

NON-PERMANENCE RISK REPORT FOR THE ADPML PORTEL-PARA REDD PROJECT



Document Prepared By Ecosystem Services LLC

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1 INTERNAL RISK

Document and substantiate the risk and/or mitigation for each risk factor applicable to the project. Include any relevant documentary evidence. Where a risk or mitigation is not relevant to the project, please write "Not applicable".

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. The Project will not conduct A/R as an activity. Thus this factor doesn't apply to the risk assessment of the Project	0
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. The Project hasn't been verified and credits haven't been issued. Thus this factor doesn't apply to the risk assessment of the Project	0
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 management team does include individuals with the adequate experience and skills to successfully undertake all project activities. Please refer to Annex I: CVs of the management team. Thus this factor doesn't apply to the risk assessment of the Project	0
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. As soon as the Project gets validated, the management team will implement offices in Belem and in Portel.	2
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. The management team does include individuals with the adequate experience and skills to successfully undertake all project activities. However, the team does not have experience in verification and issuance. These are the projects in which some	0

team members have participated:						
Country	#	Project name	VCS ID	Design	Implementation	Validation
Peru	1	REDD project in Brazil nut concessions in Madre de Dios, Peru	868	GC,PR	PR	PR
	2	Reforestation of pastures in Campo Verde with native species, Pucallpa, Peru	658	GC,PR	PR	PR
	3	The Belgica Native Community REDD project	---	GC		
	4	Concesion de Conservacion Los Amigos	---	GC		
Gonzalo Castro de la Mata			GC			
Pedro Ruiz			PR			
Sources:						
1 and 2: https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=1&t=1						
3 and 4: Che Piu, H., Garcia, T. (2011). "Estudio REDD Peru: La Situacion de REDD en el Peru" (Annex 2 "Summary Table of Identified REDD Projects")						
Please refer to Annex I: CVs of the management team. Thus the Project claims this mitigation factor.						
f)	Mitigation: Adaptive management plan in place. The management team has developed an adaptative management plan and it is presented in Annex II: adaptative management plan					-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's breakeven point happens at the second year as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project	0
b)	Project cash flow breakeven point is between 7 and up to 10 years from the	0

	current risk assessment The Project's breakeven point happens at the second year as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project	
c)	Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment The Project's breakeven point happens at the second year as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project	0
d)	Project cash flow breakeven point is less than 4 years from the current risk assessment The Project's breakeven point happens at the second year as indicated in Annex III: Financial Analysis.	0
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven The Project has secured more than 40% of funds to cover costs before breakeven as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
f)	Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven The Project has secured more than 40% of funds to cover costs before breakeven as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
g)	Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven The Project has secured more than 40% of funds to cover costs before breakeven as indicated in Annex III: Financial Analysis.	1
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven The Project has secured more than 40% of funds to cover costs before breakeven as indicated in Annex III: Financial Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
i)	Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven The Project has available as callable financial resources as indicated in Annex III: Financial Analysis	-2
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)	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 NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis.	8
b)	NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
c)	PV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
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 NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
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 NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis. Thus this factor doesn't apply to the risk assessment of the Project.	0
f)	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity NPV from the most profitable alternative land use activity is more than 100% than that associated with project activities as indicated in Annex IV: Opportunity Cost Analysis. Thus this factor doesn't apply to the risk assessment of the	0

	Project.	
g)	Mitigation: Project proponent is a non-profit organization The Project Proponent is not a non-profit organization. Thus this factor doesn't apply to the risk assessment of the Project.	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 The Project is protected by legally binding commitment from the landowner to continue management practices that protect the credited carbon stocks over the length of the project crediting period as indicated in Annex V: Management Practices.	-2
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 The Project is protected by legally binding commitment from the landowner to protect the Project Area in perpetuity as indicated in Annex VI: Conservation Agreement.	-8
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g or h)] Total may not be less than 0.		0

Project Longevity		
a)	Without legal agreement or requirement to continue the management practice The Project is protected by legally binding commitment from the landowner to protect the Project Area in perpetuity as indicated in Annex VI: Conservation Agreement. Thus this factor doesn't apply to the risk assessment of the Project.	0
b)	With legal agreement or requirement to continue the management practice The Project is protected by legally binding commitment from the landowner to protect the Project Area in perpetuity as indicated in Annex VI: Conservation Agreement. Thus this factor doesn't apply to the risk assessment of the Project.	0
Total Project Longevity (PL) May not be less than zero		0

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

2 EXTERNAL RISKS

Document and substantiate the risk and/or mitigation for each risk factor applicable to the project. Include any relevant documentary evidence. Where a risk or mitigation is not relevant to the project, please write "Not applicable".

Land Ownership 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) Carbon is under control of the Project Proponent as indicated in Annex VII: Carbon Ownership	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) Ownership and resource access/use rights are held by the same entity. Thus this factor doesn't apply to the risk assessment of the Project.	0
c)	In more than 5% of the project area, there exist disputes over land tenure or ownership The Project's Boundary is legally owned private land as proved by the evidence presented during validation. Thus this factor doesn't apply to the risk assessment of the Project.	0
d)	There exist disputes over access/use rights (or overlapping rights) Villagers living within the Project's Boundary do so only on the Leakage Management Area (LMA). The Project Area is only forest area beyond 3Km from the rivers as indicated in the Social Assessment and verified on the ground by the validation team. Furthermore, the Project will grant land-use rights and eventually land titles to those living in the LMA. Thus this factor doesn't apply to the risk assessment of the Project.	0
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. Does not apply to the project.	0

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 The Project is protected by legally binding commitment from the landowner to protect the Project Area in perpetuity as indicated in Annex VI: Conservation Agreement. Thus the Project claims this mitigation factor.	-2
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 There aren't disputes over the land as it has been legally recognized to belong to the landowner as proved by the evidence presented during validation. Thus this factor doesn't apply to the risk assessment of the Project.	0
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e+ f)] Total may not be less than zero.		0

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	10
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	0
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	0
Total Community Engagement (CE) [where applicable, (a+b+c)] Total may be less than zero.		10

Political Risk		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Governance score of less than -0.79	0

b)	Governance score of -0.79 to less than -0.32	0
c)	Governance score of -0.32 to less than 0.19	2
d)	Governance score of 0.19 to less than 0.82	0
e)	Governance score of 0.82 or higher	0
f)	Mitigation: Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.	0
Total Political (PC) [as applicable ((a, b, c, d or e) + f)]		2
Total may not be less than zero.		

External Risk	
Total External Risk (LT + CE + PC)	2
Total may not be less than zero.	

3 NATURAL RISKS

In the area there aren't significant natural risks such as fire, pest and outbreaks, extreme weather, geological risk or other natural risks.

Fire	
Discussion/Evidence	It is well known and documented that natural fires occur only rarely in undisturbed tropical rain forests (Goldammer, 1990)¹ The Project is located in a very humid tropical region (an average 85% relative humidity). Due to the high rainfall in the region, (averaging 2800-3400 mm), the likelihood of devastating fire is very low. Plantations, regenerating forests and reforested areas (monocultures) may be vulnerable to fires but are unlikely to be devastating. The baseline case indicates an increasing deforestation initiated by the degradation generated by illegal logging activities which are known for

¹ Goldammer, J.G. (1990). Fire in the tropical Biota-Ecosystem Processes and Global Challenges. Institute of forest Zoology. University of Frankfurt.

	producing significant damages to forest canopy thus increasing the likelihood of fires (Uhl, Barreto et al. 1997)², and followed by slash and burn activities to deforest and implement pastures. However since 2008 the Project has managed to effectively prevent illegal activities and invaders from encroaching the Project Area, thus there has been no increase in the fragmentation of the forest and the associate risk of fire. Cochrane et al. (2002)³ states that the average interval of return for natural fires in certain areas in the Brazilian amazon range from 10 to 15 years, which at the time of the study (mid 1980's to mid-late 1990's). Another study⁴ carried out in tropical forests states that the emissions resulting from forest fires depend on the extent and condition of fuel sources, with initial burns averaging 8% loss of total biomass stocks, and subsequent more severe burns, with higher, drier fuel loads, resulting in losses of up to 45% of original stocks.
Significance	Minor (5% to less than 25% loss of carbon stocks)
Likelihood	Every 10 to 15 years
Score (LS)	2
Mitigation	Monitoring and enforcement activities carried out since 2008 have shown evidences that no deforestation has occurred in the project area, neither pathways have been opened in the forests. This situation leads the project to state that mitigation measures have been implemented by the proponent. No forest fires have occurred within project's boundaries since its beginnings. Mitigation score: 0,25

Pest and disease

² Uhl, C., P. Barreto, et al. (1997). "Natural Resource Management in the Brazilian Amazon." BioScience 47(3): 160-168.

³ Cochrane M.A. & Laurance W.F., 2002. Fire as a large-scale edge effect in Amazonian forests, Journal Of Tropical Ecology, 18:311-325.

⁴ Cochrane M.A., Alencar A., Schulze M.D., Souza C.M., Nepstad D.C., Lefebvre P. & Davidson E.A., 1999. Positive feedbacks in the fire dynamic of closed canopy tropical forests, Science, 284(5421):1832-1835.

Discussion/Evidence	Several documents point out the high diversity in the tropical forests as the most outstanding characteristic. One single hectare of forest in the Brazilian Amazon may contain 200–300 different tree species⁵ and like other tropical forests in other latitudes these forests are not subject to significant or catastrophic attack by pests or diseases. These kind of disturbance commonly occurs in temperate and boreal forests as well as in plantations, all of which are characterized for presenting low tree species diversity and thus vulnerable to damage due to such outbreaks. There is no historical or occasional register of any catastrophic forest disturbance due to forest pests or diseases in the region.
Significance	Insignificant
Likelihood	No serious cases of pests and diseases attacks have been officially registered. This has led the project to assume this factor as not applicable to the project area.
Score (LS)	0
Mitigation	None Mitigation score: 1

Extreme weather	
Discussion/Evidence	Recurrence intervals for large blow down disturbances such as storms, strong wind disturbances in the eastern Amazon have been estimated at extremely long periods of time (thousands of years)⁶, nevertheless, a conservative estimation will consider the 'likelihood' to be every 10 to 25 years. Loss of carbon stocks (emissions) due to these sorts of events would represent a very small part of the total area. These events do not normally destroy all standing trees but only affect a short number of individuals.
Significance	Insignificant <5% loss of carbon stocks

⁵ Patiño, F. (1997). Genetic resources of Swietenia and Cedrela in the Neotropics. FAO. Section 4.1. Rome, Italy. Available on: <http://www.fao.org/docrep/006/AD111E/AD111E00.HTM>

⁶ Davidson, E., Araújo, A., Artaxo, P., Balch, J., Brown, F., Bustamante, M., Coe, M., DeFries, R., Keller, M., Longo, M., Munger, W., Schroeder, W., Soares-Filho, B., Souza Jr, C., Wofsy, S. (2012) The Amazon basin in transition. Nature V. 481, 321–328. doi:10.1038/nature10943

Likelihood	Every 10 to 25 years
Score (LS)	1
Mitigation	None Mitigation score: 1

Geological risk	
Discussion/Evidence	The Project area is located in a stable geological formation. There are neither volcanoes nor active tectonic fault lines in the project area. The area is mainly composed by flat floodplains where landslides are not likely to occur due to the almost uniform land level ⁷ .
Significance	Minor (5% to less than 25% loss of carbon stocks)
Likelihood	Once every 100 years or more
Score (LS)	0
Mitigation	None Mitigation score: 1

Other risks	
Discussion/Evidence	El Niño Southern Oscillation (ENSO) event may provoke severe droughts in Amazonia, as well as it happens in Southeastern Asia, and Mexico, with large effects on forest fire, net primary productivity, and carbon storage. Severe drought in moist tropical forests provokes large carbon emissions by increasing forest flammability and tree mortality, and by suppressing tree growth. The frequency and severity of drought in the tropics may increase through stronger El Niño Southern Oscillation (ENSO) episodes, global warming, and rainfall inhibition by land use change. However, little is known about the spatial and temporal patterns of drought in moist tropical forests, and the complex relationships between patterns of drought and forest fire regimes, tree mortality, and productivity⁸.

⁷ Instituto de Pesquisas Ecologicas-IPE (2008). PESQUISA, ENVOLVIMENTO COMUNITÁRIO, CONSERVAÇÃO FLORESTAL p.23-28.

⁸ Nepstad, D., Lefebvre, P. et al (). Amazon drought and its implications for forest flammability and tree growth: a basin-wide analysis. Global Change Biology (2004) 10, 704–717

	Even though the literature indicates that a situation like this may occur, there is no official registration of such events for the project area. However, and following the recommendations provided in the AFOLU Non-Permanence Risk Tool, the estimation is quite conservative in terms of happenings.
Significance	Insignificant (less than 5% loss of carbon stocks)
Likelihood	Every 10 to less than 25 years
Score (LS)	1
Mitigation	As mentioned before, monitoring and enforcement activities have avoided the increase of degraded and deforested areas, thus the risk for forest fires related to drought have been mitigated. Mitigation score: 0,25

Score for each natural risk applicable to the project (Determined by $LS \times M$)	
Fire (F)	0.5
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	1.0
Geological Risk (G)	0
Other natural risk (ON)	0.25
Total Natural Risk (as applicable, $F + PD + W + G + ON$)	1.75

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
a) Internal Risk	0
b) External Risk	12
c) Natural Risk	1.75
Overall Risk Rating (a + b + c)	13.75

4.2 Calculation of Total VCUs

Include in this calculation the number of buffer credits to be deposited in the AFOLU pooled buffer account based on the change in carbon stock only. Include any deductions for the AFOLU pooled buffer account, if applicable, to determine the number of GHG credits eligible to be issued as VCU.

The number of buffer credits to be deposited in the AFOLU pooled buffer is 118,865.

Project year <i>t</i>	Baseline carbon stock changes		Baseline GHG emissions		Ex post project carbon stock changes		Ex post project GHG emissions		Ex post leakage carbon stock changes		Ex post leakage GHG emissions		Ex post net anthropogenic GHG emission reductions		Ex post VCUs tradable		Ex post buffer credits	
	annual <i>ACBSLPA_t</i> tCO ₂ -e	cumulative <i>ACBSLPA</i> tCO ₂ -e	annual <i>EBBSLPA_t</i> tCO ₂ -e	cumulative <i>EBBSLPA</i> tCO ₂ -e	annual <i>ACPSPA_t</i> tCO ₂ -e	cumulative <i>ACPSPA</i> tCO ₂ -e	annual <i>EBBPSPA_t</i> tCO ₂ -e	cumulative <i>EBBPSPA</i> tCO ₂ -e	annual <i>ACLK_t</i> tCO ₂ -e	cumulative <i>ACLK</i> tCO ₂ -e	annual <i>ELK_t</i> tCO ₂ -e	cumulative <i>ELK</i> tCO ₂ -e	annual <i>AREDD_t</i> tCO ₂ -e	cumulative <i>AREDD</i> tCO ₂ -e	annual <i>VCU_t</i> tCO ₂ -e	cumulative <i>VCU</i> tCO ₂ -e	annual <i>VBC_t</i> tCO ₂ -e	cumulative <i>VBC</i> tCO ₂ -e
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	(908,162)	(908,162)	(36,738)	(1,806)	(43,692)	(43,692)	(1,806)	(1,806)	-	-	-	-	899,401	899,401	780,537	780,537	118,865	118,865