA/CARE REDD+ Social and Environmental Standards Initiative c) The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce d) The country has an established national FSC or PEFC standards body e) The country has an established DNA under the CDM and has at least one registered CDM A/R project	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		0

¹ World Bank Institute Worldwide Governance Indicators, available at: <https://info.worldbank.org/governance/wgi/>

External Risk	
Total External Risk (LT + CE + PC)	0
Total may not be less than zero.	

8 NATURAL RISKS

Natural Risk (Fire – “F”)	
Significance	The CPTEC/INPE database² was used to assess forest fire occurrence in the region for years 2017 – 2021. Fire incidence in the years mentioned are presented in “fires Ituxi 2017 – 2021” file Carbon stock loss based on satellite analysis is classified as: Negligible (less than 5% carbon stock loss) or transient (full recovery of lost carbon stock expected within 10 years of any event), given that, despite having been identified a fire focus in the years 2018 and 2019, no carbon stock within the Project The areas were affected by fire in the analyzed period. The loss in carbon stock based on satellite analyses is classed as: Insignificant (less than 5% loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event), given that, despite having been identified a fire focus in the years 2018 and 2019, no carbon stocks within the Project Area were affected by fire over the period analysed.
Likelihood	The likelihood of fire in the project area is approximately annual: less than every 10 years.
Score (LS)	LS = 1 (Risk rating: 2 x 0.50 = 1.00)
Mitigation	Prevention measures applicable to the risk factor are implemented: Ituxi’s Adaptative Management Plan is in place, having the aim of reducing risks of fire and related trespassing. In 2019, 6 workers have been trained for the “Fire Brigade Training Course”. This activity is scheduled to occur every 5 years, according to the Monitoring Plan Containing natural risk:

² Source: <http://queimadas.dgi.inpe.br/queimadas/bdqueimadas#exportar> (last visited on 04/02/2021).

	In September 2021, a fire from a neighboring property reached a forested area at Fazenda Ituxi. The fire brigade was called, which immediately applied firebreaking techniques, with the thinning of vegetation around the fire and application of water with anti-fire costal pump equipment. The fire was contained without causing significant damage to the vegetation at Fazenda Ituxi. M: 0.25
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Natural Risk (Pest and Disease outbreaks – “PD”)	
Significance	This risk is not applicable to the project area, please see justification below.
Likelihood	There is no record of Pest and Disease outbreaks in the area, since the area is a natural forest in its equilibrium, where it is hardly believed to have a pest or disease outbreak. Regarding the disease and pest outbreaks in tropical humid forests, it is sound to belief that due to the high species diversity and resilience, these ecosystems have a strong capability to adapt and react to any specific single pathogen, insect, or pest (in general terms) that could develop into broadly spread damage to the vegetation, with consequent carbon loss. There is not scientific evidence on this sort of outbreaks in highly diverse tropical humid forests vegetation in the Amazon, which could be different in single tropical species plantation.
Score (LS)	LS = 0 (Risk rating: 0 x 1 = 0)
Mitigation	None (1).

Natural Risk (Extreme Weather– “W”)	
Significance	According to Lewis et al. (2011): “The 2005 and 2010 droughts both coincided with higher-than-normal tropical North Atlantic Sea surface temperatures (SST), which have been linked to the 2005 Amazon drought and are suspected in the 2010 drought. The 2010 drought also coincided with a La Niña event, associated with cooler than normal sea surface temperatures in the equatorial Pacific. While La Niña events are generally associated with wetter than normal weather over the northern parts of the Amazon Basin, including some areas impacted by the 2010 drought, it has also been associated with drying over much of the southern half of the basin. It seems likely that the 2010 drought was influenced by both Pacific and Atlantic SSTs. Furthermore, both droughts are consistent with climate modelling that projects drying of the Amazon, although researchers concede that significant uncertainty still remains in these linkages”.

	Insignificant (less than 5% loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event)
Likelihood	The likelihood of Extreme Weather is under every ten years, in accordance with the academic sources above.
Score (LS)	LS = 2 (Risk rating: 2 x 1 = 2)
Mitigation	None (1).

Natural Risk (Geological Risk – “G”)	
Significance	Not applicable to the project area, see explanation below.
Likelihood	The project area is located in a stable geological area with no faults. The risks of carbon losses related to geological phenomena are more prone to occur in steeply sloped landscapes, which is not the case in the project area (predominantly flat landscape). In steeply sloping areas, biomass loss can occur through earthquake-induced landslides. Even in these cases, previous studies (ALLEN et al. 1999) show that much of an earthquake's immediate impact is low intensity damage to forests. ALLEN et al. (1999) quantified the immediate impact of an earthquake (magnitude index MW 6.7 in 1994). Brazil has a mild seismic activity: earthquakes are predominantly of low intensity varying between 2- and 4-degrees Richter. The highest earthquake recorded in the country occurred in 1955 in the State of Mato Grosso (6.6 degrees Richter) (TOMINAGA et al. 2009). Thus, the earthquake intensity and frequency in Brazil are not likely to produce significant losses of forest biomass. Moreover, according to REN et al. (2009), the occurrence an earthquake-induced landslide must comply with the combination of a series of factors, comprising soil mechanics, vegetation transpiration and root mechanical reinforcement, and hydrological processes. In this context, there are strong reasons to reject the possibility of any significant vegetation damage caused by earthquakes in the project region. Literature cited: ALLEN, ROBERT B., PETER J. BELLINGHAM, AND SUSAN K. WISER. 1999. IMMEDIATE DAMAGE BY AN EARTHQUAKE TO A TEMPERATE MONTANE FOREST. <i>Ecology</i> 80:708–714. [doi:http://dx.doi.org/10.1890/0012-9658(1999)080[0708:IDBAET]2.0.CO;2]

	REN, D.; WANG, J; FU, R.; KAROLY, D.J.; HONG, Y.; LESLIE, L.M.; FU, C.; HUANG, G. 2009. Mudslide-caused ecosystem degradation following Wenchuan earthquake 2008. GEOPHYSICAL RESEARCH LETTERS, v. 36, L05401, doi:10.1029/2008GL036702 TOMINAGA, L.K.; SANTORO, J.; AMARAL, R. DESASTRES NATURAIS: Conhecer para prevenir. Instituto Geológico, Governo do Estado de São Paulo, 2009.
Score (LS)	LS = 0 (Risk rating: 0 x 1 = 0)
Mitigation	None (1).

Other natural risk (ON1 – ON3): No further risk factors to the project were identified.

Score for each natural risk applicable to the project (Determined by (LS × M))	
Fire (F)	0.50
Pest and Disease Outbreaks (PD)	0.00
Extreme Weather (W)	2.00
Geological Risk (G)	0.00
Other natural risk (ON)	0.00
Total Natural Risk (as applicable, F + PD + W + G + ON)	3.00

9 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

9.1 Overall Risk Rating

Risk Category	Rating
Internal Risk	7
External Risk	0
Natural Risk	2.5
Overall Risk Rating (a + b + c)	10

9.2 Calculation of Total VCUs

Total Risk Assessment	
Net change in the project's carbon stocks	176,038
TOTAL NUMBER OF CREDITS TO BE DEPOSITED IN THE AFOLU POOLED BUFFER ACCOUNT	20,605

APPENDIX

APPENDIX 1: CALCULATION OF TOTAL VCUS

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
2020	42,663	19,401	0	23,262	2,467	20,795
2021	194,643	6,289	0	152,776	18,138	134,638
Total	237,306	25,690	0	176,038	20,605	155,433