



**Verified Carbon  
Standard**

## NON-PERMANENCE RISK REPORT JARI/AMAPÁ REDD+ PROJECT



**Grupo Jari**



**BIOFÍLICA**

Document Prepared by Biofílica Investimentos Ambientais S.A.

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# CONTENTS

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<b>1</b>	<b>INTERNAL RISK .....</b>	<b>3</b>
<b>2</b>	<b>EXTERNAL RISKS.....</b>	<b>14</b>
<b>3</b>	<b>NATURAL RISKS .....</b>	<b>19</b>
<b>4</b>	<b>OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION..</b>	<b>24</b>
4.1	Overall Risk Rating .....	24
4.2	Calculation of Total VCUs .....	24
<b>5</b>	<b>REFERENCES.....</b>	<b>25</b>

# 1 INTERNAL RISK

Project Management		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<p>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.</p> <p><b>Not applicable.</b></p>	0
b)	<p>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.</p> <p><b>There is ongoing enforcement to prevent encroachment along the whole Project Area and Leakage Belt.</b></p>	2
c)	<p>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).</p> <p><b>Management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities. Description of team members' experience below in item 1.1.</b></p>	0
d)	<p>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.</p> <p><b>Not applicable. Grupo Jari maintain a physical presence in the project site, and the entire team is located less than a day of travel from the project site. Location of management team below in item 1.1..</b></p>	0
e)	<p><b>Mitigation:</b> 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.</p> <p><b>Management team includes individuals with significant experience in AFOLU project design and implementation, and in carbon accounting, under approved GHG programs. Description of team members' experience below in item 1.1..</b></p>	-2

f)	<p><b>Mitigation:</b> Adaptive management plan in place</p> <p><b>1. Encroachment by outside actors and communities within project area (High)</b></p> <p>- Interaction with communities in order to contribute to social and economic development, and reduce the pressure on natural resources and forest cover, according to Fundação Jari's management policy, which encompasses 3 integrated fields of activities:</p> <p style="padding-left: 20px;"><u>(i) Social Management:</u> The mitigation actions are based on strengthening of social inclusion initiatives and social-based organizations. These actions are described in itens: "2.3.3 – Informational Meetings with Stakeholders", "2.3.8 – Continued Consultation and Adaptive Management". "2.3.10 – Stakeholder Participation in Decision-Making and Implementation", "2.3.12 – Grievances", "4.1.3 – Net Positive Community Well-Being", "4.3.1 – Community Management Plan", especially in the items, Technical Chambers, Technical Assistance and Rural Extension (TARE), Workshops and training in agro-extractivist techniques and Development of the Plan for Use of Properties. The Monitored Indicators Table attached to the Monitoring Report v5.0 shows results achieved in these actions according to the previously defined indicators.</p> <p style="padding-left: 20px;"><u>(ii) Business management:</u> The mitigation actions are based on development of work opportunities and income to communities. Information on work opportunities is described in item "2.3.13. Worker Training" and "2.3.14. Community Employment Opportunities". The opportunities offered and fostered by the project generate income directly and indirectly. Additionally, as described in item "4.3.1 - Community Management Plan" - Technical Assistance and Rural Extension (TARE), the TARE actions offered by Fundação Jari are undeniable promoters of income generation and work in the field, unfortunately it was not possible quantify the results in this monitoring period.</p> <p style="padding-left: 20px;"><u>(iii) Environmental Management:</u> The mitigation actions are based on mobilization of communities and community representatives for environmental education and forest conservation. These actions permeate all the work of the Fundação Jari, which is an agent for promoting sustainable development. Examples of these actions are the meetings of the Technical Chambers where the topic of forest conservation is directly addressed, the training, workshops and TARE offered that are focused on sustainable rural and agroextractive production, the procedures for the Prevention and Controlling of Forest Fires, the maintenance of the Xilothèque, among others. The mobilization of communities and community representatives for these actions can be found in the items: "2.3.13</p>	-2
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- Worker Training”, “4.1.3 – Net Positive Community Well-Being”, “4.3.1 - Community Management Plan”, especially in the items Technical Assistance and Rural Extension (TARE), Workshops and training in agro-extractivist techniques, and Xilothèque

For more information about that see document “Jari/Amapá REDD+ Project Monitoring Report v5.0 Of GHG Emission Reductions From Avoiding Unplanned Deforestation From 2014 To 2019”;

- Implementation of a Monitoring Plan, as set out by the document “Jari/Amapá REDD+ Project Monitoring Report v5.0 Of GHG Emission Reductions From Avoiding Unplanned Deforestation From 2014 To 2019 Section 4.3. Community Impact Monitoring”;

- Creation of a regular stakeholders meeting, the Technical Chamber, were stakeholders (communities, government, private sector and NGOs) can discuss general questions about the implementation and results of the project, as well as some special topics such as the ownership of land and technical assistance actions (see view the meeting invitations, presence lists, presentations made, and minutes described).

## **2. Lack of qualified human capital to continue managing the project over time (Medium)**

- Establishment of training and qualification activities over the project lifetime (see procedure in the document “*Sistemática de Treinamento e Desenvolvimento, the evidences of trainings and qualifications offered to the technical teams of Fundação Jari was available for VVB*”);

- Maintenance of continuous interaction with teaching, research and training institutions, such as “*Empresa Brasileira de Pesquisa Agropecuária*” - EMBRAPA/AP and “*Instituto de Extensão, Assistência e Desenvolvimento Rural do Amapá*” (RURAP) – Vitória do Jari & Laranjal do Jari;

## **3. Delay in approving or no approval of plans needed to operate forest management (Multiple Use Forest Management) (Low)**

- Institutional articulation with competent governmental bodies (*Governo do Estado do Amapá, Secretaria do Meio Ambiente – SEMA, Instituto do Meio Ambiente e de Ordenamento Territorial do Estado do Amapá – IMAP, Instituto Estadual de Florestas - IEF*);

- Ongoing monitoring of approval processes by qualified team (professionals with significant experience in forest management and licensing processes), as indicated in item 1.2;

- Implementation of forest management operation following all procedures established by Jari Celulose in order to guarantee technical quality of the

operation, which includes forest operations, workforce management, social impact mitigation, and environmental monitoring (see procedures in the document Monitoring Report v5.0).

It is understood that the adaptive management plan was not carried out as planned, because as described in item 2.2.4 of the Monitoring Report v5.0, forest management did not occur within the monitored period (2014 – 2020) as planned in the PD due to financial difficulties of the Grupo Jari. The start of forest management activities in Amapá only occurred in 2018, when the Grupo Jari decided to outsource the operation to a company with greater expertise in the activity (Agregue), acting in compliance with laws, standards, and the certification guidelines. Independent of the delays that occurred in the execution of the part of the adaptive management plan that refers to the approval of the forest management, this point is considered low risk, and did not cause damage to the progress of the project. Mainly because the measures defined as high and medium risk were fully carried out, understanding that, given the priorities, in the main the measures of the adaptive management plan were implemented with the objective of mitigating the project's internal risks.

**Total Project Management (PM) [as applicable, (a + b + c + d + e + f)]**

Total may be less than zero.

-2

### 1.1. Team members' experience in AFOLU project design and implementation, carbon accounting and reporting:

**Proponent: Augusto Praxedes Neto – Grupo Jari** (Project management and Institutional Relations and Sustainability)

**Location:** Monte Dourado, Almeirim, Pará – Brazil.

Augusto Praxedes has a degree in Business Administration and graduation in Expertise in Auditing and Environmental Management. He has 30 years of experience in agroforestry activities in the Amazon, specifically in the Valley of Jari. He works with Institutional and Governmental Relations for Grupo Jari since the Group assumed control of Jari Celulose's shares, in 2000. He is responsible for the management of the certifications ISO 9001, ISO 14001 and FSC for Jari Florestal and Jari Celulose forest activities, as well as licensing and environmental monitoring. For two years he has been a member of the economic chamber of FSC Brasil, he is president of the Certified Producers Association from Amazon and representative of Grupo Jari in the Sustainable Amazon Forum (FAS, in Portuguese).

**Proponent: Paulo Roberto da Silva – Grupo Jari** (Patrimonial security and land tenure)

**Location:** Monte Dourado, Almeirim, Pará – Brazil.

Business manager, he is post graduated in Corporate Security Management by *Universidade Gama Filho* and has MBA in Environmental Survey, Auditing and Management by *Faculdade Oswaldo Cruz*. He works

for Jari Celulose, Papel e Embalagens since 1984, where he has been leading the Corporate and Land Tenure Security area. Currently, he is the Manager of Forest Control, Land Tenure and Security of Grupo Jari in the Jari region, being responsible for the areas of industrial operations, natural forests and plantations within a total of 1,300,000 hectares, in Para and Amapá States.

**Proponent: Jorge Rafael de Almeida – Fundação Jari** (Social management)

**Location:** Monte Dourado, Almeirim, Pará – Brazil.

Rafael holds a full degree in Pedagogy from *Universidade Federal do Pará* and initiated his post-graduation in Cooperative Production Management from *Universidade Federal Rural de Pernambuco*. He works for Grupo Jari since 2007 as the Coordinator of Social Operations of Fundação Jari, former Fundacao Orsa, at Jari Unit, leading the management of corporate social responsibility programs of Grupo Jari in the Jari region.

**Proponent: Sônia Varela – Fundação Jari** (Social management)

**Location:** Monte Dourado, Almeirim, Pará – Brazil.

Sônia is Environmental Manager with a postgraduate degree in Integrated Environmental Management Systems. He has been part of the Fundação Jari's TARE team for 12 years, now responsible for maintaining the Environmental Certifications and Monitoring and Control of Projects that Fundação Jari develops in the Jari Valley.

**Proponent: Plínio Ribeiro – Bioflica** (Executive Director)

**Location:** São Paulo, São Paulo – Brazil.

Plínio Ribeiro has a degree in Business Administration from *Instituto de Ensino e Pesquisa - INSPER* and a master's degree in Public Administration and Environment from Columbia University and the Earth Institute (USA). He participated in several conservation projects on the lower Rio Negro, through the *Instituto de Pesquisas Ecológicas – IPÊ* since 2005, and was one of the producers of Jean Michel Cousteau's documentary "Return to the Amazon". He works for Bioflica since 2008, where he has already led Project, Operations and Business Management. Currently, he is the Executive Director and shareholder of the company.

**Proponent: Cláudio Pádua – Bioflica** (Scientific Director)

**Location:** Brasília, Distrito federal – Brazil.

Cláudio Pádua has a degree in both Business Administration and Biology, a master's degree in Latin American Studies and a PhD in Ecology from the University of Florida in Gainesville (USA). A retired professor from the University of Brasilia, Pádua is currently the dean of the *Escola Superior de Conservação e Sustentabilidade* and the vice-president of the *Instituto de Pesquisas Ecológicas (IPÊ)*. He

is also a Senior Associate Researcher at the Center for Environment and Conservation Studies at Columbia University (USA) and an International Conservation Director at the Wildlife Trust Alliance, as well as an advisor to the Brazilian Biodiversity Fund (FUNBIO) and WWF Brazil. Pádua represents Brazil before the International Advisory Group (IAG) of the G7 Pilot Program. In 2003, together with his wife, Suzana Pádua, he was appointed by Time Magazine a "Hero of the Planet" for his activities on behalf of biodiversity conservation. Between 1997 and 2007, he won six conservation awards, and three national and three international ones. Pádua has published two books and over 30 papers in scientific journals, both national and international. Since 2008 directs the involvement and scientific production of Biofílica as Scientific-Director and advisor.

**Proponent: Paula Conde – Biofílica** (Financial and Administrative Analyst)

**Location:** São Paulo, São Paulo – Brazil.

Paula Conde has a degree in Business Administration from São Luís - PUC and post graduate degree in Accounting and Financial Management from FAAP. She has large experience, most of it in one of the largest media and educational group in Latin America – *Editora Abril*, where she worked with Finance Control and Reporting, Treasury, Accounting and Financial Reconciliation, Accounts Payable & Receivable and Royalties. At Biofílica, she is responsible for administrative and financial activities, logistical support to the team and to projects.

**Proponent: Caio Gallego – Biofílica** (Project Coordinator)

**Location:** São Paulo, São Paulo – Brazil.

Caio Gallego is a Forest Engineer graduated from ESALQ-USP. Specialist in geoprocessing and remote sensing aimed at environmental conservation area, mapping and analysis of changes in land use. Has knowledge facing the Sustainable Forest Management, environmental modeling and the use of alternative GIS for forestry and agribusiness. Has advanced knowledge in the use of GIS softwares and analysis of change on the land use and land cover as ArcGIS, QuantumGIS and DinâmicaEGO.

**Proponent: Luana Cordeiro – Biofílica** (Projects Analyst)

**Location:** São Paulo, São Paulo – Brazil.

Luana Cordeiro is a Forestry Engineer graduated from USP – ESALQ and Technical in the Environment formed by the State Technical School of São Paulo. During the graduation was coordinator of the environmental suitability group of Campus Piracicaba in the planning, implementation and monitoring of restored areas, and coordinator of the social entrepreneurship group Enactus, developing social projects in Piracicaba (SP). Developed in her project a Model of Solid Waste Management Plan for Sawmills of Native Species, focusing on the sustainable production of the timber sector in the Amazon.

**Proponent: Susane Rasera – Biofílica** (Projects Analyst)

**Location:** São Paulo, São Paulo – Brazil.

Forest Engineer with a master's degree in Forest Resources, both from the University of São Paulo (ESALQ Campus). She has experience in Forest Ecosystem Conservation, mainly on Forest Restoration and forest biomass and carbon allocation. She is currently a REDD+ Project Analyst and takes a specialization course in Ecological Restoration.

**Proponent: Fernanda dos Santos Rotta – Biofílica** (Legal aspects)

**Location:** São Paulo, São Paulo – Brazil.

Fernanda is bachelor's in law from Mackenzie University with MBA in Sustainability Management from FGV-EAESP and specialization in Administrative Law from PUC/COGEAE. Fernanda studied at the universities of Siena (Italy) and Vermont (USA), in the fields of international environmental law, conservation and sustainability. At Biofílica, she has a strong presence in projects and cases focused on the implementation of the New Forest Code, REDD+ mechanisms and climate and forest policies. She has worked in highly reputed law firms (*Mattos Filho Advogados* and *Nascimento e Mourão Advogados*) in the areas of environmental law and real estate, and was a trainee at *Instituto Socioambiental*, in the environmental law area. Also participated in the compilation of projects and legislative analysis by *Centro de Estudos em Sustentabilidade* (GVces) on the theme Adaptation to Climate Change and by the International Finance Corporation - IFC on the subject of biodiversity and benefit sharing (ABS), among others.

**Development partner: Amintas Brandão – Imazon** (Land-use and land-use change modeling)

**Location:** Belém, Pará – Brazil.

Amintas Brandão Jr. is an Environmental Engineer that graduated from *Universidade Estadual do Pará*. He also specialized in Statistics from *Universidade Estadual do Pará* and received his master's degree in Geographic Information System for the Development and Environment from Clark University (USA). Since 2003 he holds a position of researcher for Imazon and he is a member of the Centre of Geo-technologies of Imazon (CGI). In CGI his researches are focused on environmental modeling, spacial analysis and systems for decision support. His most recent studies include the deforestation modeling in the north stream of the Amazonas river in the State of Pará (master dissertation), as well as indirect deforestation modeling caused by the construction of the Hydroelectric Power Plant Belo Monte (State of Pará). Besides those activities, he collaborates with several Imazon projects on spacial analysis, raises financial resources and qualifies people in geo-technology tools.

**Development partner: Márcio Sales – Imazon** (Carbon stock and emissions accounting)

**Location:** Belém, Pará – Brazil.

Márcio Sales has a BSc. in Statistics from the *Universidade Federal do Pará* and a MA in Geography with emphasis in Geostatistics at the University of California at Santa Barbara. His Master's thesis focused on the mapping of forest biomass and estimates of uncertainty in emissions inventories and C for the Amazon. He is a researcher at the *Instituto do Homem e do Meio Ambiente da Amazonia* – Imazon since 2002 and conducts research on geostatistical modeling applied to mapping biomass, and deforestation risk forecast His most recent works include the modeling of uncertainty in CO2 emissions and estimates of the annual risk of deforestation in the Amazon. He also collaborates on several projects with statistical analysis applied to several research lines at the Institute.

**Specialist responsible for the Biodiversity monitoring: Antônio Fernando de Gaspari – Ambiens**  
(Biodiversity Monitoring Coordinator)

**Location:** São Paulo, São Paulo – Brazil.

Antônio Fernando holds a degree in Biological Sciences from the *Universidade de Santo Amaro* (1988). He has been working in the area of environmental consultancy since 1997, and has experience in environmental licensing, fauna and flora diagnosis and survey, wildlife monitoring and management, environmental viability plans, “EAS”, “RAP”, “EIA RIMA”, projects for zoos and animal breeding, among others. With experience in environmental projects, survey and evaluations of biodiversity and natural resources. And has performed several licensing and planning works, with experience in surveys, management and rescue of fauna and flora. He is currently director and managing partner of *Ambiens Soluções Ambientais*.

## **1.2. Team's members experience in forest management process:**

**Rafael Endler – Agregue** (Consulting Forest Engineer)

**Location:** Macapá, Amapá – Brazil

Forest Engineer with experience in the development and execution of more than 50 Sustainable Forest Management Plans, among them the 02 (two) largest in Brazil, with more than 200 thousand hectares, he has developed dozens of Vegetal Suppression Plans, in cerrado (savannah) areas, and Amazon forest, for the most diverse sectors such as agriculture, roads, and port area. He has extensive knowledge about environmental licensing, with the most diverse elaboration of projects, such as Environmental Control Plan, Environmental Control Report, Neighborhood Impact Study, Solid Waste Management Plan, Simplified Environmental Report, among others. Currently, he works as a consultant for the company Agregue Indústria e Transporte LTDA, preparing and executing the Sustainable Forest Management Plan and the Annual Operational Plans, developing the licenses for the port of loading and unloading of inputs, and mainly, acts as a consultant in all the company's procedures with the environmental departments and institutions.

**Madson dos Santos Martins – Agregue (Forest Engineer)**
**Location:** Monte Dourado, Pará – Brazil

Degree in Forest Engineering from *Universidade do Estado do Amapá* (2013), completing Specialization in Precision Forest Management at the *Universidade Federal do Paraná* (2018). Was Forest Engineer assistant in the company FRM-Brazil during the year 2014 to 2015, being responsible for the activity of 100% Forest Inventory in a SFMP in the State of Pará being team manager, facing the forestry activities, supervising the activities. Worked for 1 year (2015 to 2016) in the company Jari Florestal S/A, being Forest Engineer responsible for supervising and monitoring pre-exploration, exploratory and post-exploration operations, having experience in Management of Forest Resources, with emphasis on Silviculture of Natural Forests, Forest Inventory, Forest Exploration. Currently, is Forest Engineer at AGREGUE Indústria, acting in the supervision and monitoring of SFMP activities in the State of Amapá.

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  <b>Not applicable.</b>	0
b)	Project cash flow breakeven point is between 7 and up to less than 10 years from the current risk assessment  <b>Not applicable.</b>	0
c)	Project cash flow breakeven point between 4 and up to less than 7 years from the current risk assessment  <b>Not applicable.</b>	0
d)	Project cash flow breakeven point is less than 4 years from the current risk assessment  <b>According to the Financial Analysis prepared for the Project Validation (Modelo REDD JARI AMAPA_adicionalidade e risco_CCBS_20150720), the project cash flow breakeven point is 5,18 years. So considering that the project started in 2011, the breakeven point falls in 2016.</b>	0
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven  <b>Not applicable.</b>	0

f)	<p>Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven</p> <p><b>Project has secured 15% (15% to less than 40%) of funding needed to cover the total cash out before the project reaches breakeven as stated by the Financial Analysis (Modelo REDD JARI AMAPA_adicionalidade e risco_CCBS_20150720).</b></p>	2
g)	<p>Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven</p> <p><b>Not applicable.</b></p>	0
h)	<p>Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven</p> <p><b>Not applicable.</b></p>	0
i)	<p><b>Mitigation:</b> Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven</p> <p><b>Not applicable.</b></p>	0
<p><b>Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)]</b></p> <p>Total may not be less than zero.</p>		2

Opportunity Cost		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<p>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</p> <p><b>Not applicable. The most of baseline activities over the length of the project crediting period are subsistence-driven, as set out by the document Project Description Section 2 – 2.4. Net positive community impacts are demonstrated in the Monitoring Report 5.0 Section 4 – 4.1.1. such as by the results of the priority projects for the initially involved families, technical assistance (TARE), and training offered by the Project to the communities.</b></p>	0
b)	<p>NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities</p> <p><b>Not applicable.</b></p>	0

c)	<p>NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities</p> <p><b>Not applicable.</b></p>	0
d)	<p>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</p> <p><b>The most of baseline activities over the length of the project crediting period are subsistence-driven, as set out by the document Project Description Section 2 – 2.4. Net positive community impacts are demonstrated in the Monitoring Report v5.0 Section 4 – 4.1.1. such as by the results of the priority projects for the initially involved families, technical assistance (TARE), and training offered by the Project to the communities.</b></p>	0
e)	<p>NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity</p> <p><b>Not applicable.</b></p>	0
f)	<p>NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity</p> <p><b>Not applicable.</b></p>	0
g)	<p><b>Mitigation:</b> Project proponent is a non-profit organization</p> <p><b>Not applicable. All project proponents are for-profit organizations.</b></p>	0
h)	<p><b>Mitigation:</b> Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity)</p> <p><b>Not applicable.</b></p>	0
i)	<p><b>Mitigation:</b> 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)</p> <p><b>The entire project area is protected by the Brazilian Forest Code (Law n° 12.651 of 2012/05/25) as legal reserve and it must be designed to sustainable use and exploitation of forest. According to the Brazilian Forest Code 80% of rural properties located at Amazon Biome should be designed as legal reserve and only sustainable use of its forest are allowed. Jari Group manage eucalyptus plantations on 20% of the land, and on it legal reserve (other 80%) it aims to develop sustainable</b></p>	-8

	management and develops the REDD+ project. For confirmation purposes, the property's Rural Environmental Registry (CAR) and the document "CAR14-Esclarecimento-ReservaLegal-ProjetoREDD+" were presented as evidence to the VVB.	
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)]		-8
Total may be less than 0.		

Project Longevity		
a)	Without legal agreement or requirement to continue the management practice  <b>Not applicable.</b>	0
b)	With legal agreement or requirement to continue the management practice  The entire project area is protected by the Brazilian Forest Code (Law n° 12.651 of 2012/05/25) as legal reserve and it must be designed to sustainable use and exploitation of forest. According to the Brazilian Forest Code 80% of rural properties located at Amazon Biome should be designed as legal reserve and only sustainable use of its forest are allowed. Jari Group manage eucalyptus plantations on 20% of the land, and on it legal reserve (other 80%) it aims to develop sustainable management and develops the REDD+ project. For confirmation purposes, the property's Rural Environmental Registry (CAR) and the document "CAR14-Esclarecimento-ReservaLegal-ProjetoREDD+" were presented as evidence to the VVB.	15
Total Project Longevity (PL)		0
May not be less than zero		

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

## 2 EXTERNAL RISKS

Land Tenure and Resource Access/Impacts		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<p>Ownership and resource access/use rights are held by same entity(s)</p> <p><b>No. The ownership of the land is held by the same entity (Grupo Jari), as set out by the document Monitoring Report v5.0 Sections 2.5.1 and 2.5.5. However, Grupo Jari recognizes the right to resources access, such as Brazil nut, held by the local extractive communities.</b></p>	0
b)	<p>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)</p> <p><b>Not applicable.</b></p>	2
c)	<p>In more than 5% of the project area, there exist disputes over land tenure or ownership</p> <p><b>Not applicable. There no exist disputes over land tenure or ownership, as set out by the Sections 2.5.1 and 2.5.5 of the Monitoring Report v5.0. Another way found to prove the non-existence of these conflicts is the fact that the environmental agencies have been issuing environmental licenses and logging permits to the Grupo Jari all these years, such as the forest management licenses for the project area made available to VVB.</b></p>	0
d)	<p>There exist disputes over access/use rights (or overlapping rights)</p> <p><b>Not applicable. There no exist disputes over access/use rights (or overlapping rights), as set out by the Sections 2.5.1 and 2.5.5 of the Monitoring Report v5.0.</b></p>	0
e)	<p>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</p> <p><b>Not applicable.</b></p>	0
f)	<p><b>Mitigation:</b> 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</p> <p><b>The entire project area is protected by the Brazilian Forest Code (Law nº 12.651 of 2012/05/25) as legal reserve and it must be designed to sustainable use and exploitation of forest. According to the Brazilian Forest Code 80% of rural properties located at Amazon Biome should</b></p>	-2

	<p>be designed as legal reserve and only sustainable use of its forest are allowed. Jari Group manage eucalyptus plantations on 20% of the land, and on it legal reserve (other 80%) it aims to develop sustainable management and develops the REDD+ project. or confirmation purposes, the property's Rural Environmental Registry (CAR) and the document "CAR14-Esclarecimiento-ReservaLegal-ProyectoREDD+" were presented as evidence to the VVB.</p>	
g)	<p><b>Mitigation:</b> 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</p> <p><b>Not applicable. There no exist disputes over land tenure, ownership or access/use right.</b></p>	0
<p><b>Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)]</b></p> <p>Total may not be less than zero.</p>		0

Community Engagement		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<p>Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted</p> <p><b>100 percent of communities and nearly 100 percent of households living within the project area who are reliant on the project area were consulted. The evidence from the consultation was presented to the VVB.</b></p>	0
b)	<p>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</p> <p><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, representatives have been consulted. Although, all the communities (and families) living within the project zone were consulted. The evidence from the consultation was presented to the VVB.</b></p>	5
c)	<p><b>Mitigation:</b> The project generates net positive impacts on the social and economic well- being of the local communities who derive livelihoods from the project area</p>	-5

	Net positive community impacts are demonstrated in the Monitoring Report v5.0 Section 4.1.3.	
	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)	Governance score of less than -0.79 <b>Not applicable.</b>	0
b)	Governance score of -0.79 to less than -0.32 <b>Not applicable.</b>	0
c)	Governance score of -0.32 to less than 0.19 <b>Governance score of -0.15 (-0.32 to less than 0.19). Data from World Bank Institute and calculations on table below.</b>	2
d)	Governance score of 0.19 to less than 0.82 <b>Not applicable.</b>	0
e)	Governance score of 0.82 or higher <b>Not applicable.</b>	0
f)	<p><b>Mitigation:</b> Country implementing REDD+ Readiness or other activities such as:</p> <p>a) The country is receiving REDD+ Readiness funding from the FCPF, UN-REDD or other bilateral or multilateral donors</p> <p>b) The country is participating in the CCBA/CARE REDD+ Social and Environmental Standards Initiative</p> <p>c) The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce</p> <p>d) The country has an established national FSC or PEFC standards body</p> <p>e) The country has an established DNA under the CDM and has at least one registered CDM A/R project</p>	-2

<ul style="list-style-type: none"> <li>- Brazil is participating in the CCBA/CARE REDD+ Social and Environmental Standards initiative 2 (<a href="http://www.redd-standards.org/">http://www.redd-standards.org/</a>);</li> <li>- Amapá State is participating in the Governors' Climate and Forest Taskforce – GCF (<a href="http://www.gcftaskforce.org/">http://www.gcftaskforce.org/</a>);</li> <li>- Brazil has established national FSC standard body (<a href="https://ic.fsc.org/en/document-center/id/180">https://ic.fsc.org/en/document-center/id/180</a>; <a href="http://www.fsc.org.br">http://www.fsc.org.br</a>); and</li> <li>- Brazil has established Designated National Authority under the CDM and has three registered CDM Afforestation/Reforestation projects (<a href="http://cdm.unfccc.int/">http://cdm.unfccc.int/</a>).</li> </ul>	
<b>Total Political (PC) [as applicable ((a, b, c, d or e) + f)]</b> Total may not be less than zero.	<b>0</b>

Governance Indicator	Year	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)	Mean of Governance Scores across years
Control of Corruption	2014	46,6	-0,34	-0,40
	2015	42,8	-0,40	
	2016	42,8	-0,38	
	2017	36,1	-0,53	
	2018	40,4	-0,40	
	2019	42,3	-0,33	
Government Effectiveness	2014	47,6	-0,14	-0,24
	2015	48,1	-0,18	
	2016	46,6	-0,17	
	2017	41,8	-0,29	
	2018	36,1	-0,45	
	2019	43,8	-0,19	
Political Stability No Violence	2014	42,9	-0,07	-0,36
	2015	34,3	-0,33	
	2016	31,9	-0,38	
	2017	30,5	-0,42	
	2018	32,4	-0,39	
	2019	24,8	-0,55	
Regulatory Quality	2014	51,4	-0,08	-0,18
	2015	48,1	-0,19	
	2016	46,6	-0,21	
	2017	51,4	-0,11	
	2018	39,9	-0,32	
	2019	48,1	-0,18	

Rule of Law	2014	56,3	-0,05	-0,18
	2015	51,4	-0,15	
	2016	49,0	-0,16	
	2017	43,3	-0,28	
	2018	44,7	-0,25	
	2019	47,6	-0,18	
Voice and Accountability	2014	62,1	0,47	0,43
	2015	62,1	0,46	
	2016	62,1	0,45	
	2017	61,6	0,45	
	2018	60,6	0,40	
	2019	58,6	0,34	
<b>Mean of Governance Scores across indicators</b>				<b>-0.15</b>

Reference: KAUFMANN, D.; KRAAY, A., *The Worldwide Governance Indicators (WGI)*. Available on: <<http://www.govindicators.org>>. Access in: June 28, 2020.

External Risk	
<b>Total External Risk (LT + CE + PC)</b>	<b>10</b>
Total may not be less than zero.	

### 3 NATURAL RISKS

Natural Risk Fire	
<b>Significance</b>	<p><b>Insignificant.</b></p> <p>No occurrence of natural fire (i.e., caused by lightening) was registered in the project area. Scientific research suggests that the occurrence of natural fires is rare in the Amazon, what happens is the predominance of anthropogenic fires, related to the human occupation of the area (SCHROEDER et al, 2009). And even considering human caused fires, fire focuses hardly affect more than a couple hectares due to tropical forest humidity.</p> <p>In project area, the human activities are associated with community agricultural practices, using fire to preparation of their crops, that when poorly managed may cause small fire focus. Though, due to natural characterizes of the Amazon forest and the preventions and mitigation measures that are in place this type of loss could damage less than 5% of the carbon stock. Additionally, due to the small proportions and the</p>

	<p>forest characteristics any eventual loss would very likely be recovered within less than 10 years.</p>
<b>Likelihood</b>	<p><b>Less than every 10 years.</b></p> <p>No occurrence of natural fire (i.e., caused by lightening) was registered in the project area. Scientific research suggests that the occurrence of natural fires is rare in the Amazon, what happens is the predominance of anthropogenic fires, related to the human occupation of the area (SCHROEDER et al, 2009).</p> <p>Regarding fires derivate from human action the likelihood is less than every 10 years.</p>
<b>Score (LS)</b>	2
<b>Mitigation</b>	<p>Grupo Jari has a plan of emergency response to forest fires since 2009. This plan is ready to be implemented in case of forest fire occurrence, caused by natural causes or human action (criminal fire, slash-and-burn practices, forest management operation, among others), and includes stationary and mobile surveillance, as well as prevention and fire control procedures (see document “<i>Plano de Atendimento a Emergência a Incêndios Florestais</i>”, in English “<i>Emergence Attendance Plan for Forest Fires</i>”).</p> <p>Additionally, another procedure called “<i>PA – Prevenção e controle de Incêndios Florestais</i>” (in English “<i>Prevention and Controlling of Forest Fires</i>”) that aims to set prevention measures based on two main strategies: Surveillance and Prevention Techniques. Regarding Surveillance the prevention happens through fixed observation towers spread over the operation sites and the surveillance field patrolling. The Prevention Techniques are based on eliminating or reducing the human factor on the fire risk, through implementing and maintaining firebreaks, maintenance of roads and preventive environmental education. This preventive environmental education is a set of activities, mostly informative workshops, aiming to deliver information and necessary instructions to general local population regarding basic knowledge on protecting the forest and avoiding forest fires. Along with the informative workshops there are also written material and audiovisual resources elaborated with this end. Besides all this the procedures also indicates essential points regarding fire controlling and fighting, such as, necessary equipment, fighting methods, and safety measures.</p> <p>Fire Prevention and Control Prevention has proven to be effective: CIFOR during its research under the Global Comparative Study on REDD+ demonstrated that farmers that were trained on “<i>Fire prevention and Control Techniques</i>” by Grupo Jari were effectively preventing and controlling fire.</p>

According with Jari's Department Institutional Relations and Sustainability, consistently with the information provided, there were no registry of considerable damage from forest fire in the Native Forest (Project Area) and the fire brigade didn't have to engaged.

Natural Risk Pest and Disease Outbreaks	
<b>Significance</b>	<p><b>Not applicable.</b></p> <p>No occurrence of pest and disease outbreaks was registered in the project area for the native forest. The Amazon Biome is an extremely old ecosystem, thus very well adapted and ecologically balanced. Pest and disease outbreaks normally occur in artificial ecosystems, such as forest plantations, or low diverse forests. (NAIR, 2001)</p> <p>According to the Food and Agriculture Organization of the United Nations (FAO, 2001) "a fundamental concept of ecosystem dynamics is that as diversity increases, so does stability". It states that the greater the number of species within an ecosystem the greater are the checks and balances that prevent disturbances from one species, as pest and disease, to the point where other ecosystem components are threatened. As an example, it mentions that in a tropical rainforest, as a complex ecosystem with a thousand of plants occupying a single unit of area, the population of a host specific will find only a limited amount of suitable host material and its number will remain stable.</p> <p>The same thing doesn't occur in forest plantation or even many natural forests in the northern hemisphere boreal and temperate zones, due to their diversity and stability, tend to perform as a much simpler ecosystem when compared to tropical forests, and therefore more susceptible to outbreaks of insects.</p> <p>In that sense Grupo Jari has procedures to deal with pest and outbreak diseases regarding its planted eucalyptus forests, those most usual in the region that attacks forest plantation: ants, caterpillars and weeds.</p>
<b>Likelihood</b>	<p><b>Not applicable.</b></p> <p>No occurrence of pest and disease outbreaks was registered in the project area for the native forest. The Amazon Biome is an extremely old ecosystem, thus very well adapted and ecologically balanced. Pest and disease outbreaks normally occur in artificial ecosystems, such as forest plantations, or low diverse forests. (NAIR, 2001).</p>
<b>Score (LS)</b>	0
<b>Mitigation</b>	<p><b>None.</b> Since there is no identified risk of natural (or unnatural) pest and disease outbreak to the tropical forest, there is no mitigation plan. However, considering the risk of pest and disease outbreak in the</p>

eucalyptus plantation, Grupo Jari has a set of procedures to prevent and mitigate this risk. The most important ones are: “PA – Controle de Formigas”, “PA – Controle de Lagartas” e “PA - Aplicação de Herbicidas”, they aim to prevent and control ants, caterpillars and weed.

Natural Risk Extreme Weather	
<b>Significance</b>	<p><b>Insignificant.</b></p> <p>According to Lewis et al. (2011), the largest drought of the last 100 years in the Amazon was recorded in 2010. This drought can cause, in 2010 and following years, the release of 5 billion tons of CO<sub>2</sub> into the atmosphere (less than 1% of carbon stocked in the Amazon), due to biomass decomposition be a gradual and slow process.</p>
<b>Likelihood</b>	<p><b>Once every 100 years.</b></p> <p>According to CEPED (2012), the greatest occurrence of disasters in the northern region of Brazil is related to rainfall. Other disasters related to droughts, forest fires, erosions and windfalls occur in smaller proportions. Historically, the southern regions of the country are marked by the occurrence of major disasters, among the municipalities most affected by various disasters in Brazil, none are in the state of Amapá. Atypical disasters in the northern region registered in the state are outside the Project Reference Region, which makes the probability of this type of disaster occurring in the Project Area almost non-existent. For extrapolation, the likelihood for tornado occurrence in the Project Area in 100 years is zero.</p>
<b>Score (LS)</b>	0
<b>Mitigation</b>	<p><b>None.</b> Since there is a very low likelihood associated with an insignificant significance there is no mitigation plan.</p>

Natural Risk Geological Risk	
<b>Significance</b>	<p><b>Not applicable.</b></p> <p>No occurrence of geological events related to earth internal (tectonic movements such as earthquakes and volcanoes eruptions) or external dynamic (such as landslides) was registered in the project area or in literature sources (TOMINAGA et al, 2009).</p>
<b>Likelihood</b>	<p><b>Not applicable.</b></p> <p>No occurrence of geological events related to earth internal (tectonic movements such as earthquakes and volcanoes eruptions) or external</p>

	dynamic (such as landslides) was registered in the project area or in literature sources (TOMINAGA et al, 2009).
<b>Score (LS)</b>	0
<b>Mitigation</b>	<b>None.</b> Since there is no geological risk there is no mitigation plan.

#### Natural Risk: Forest Blowdown

<b>Significance</b>	<p><b>Insignificant.</b></p> <p>According the article developed by Espírito-Santo (2010), blowdowns occurring in the Amazon region are more frequent in the western region (between longitudes 62 ° and 63.99 °). The Project Area is in the eastern region of the region, where its occurrence is less frequent, although according to Araujo (2013), the state of Amapá is the way of the winds that form blowdowns in the Amazon region.</p>
<b>Likelihood</b>	<p><b>Every 50 to less than 100 years.</b></p> <p>If blowdowns occur on the eastern region of the Amazon, the interval for its occurrence of new phenomena at this location is estimated at around 90 years, while for the western region it is estimated 27 years (ESPÍRITO-SANTO, 2010).</p>
<b>Score (LS)</b>	0
<b>Mitigation</b>	<b>None.</b> Since Forest Blowdown events have a very low probability and represent no loss there is no mitigation plan.

#### Score for each natural risk applicable to the project (Determined by $(LS \times M)$ )

Fire (F)	1
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	0
Geological Risk (G)	0
Other natural risk (ON)	0
<b>Total Natural Risk (as applicable, F + PD + W + G + ON)</b>	<b>1</b>

## 4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

### 4.1 Overall Risk Rating

Risk Category	Rating
Internal Risk	0
External Risk	0
Natural Risk	1
<b>Overall Risk Rating (a + b + c)</b>	<b>10</b>

### 4.2 Calculation of Total VCUs

Project Year	Net anthropogenic GHG emission reductions	Buffer credits	VCUs
2014	219,611	21,961	197,650
2015	308,529	30,853	277,676
2016	316,217	31,622	284,595
2017	313,353	31,335	282,018
2018	302,571	30,257	272,314
2019	273,764	27,376	246,388

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