NON-PERMANENCE RISK REPORT
ECOMAPUÁ AMAZON REDD PROJECT

Document Prepared by Sustainable Carbon – Projetos Ambientais Ltda.

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1 INTERNAL RISK

Project Management		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located.*	Not applicable
b)	*Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.* Yes, the area is vulnerable to invasion by residents within and surrounding the area, and there have been recorded trespasses into the area for the purpose of illegal wood collection. This is reinforced by the fact that the 99 families who are defined as residents in the project area[1], are indeed within or immediately adjacent the project area, and are the main agents of deforestation acting in the present REDD project.	2
c)	*Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area).* The work of the Instituto Ecológica is included here on the basis that Stefano Merlin, co-founder and CEO of Sustainable Carbon, co-founded the Instituto Ecológica NGO in 1998, in the State of Tocantins Brazil. Instituto Ecológica's experience with developing forest projects dates back to 1998 with ten projects and contracts. To give two examples: the reforestation project located at the INCRA project called Assentamento Manchete, in Tocantins state, of which the project document was published on 25/08/2008; and the conservation, regeneration and agroforestry systems projects on the Ilha do Bananal, consisting of two phases from 1998 - 2003 and 2000 - 2002, details of which can be found at the following web address:	0

[1] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

	<http://www.ecologica.org.br/images/stories/ecologica/pdf/Florestal.pdf>, and in peer-reviewed scientific journals[2]. In addition, the Sustainable Carbon team under the leadership of Marcelo Haddad, Technical Coordinator of Sustainable Carbon, has developed more than 25 carbon project PDDs, including 20 VCS PDs, over ten years, details of which can be found on Mr. Haddad's CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4491762P1>. Three forestry projects were developed: "Ecomapuá Amazon REDD Project" in the State of Pará, "Agrocortex REDD Project" in the State of Acre and Amazonas[3], and other VCS REDD project located in the Amazonas State was developed, which is currently waiting for validation. He also participated in the development of Environmental and Socio-Economic Indicators for REDD projects to be used under the SOCIALCARBON Standard[4]. Moreover, Mr. Haddad participated in several activities in charge of the Governors Climate and Forests Task Force (GCF) in the State of Tocantins (workshops, REDD+ course, creation of database with landowners, estimates of GHG emission reductions by REDD+ in Tocantins, and development of reports to Environmental Agencies)[5]. Finally, Mr. Haddad's master thesis, entitled: "An analysis of REDD+ mechanisms and their benefits in Brazil", obtained in May 2013, has the main aim of identifying the benefits of applying REDD+ mechanisms in Brazil, in accordance to the VCS requirements[6].	
d)	*Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area.* Two representatives of the communities within the project area are charged with supervising and reporting any events – such as unpermitted degradation or resource-use – which occur within two properties, to the management, which consists of Lap Chan, general administrator of the property. Their names and properties of responsibility are as follows: Aloízio, Fazenda Bom Jesus; and	2

[2] Boyd et al., "Exploring socioeconomic impacts of forest based mitigation projects: Lessons from Brazil and Bolivia" environmental science & policy 10 (2007) pp. 419 – 433.

[3] The details of these projects can be found here: <http://www.vcsprojectdatabase.org/>. Last visited on: 10-February-2018.

[4] More information at: <http://www.socialcarbon.org/documents/>. Last visited on: 10-February-2018.

[5] Available at: <http://www.ecologica.org.br/en/projeto-gcf-tocantins-a-forca-tarefa-dos-governos-para-clima-e-florestas/>. News media about the course carried out in September 2014: <http://atn.to.gov.br/noticia/196157/>. Last visited on: 10-February-2018.

[6] Available at: <https://carbonosustentavelbrasil.files.wordpress.com/2013/09/dissertac3a7c3a3o-marcelo-h-s-haddad.pdf>. Last visited on: 10-February-2018.

	Manduca, Fazenda Vila Amélia. The representatives call Mr Chan weekly and in return they receive financial help although they are not officially contracted. Mr Chan's permanent location is the city of São Paulo, which is a day and a half's journey from the most inaccessible points of the project. For this reason 2 buffer points are applied to the present section.	
e)	***Mitigation:*** *Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs.* Sustainable Carbon as project proponent has seen 48 projects, in 77 locations, through validation to date. Most of these projects can be found on the Markit Registry, the web link follows: <http://mer.markit.com/br-reg/public/index.jsp?q=sustainable%20carbon&s=cp>. This makes Sustainable Carbon one of the most prolific carbon project developers in Latin America, and a pioneer of the sector.	-2
f)	***Mitigation:*** *Adaptive management plan in place.* The Ecomapuá Amazon REDD Project applies the SOCIALCARBON® Standard for forest projects, which include, as the relevant tool specifies, "processes for monitoring progress and documenting lessons learned or corrections that may be needed". Therefore, the relevant mitigation score was applied here. This methodology is an innovative concept developed by the Instituto Ecológica to measure the contribution of carbon projects to sustainability. The SOCIALCARBON® Methodology is based on six main indicators: Biodiversity; Natural; Financial; Human; Social and Carbon Resources and aims to deliver high-integrity benefits in each. The present project also has an action plan in place, which was produced by the Project Proponent, Sustainable Carbon, in order to improve the buffer rating. The Action Plan was divided into sections corresponding to 6 of the risk categories in the VCS AFOLU Non-Permanence Risk Tool, specifically: Project Management; Financial Viability; Opportunity Cost; Project Longevity; Land Tenure and Resource Access/Impacts; and Community Engagement. The actions relating to each risk type were classed as high, medium or low priority, and five high-priority actions were identified to diminish the buffer. This action plan will be applied following each of the verifications in order to improve the buffer and SOCIALCARBON® score.	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		**0**

Financial Viability		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*Project cash flow breakeven point is greater than 10 years from the current risk assessment.* The project currently has a very low income from project activities and revenues from the sale of GHG credits, thus cash flow breakeven point is greater than 10 years.	3
b)	*Project cash flow breakeven point is greater than 7 and up to 10 years from the current risk assessment*	Not applicable
c)	*Project cash flow breakeven point greater than 4 and up to 7 years from the current risk assessment*	Not applicable
d)	*Project cash flow breakeven point is 4 years or less from the current risk assessment*	Not applicable
e)	*Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven* The project currently does not have available callable financial resources to cover the total cash out before the project reaches breakeven, therefore 3 was applied as the risk rating here.	3
f)	*Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven*	Not applicable
g)	*Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven*	Not applicable
h)	*Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven*	Not applicable
i)	***Mitigation:*** *Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven* As mentioned in h) above, the project currently has no callable financial resources.	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.		**6**

Opportunity Cost		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated*	Not applicable
b)	*NPV from the most profitable alternative land use activity is expected to be between 50% and up to100% more than from project activities*	Not applicable
c)	*NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities*	Not applicable
d)	*NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated* Baseline activities in the project area are subsistence driven[7] and the project is investing into social projects including a technical school and tree-nursery[8], as well as applying SOCIALCARBON® standard to quantify and improve social and biodiversity aspects of the project. Furthermore, Ecomapuá Ltda. is investing in environmental education in the leakage management area, benefitting some families living within the project area. This is part of the IAS/UFRA Fome Zero project[9], which will benefit from reinvestment of carbon credits from the present REDD project. There are plans to expand this program to more families living within the project area in the future. The main achievement obtained by Ecomapuá during this monitoring period was the organic certification of the Açaí produced by communities living within the project area. The project owner provided courses to the local community about the procedures of organic production and certification of Açaí, with lectures about the organic practices, sustainability, and health and security on the process. An independent certification is responsible for the inspection	0

[7] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

[8] Sustainable Carbon, V-C-S Project Description (2013), 'ECOMAPUÁ AMAZON REDD PROJECT GHG EMISSION REDUCTIONS FROM AVOIDED UNPLANNED DEFORESTATION'.

[9] Universidade Federal Rural da Amazônia (UFRA), Instituto Amazônia Sustentável (IAS), Petrobrás (2007), "Projeto piloto de geração de renda e alimento através de produção agrícola familiar e manejo florestal sustentável em comunidades ribeirinhas carentes no rio Mapuá – Relatório Final"

	of organic production twice a year, conducting site visits and also performing stakeholder's consultation.	
e)	*NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity*	Not applicable
f)	*NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity*	Not applicable
g)	***Mitigation:*** *Project proponent is a non-profit organization* Ecomapuá Conservação Ltda. is not a non-profit organization.	0
h)	***Mitigation:*** *Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period* Ecomapuá Conservação Ltda. was created on 19-July-2001, with the following goals described in ther Social Contract: "conservation of forests" and "development of sustainable development projects, clean development mechanisms, carbon sequestration". The REDD carbon project implemented by Ecomapuá Conservação Ltda. is compatible and fully inserted in the idea of extractive protection i.e. protected area, being in line with Extractive Reserve objectives. Ecomapuá has common objectives with both RESEX (Mapuá and Terra Grande Pracuúba) regarding the generation of alternative income sources for communities living in the region. Therefore, project area is protected by legally bindings commitment to continue management practices that project protect carbon stocks over the length of the project crediting period.	0
i)	***Mitigation:*** *Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years* Ecomapuá Conservação Ltda. was created on 19-July-2001, with the following goals described in their Social Contract: "conservation of forests" and "development of sustainable development projects, clean development mechanisms, carbon sequestration". After the acquisiton of the properties where the project area is located, in 2001, Ecomapuá´s main intention was carry out environmental and social activities that brings possibilities of generation of alternative income sources to local communities, as detailed in the company´s Social Contract objectives. In addition, the REDD carbon project implemented by Ecomapuá Conservação Ltda. is compatible and fully inserted in the idea of extractive protection, being in line with Extractive Reserve objectives. Ecomapuá has common objectives with both RESEX (Mapuá and Terra Grande Pracuúba) regarding the generation of alternative income sources for communities living in the region.	0
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)]		**0**

Total may be less than 0.	

Project Longevity		
a)	*Without legal agreement or requirement to continue the management practice*	Not applicable
b)	*With legal agreement or requirement to continue the management practice* Ecomapuá Conservação Ltda. was created on 19-July-2001, with the following goals described in their Social Contract: "conservation of forests" and "development of sustainable development projects, clean development mechanisms, carbon sequestration", which demonstrates the long term commitment to conservation by means of this legal agreement registered in federal and state government institutions. Since the acquisiton of the properties where the project area is located, almost two decades ago, Ecomapuá has been carrying out environmental and social activities that brings possibilities of generation of alternative income sources to local communities, as detailed in the company´s Social Contract objectives. In addition, around 74% of the project area overlaps with two federal protected areas (RESEX), which emphasizes the requirement to continue the management practice. The REDD carbon project implemented by Ecomapuá Conservação Ltda. is compatible and fully inserted in the idea of extractive protection, being in line with Extractive Reserve objectives. Ecomapuá has common objectives with both RESEX (Mapuá and Terra Grande Pracuúba) regarding the generation of alternative income sources for communities living in the region. According to risk report calculation tool: VCS Version 4 any project with a legally binding agreement that covers at least a 100-year period from the project start date will be assigned a score of zero.	0
Total Project Longevity (PL) May not be less than zero		0

Internal Risk	
Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero.	0 + 6 + 0 + 0 = 6

2 EXTERNAL RISKS

Land Tenure and Resource Access/Impacts		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*Ownership and resource access/use rights are held by same entity(s)* Yes, both ownership and resource access/ use rights are held by Ecomapuá Ltda.	0
b)	*Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession)*	Not applicable
c)	*In more than 5% of the project area, there exist disputes over land tenure or ownership* Within the Ecomapuá Amazon REDD Project area, there is a large concentration of residents, totalling some 99 families as described in point d), below. They are well-established, having a long history of extracting forest products, such as rubber and palm heart, which historically was accompanied by an expectation of land tenure, a practice known as extractivism. In the FADESP (Fundação de Amparo e Desenvolvimento da Pesquisa) 2002 study of the extractivist communities of the Rio Mapuá, residents within the project area report a difficulty in subsistence through the legal means of agriculture, açaí berry collection and fishing. This poverty is partly a consequence of the prohibition of harvesting timber and palm-heart, which came into effect after Ecomapuá Conservação Ltda., formerly Santana Madeireira Ltda, acquired the area some two years prior to the project start date. Furthermore, it should also be noted that since the beginning of its activities in the region, Ecomapuá has never supported illegal logging activities, which is not a legal practice. Thus, the "prohibition" of harvesting palm heart and timber by Ecomapuá was in fact only reinforcing what was already present in Brazilian law.The complexity of the issue is a function of the long-established inter-relation between unofficial land tenure and extractivist practices. However, given that the residents' claim to land does not involve any property titles or documents on their part, and that no residents have been evicted from the property and benefit from projects described in section g) below, the heart of the issue is here deemed to be use of resources, rather than land tenure.	0

	Ecomapuá has been working for more than 18 years in the region, and the company has never questioned the community or raised any concerns about land tenure and natural resources access issues. No community member has been removed from their land, on the contrary, communities have been supported through programs and incentives the project proponent has instigated. Several social and environmental projects have been developed within the project area since the beginning of activities in 2001, however all these activities did not affect in anyway the ownership of the land or right to use natural resources by local communities. In a separate issue, in 2005 and 2006 the Brazilian Government issued two decrees to acquire part of three of the properties, Fazenda Lado do Jacaré, Brasiliero and São Domingos, in order to use them as extractivist reserves, a kind of protected area. Although the property owner, Lap Chan, was willing to sell the properties, the payment to acquire them was never received. Both Reserves were created based on social interest for disappropriation purposes. Law number 4,132/62 regarding disappropriation provides for a timeframe of 2 years for indemnification to be provided to the proprietor, otherwise the decree lapses. Ecomapuá has not received neither land tenure immission, nor declaration of expropriation, or payment of compensation since the creation of these Reserves. Thus, the decrees of social interest that authorized the creation of both Extractive Reserves had their effects ceased on 21-May-2007 (Mapuá) and 06-June-2008 (Pracuúba). Furthermore, the land tenure and the ownership of environmental assets (carbon rights) were addressed by lawyer Dr. Celso Coccaro for the present REDD project activity. After a vast analysis of the circumstances involving this issue, his team concluded that the Federal Decrees that created both Extractive Reserves lost their effects due to expiration, according to the biennial term established by Law 4,132/62. In addition, the REDD carbon project implemented by Ecomapuá Conservação Ltda., which has been active for more than 18 years, is compatible and fully inserted in the idea of extractive protection, being in line with Extractive Reserves objectives. Therefore, project ownership is demonstrated by property right of the land, which assures that conservational process that generates GHG emission reductions and/or removals are from Ecomapuá Conservação Ltda. ownership. In this regard, it is not considered that there is a current land dispute.	
d)	*There exist disputes over access/use rights (or overlapping rights)* Within the project area, extraction of non-timber forest products (NTFPs) as well as timber is carried out by the residents. As diagnosed by the FADESP 2002 report, products extracted include timber, rubber, açaí and palm heart, as well as hunting and fishing. The extraction of timber and palm heart is not officially licensed, and as such there exists a dispute about access rights in the properties. However,	5

	compared to the initial assessment of the first monitoring period, lower values for timber extraction are encountered for the second monitoring period, probably due to the activities implemented in the project area since the project's initiation, which reduced deforestation. Palm-heart, being an illegal activity as well, similarly decreased. Meanwhile the values for açaí collection are increasing, given that this is a legal activity which is encouraged in the project area. It is important to note that açaí-related activities are not a deforestation agent as they do not cause trees to be cut down. On the other hand, açaí production has been positively correlated with forest conservation in a study of Pará state[10]. In 2014, Ecomapuá structured the COAMA cooperative, which is formed by community members living within the project area region. Several coursed were given to the members about best practices on organic production: fertilization, forest conservation, security, cleanness, storage and transportation. In 2015, Ecomapuá obtained the açaí organic certification for the COAMA cooperative, which promoted the sustainable and organic agriculture of açaí in the region. This knowledge has brought a significant improvement in the practices adopted by the community. Therefore, although disputes over access/use rights still exist within the project area, this risk decreased when compared to the first monitoring period due to initiatives taken by the project proponent.	
e)	*WRC projects unable to demonstrate that potential upstream and sea impacts that could undermine issued credits in the next 10 years are irrelevant or expected to be insignificant, or that there is a plan in place for effectively mitigating such impacts.*	Not applicable
f)	***Mitigation:*** *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* Ecomapuá Conservação Ltda. was created on 19-July-2001, with the following goals described in ther Social Contract: "conservation of forests" and "development of sustainable development projects, clean development mechanisms, carbon sequestration". The REDD carbon project implemented by Ecomapuá Conservação Ltda. is compatible and fully inserted in the idea of extractive protection i.e. protected area, being in line with Extractive Reserve objectives. Ecomapuá has common objectives with both RESEX (Mapuá and Terra Grande Pracuúba) regarding the generation of alternative income sources for communities living in the region. Therefore, project area is protected by legally bindings commitment to continue management practices	0

[10] Almeida et al. (2010), "Potencial para conservação do açaí: uma análise da produção de açaí e desmatamento no estado do Pará." In: 62 Reunião Anual da SBPC, 2010, Natal. Ciência do Mar: herança para o futuro. Natal: SBPC.

	that project protect carbon stocks over the length of the project crediting period.	
g)	***Mitigation:*** *Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims* As described in the aforementioned 2002 FADESP study, 99 families lived in the project area at the time of project start date in 2002, of which 38 were interviewed. **Table 1.** Number of families living in the project area in 2002 The objective of the project presented in the FADESP report was to retake control of coordinating production activities in the communities, via a sustainable development program which was implemented by the ITCPES / UFPA team in conjunction with Nova Amafrutas fruit company, as of April 2002. Two seminars were held, on the 6th April 2002 and 3rd/ 4th May 2002, in the Breves House of Culture, which some 50 and 200 people attended, respectively, including 40 residents of the area. This, particularly, helped to clarify Ecomapuá's good intentions to the residents. Beyond the actions described above, a sustainable family agriculture project called "Projeto Fome Zero" was implemented by the Instituto Amazônia Sustentável (IAS) NGO in conjunction with UFRA and Petrobrás, starting in 2005 and continuing in the two subsequent years. One of the project's main aims is to resolve access/use rights relating to natural resources disputes by implementing, as described in the the Fome Zero project's mission statement, a viable and replicable model of capacity building for family agriculture, through improvement of infrastructure and techniques relating to sustainable forest use, in order to create permanent and temporary jobs for the local community.	-2

Property name	Number of families	Number of families interviewed
Fazenda Brasileiro	04	04
Comunidade Bom Jesus	17	14
São Domingos	07	0
Fazenda Lago do Jacaré	50	0
Comunidade Vila Amélia	21	20

	Furthermore, two tree nurseries were constructed (2007 and 2014) in the project area, where the community is responsible for the production of seedlings, focusing on native species with high commercial value. The 2010 University of Georgia project, "Developing a Program for Natural Resource Education on Ilha Marajó, Pará, Brazil", students from UG worked together with the teacher at two community schools: São Benidito and Bom Jesus. Together they developed a program for children of the community which would also become a part of the larger adult education program. In 2014 and 2015, Ecomapuá structured the community cooperative named COAMA and obtained the organic certification of the açaí. Since the beginning of 2017, Ecomapuá has been performing a monthly financial donation for the main school in the region: Casa Familiar de Breves, for the purpose of buying food for students, essential to maintain the school's functioning. 80 students are benefited. As previously mentioned, the project also applies SOCIALCARBON® standard which use six indicators to monitor social, environmental and other aspects of the project, and track their progress across time. This will provide, for example, the incentive for the sustainable practices of the Fome Zero project to continue across time, and destructive use of NTFPs and timber to diminish. Furthermore, the project proponent organized several a stakeholder consultation in Breves municipality and within the project area, to which the communities within and surrounding the project area were invited, and community representatives attended. Information leaflets, a presentation and a question and answer session took place, which will allow for the project to improve upon issues affecting the community.	
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)] Total may not be less than zero.		3

Community Engagement		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted*	0

	It is assumed for the calculations involving project area communities below, that 100% of households in the project area are reliant on the latter for subsistence, as they are agro-extractivist peoples[11,12]. Consultations with representatives of four out of five communities within the project area have been carried out. The FADESP (2002)[13] socio-economic study which took place in the project area, aimed to consult 100% of project area families. However, in fact the Lago do Jacaré and São Domingos communities (see table 1) residents chose not to participate, nonetheless, their opinion was sought and their concerns were noted in the report. Furthermore, as stated above, several stakeholder consultations were held, which community representatives attended. These sessions allowed the real issues affecting the communities to be raised, and addressed across the project lifetime, further strengthening community communication and project quality. In addition to this direct consultation with the households, the Mayor, Deputy Mayor and his secretariat were consulted between April and September 2002[14], these individuals are the legal representatives of the population of Breves municipality, where approximately 60% of the project area is located. Therefore, it is concluded that over 50% of households living within the project area, who are reliant on the project area have been consulted.	
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* As above, it is assumed for the calculations involving reference area communities that 100% of households are reliant on land for subsistence, however it is known that agricultural activities involve little mobility, so households living outside the project area[15] will tend to be reliant on areas outside the project area.	0

[11] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

[12] HERRERA, J. A. (2003), "Dinâmica e desenvolvimento da agricultura familiar: o caso de Vila Amélia – Breves, PA. Dissertação de mestrado. Universidade Federal do Pará."

[13] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

[14] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

[15] Interview: D. Meneses (23.11.12), who work in The Chico Mendes Institute of Biodiversity Conservation (ICMBio) executing programs that involves research, protection, preservation and conservation of biodiversity, as well as exercising the power of environmental police for the protection of Brazilian Conservation Areas.

	Consultations with the surrounding community have been carried out, specifically through the "Fome Zero 2003" program, however this is estimated not to amount to 20% of total households within 20km of the project area. However, as described, the Mayor, Deputy Mayor and his secretariat were consulted in 2002[16], and these individuals are the legal representatives of the population of Breves, where 47% of the reference area is located. Therefore, it is concluded that over 20% of the households reliant on the project area within 20km of the latter have been consulted. In addition, as previously stated, communities were consulted during the February 2013 meeting in the Environmental Agency of Breves Municipality (SEMMA) and in 2014 within the project area. Importantly, the president of the Amorema Association (Associação Amorema) attended, who is the representative of all the Mapuá River communities.	
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* A proportion of funds from the sale of carbon credits will be used for socially and environmentally beneficial programs run by the NGO working in the project area: the Insituto Amazônia Sustentável. Specifically, the "Fome Zero" project will be able to resume its activities in the area, which ceased running in 2006[17]. Activities are wide-ranging, including commercial seed and oil production, as well as aviculture and pisciculture. The mission statement of the Fome Zero projects is: to develop a viable and replicable model of capacity building for family agriculture, through improvement of infrastructure and techniques relating to sustainable forest use, in order to create permanent and temporary jobs for the local community. Besides forest conservation, the present project aims to improve and quantify its social and environmental benefits through application of the SOCIALCARBON® Methodology, which is being carried out during this monitoring period. This methodology is an innovative concept developed by the Ecológica Institute to measure the contribution of carbon projects to sustainability. The SOCIALCARBON® Methodology is based on six main indicators: Biodiversity; Natural; Financial; Human; Social and Carbon Resources.	-5
Total Community Engagement (CE) [where applicable, (a + b + c)] Total may be less than zero.		**-5**

[16] Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP) (2002), 'Comunidades Agroextrativistas do Rio Mapuá – Breves/PA, Diagnóstico Socio-Econômico".

[17] Instituto Amazônia Sustentável (IAS), Universidade Federal Rural da Amazônia (2006), "Projeto piloto de geração de renda e alimento através de produção agrícola familiar e manejo florestal sustentável em comunidades ribeirinhas carentes no Rio Mapuá"

Political Risk		
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**
a)	*Governance score of less than -0.79*	Not applicable
b)	*Governance score of -0.79 to less than -0.32*	Not applicable
c)	*Governance score of -0.32 to less than 0.19* Mean of the 6 World Bank Institute Worldwide Governance Indicators for Brazil the last five available years, between 2012 – 2016, as described in the AFOLU Non-Permanence Risk Tool: - 0.051	2
d)	*Governance score of 0.19 to less than 0.82*	Not applicable
e)	*Governance score of 0.82 or higher*	Not applicable
f)	***Mitigation:*** *Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.* The jurisdiction in which the project is located, that is, Pará, Brazil, is participating in the Governors' Climate and Forest Taskforce (GCF)[18].	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		**0**

External Risk	
Total External Risk (LT + CE + PC) Total may not be less than zero.	**3 – 5 + 0 = 0**

3 NATURAL RISKS

[18] Available at: <https://gcftf.org/member-states/>. Last visited on 10-February-2018.

Natural Risk (e.g., Fire, Pest and Disease outbreaks, Extreme Weather)	
Significance	**Fire** – the significance of fire risk was estimated through an interview with local residents from four different communities within the project region. According to their opinion, fire damage may be considered insignificant because it impacts less than 5% loss of carbon stocks within the project area. **Pest and Disease Outbreaks** – There is no record of any pest and disease outbreak in the project areas of the Ecomapuá Amazon REDD Project, the only areas reported to have any such problems were plantations[19]. The significance of the PD category is therefore = 0. **Extreme Weather** – the significance of extreme weather was determined using a search of the Brazilian National Institute of Meteorology[20]. Wind records during the current monitoring period (2013 – 2017) show that the categories of tropical storm or hurricane were never reached. Furthermore, the significance of fire risk was estimated through an interview with local residents from four different communities within the project region, who reported that the damage of strong winds in forested areas is insignificant (affects less than 5% of carbon stocks). **Geological Risks** – no geological events damaging the project site were reported in the interview[21] or in source searches, therefore the G category significance = 0. **Other Natural Risk** – no other sources of natural risk were identified in interview or literature sources. Therefore, ON category significance = 0.
Likelihood	**Fire** – INPE sources[22] report that Marajó Island is a minimal fire risk area. However, according to the interview conducted with local communities within the project region, the likelihood of fire risk began to be more frequent in the last years. In addition, it was related by the local community from Lago do Jacaré property a forest fire in the 2015 that burned a considerable area near from the centre of the community. Moreover, local communities who live inside the project area commonly use fire to clean the areas for planting manioc. This technique known as *coivara* consists in cleaning the areas in regeneration followed by the use of fire to clean the biomass left in the ground. According to communities 'opinion, the likelihood of fire events within the project region is less than every 10 years.

[19] Interview: Mr Aloísio (27.11.12), community resident in the project area.

[20] INMET: http://www.inmet.gov.br/portal/index.php?r=home/page&page=rede_estacoes_conv_graf

[21] Interview: Mr Aloísio (27.11.12), community resident in the project area.

[22] http://www.inpe.br/queimadas/abasFogo.php

	Pest and Disease Outbreaks – As described above, there are no recorded instances of pest and disease outbreaks within the project area in 100 years. Therefore, PD category likelihood = 0. **Extreme Weather** – the likelihood of extreme weather was determined using a search of the Brazilian National Institute of Meteorology (Breves Station) wind records during the historical reference period (1978 – 2017). During this period, the wind speed has never exceeded 5 m/s, which is significantly below the wind speed for the categories of tropical storm or hurricane[23]. However, according to the interview conducted with local communities within the project region, the likelihood of strong winds causing damage to the forest is less than every 10 years. **Geological Risk** – as well as the absence of any report of geological incidents, described above, the Global Seismic Hazard map[24] places Marajó Island in the lowest category of risk. Therefore, G category likelihood = 0. **Other Natural Risk** – no other sources of natural risk were identified in interview or literature sources. Therefore, ON category likelihood = 0.
Score (LS)	Fire (F) – 2 Pest and Disease Outbreaks (PD) – 0 Extreme Weather (W) – 2 Geological Risk (G) – 0 Other natural risk (ON) – 0
Mitigation	None

Score for each natural risk applicable to the project (Determined by (LS × M)	
Fire (F)	(2 x 1) = 2
Pest and Disease Outbreaks (PD)	(0 x 1) = 0
Extreme Weather (W)	(2 x 1) = 2

[23] National Weather Service (USA): weather categories determined using Saffir-Simpson Hurricane Wind Scale: http://www.nhc.noaa.gov/aboutsshws.php

[24] Global Seismic Hazard Assessment Program (GSHAP): http://www.seismo.ethz.ch/static/GSHAP/.

Geological Risk (G)	(0 x 1) = 0
Other natural risk (ON)	(0 x 1) = 0
Total Natural Risk (as applicable, F + PD + W + G + ON)	**2 + 0 + 2 + 0 + 0 = 4**

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
Internal Risk	6
External Risk	0
Natural Risk	4
Overall Risk Rating (a + b + c)	**10**

4.2 Calculation of Total VCUs

Project year	Ex ante net anthropogenic GHG emission reductions		Ex ante VCUs tradable		Ex ante buffer credits	
	annual ΔREDDt tCO_2e	cumulative ΔREDD tCO_2e	annual ΔVCUt tCO_2e	cumulative ΔVCU tCO_2e	annual ΔVBCt tCO_2e	cumulative ΔVBC tCO_2e
2013	65,678	65,678	59,387	59,387	6,291	6,291
2014	59,690	125,368	53,967	113,354	5,722	12,013
2015	62,718	188,086	56,704	170,058	6,014	18,026
2016	54,077	242,163	48,885	218,943	5,192	23,218
2017	54,093	296,256	48,906	267,849	5,186	28,404
2018	68,231	364,487	61,694	329,543	6,537	34,941
2019	55,731	420,218	50,385	379,928	5,345	40,286
2020	44,097	464,315	39,870	419,798	4,227	44,513

2021	41,196	505,511	37,239	457,037	3,957	48,470
2022	53,074	558,585	47,983	505,020	5,090	53,560
2023	38,402	596,987	34,712	539,732	3,690	57,250
2024	41,373	638,359	37,401	577,133	3,972	61,222
2025	45,772	684,131	41,382	618,515	4,389	65,611
2026	39,193	723,325	35,431	653,946	3,762	69,373
2027	40,781	764,106	36,868	690,814	3,912	73,286
2028	31,621	795,726	28,583	719,397	3,037	76,323
2029	37,816	833,543	34,189	753,586	3,626	79,949
2030	33,974	867,516	30,713	784,299	3,260	83,209
2031	38,686	906,203	34,977	819,276	3,709	86,918
2032	36,121	942,324	32,657	851,933	3,463	90,381