Joint Crediting Mechanism Approved Methodology KH_AM004 "Reducing deforestation and forest degradation through forest conservation in Cambodia"

A. Title of the methodology

Reducing deforestation and forest degradation through forest conservation in Cambodia, version 1.10

B. Terms and definitions

Terms	Definitions	
Cambodia's official forest	Cambodia's official forest reference level (National FRL)	
reference level (National FRL)	is defined as the most recent and available forest reference	
	level submitted to the UNFCCC secretariat by Cambodia	
	and completed technical assessment by the UNFCCC's	
	assessment team.	
Cambodia's official forest map	A land use and land cover map, endorsed as an official	
	map, named Forest Cover, by the Government of	
	Cambodia. The generation of additional landcover data are	
	expected every 2 years, e.g., Forest Cover 2018 and Forest	
	Cover 2020.	
Forest classes	Classes of forests adopted in the establishment of	
	Cambodia's official forest reference level.	
Transition probability	A probability that a forest class will be changed to another	
	forest class, or be converted, to non-forest, based on the	
	historical pace of transition. Transition probability is	
	between 0 to 1.	

C. Summary of the methodology

Items	Summary
Project activities	The project activities include forest conservation activities such as forest management and community livelihood development, including
	management and community invermood development, including

(emission reduction measures)	agricultural improvement, eco-tourism development, marketing of non- timber forest products and formation/strengthening of community groups that lead to the reduction of emissions from deforestation and degradation.
Establishment of project reference level	 Two options have been identified to establish the project reference level, using data from Cambodia's official forest reference level (National FRL): (1) applying the National FRL transition probabilities from forest to non-forest classes only, to the project area, (e.g., transitions <i>between</i> different forest classes are not included); and (2) applying all the National FRL transition probabilities among classes that would result in emissions to the project area. Note that Option (1) accounts for emissions from only deforestation, while Option (2) accounts for emissions from forest degradation in form of transitions from one forest class to another, in addition to those from deforestation.
Calculation of project net emissions	Option 2 is similar to the method used in the Cambodia's National FRL submission in 2017, except that the National FRL includes removals as well; this methodology targets <i>only</i> emissions. Project net emissions are estimated based on the result of monitoring of forest to non-forest classes (Option 1) and monitoring of forest to non- forest or another forest class (Option 2) within the project area, multiplied by the emission factors (including both above and below ground biomass) plus any displaced emissions within the displacement belt and GHG emissions due to the project activities inside the project area and the activity area in line with Joint Crediting Mechanism Guidelines for Developing Proposed Methodology for Reducing Emissions from Deforestation and Forest Degradation, and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries (REDD-plus), (methodology guidelines). Displaced emissions are calculated as increases of emissions in the displacement belt compared to the reference emissions.
Monitoring parameters and methods	 Use of fuel and fertilizers, for the implementation of the project activities, are included as GHG emissions sources, and will be monitored and accounted as project emissions. Area converted from forest to non-forest (Option 1) or forest to another forest class (Option 2) in the project area Area converted from forest to non-forest (Option 1) or forest to another forest class (Option 2) in the displacement belt Quantity of fuel consumed in vehicle and/or equipment Number of vehicle and/or equipment Total travel distance of vehicle and/or total use hours of equipment Average specific energy consumption of vehicle and/or equipment Mass of organic fertilizer applied Mass of organic fertilizer applied and made from materials sourced from outside of the project area and the activity area Harvested annual dry matter yield of N-fixing crop per unit area, introduced by the project Ratio of above-ground residues to harvested yield for N-fixing crop Ratio of below-ground residues to harvested yield for N-fixing crop Mass of calcic limestone, dolomite and urea fertilizer applied

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	 Nitrogen content of synthetic and organic fertilizer applied Nitrogen content of above-ground and below-ground residues for N-fixing crop Fraction of total area under N-fixing crop that is renewed annually
Calculation of project emission	A default discount factor of 20%, as defined in the methodology guidelines, is applied to project emissions reductions to account for the risk of reversal.
reductions to be credited	

D. Eligibility criteria

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This methodology is applicable to projects that satisfy all of the following criteria.

Criterion 1	The project is to reduce deforestation and forest degradation through project
	activities including forest management and community livelihood
	development.
Criterion 2	Cambodia's official forest reference (emission) level has been submitted to
	UNFCCC, completed technical assessment by UNFCCC, and is publicly
	available.
Criterion 3	Cambodia's official forest map for the project start year or less than or equal
	to two years old is available for the project participant.
Criterion 4	Project activities do not include activities which lead to GHG emissions
	within the project area and the project activity area, except for the use of fuel
	or fertilizer including N-fixing crops.

E. Geographical Boundaries

Essential	
Geographical boundary	Requirements
Project area	No requirements in addition to those described in paragraphs 17 to 22 of the methodology guidelines ver01.0 (JCM_KH_GL_PM_REDD+_ver01.0)
Reference area	The land area of Cambodia is used to keep consistency with National FRL.

Optional boundaries

Geographical boundary	Required (Y/N/TBD)	Additional requirements
Activity area	Y	No requirements in addition to those described in paragraph 17 and 21 of the methodology guidelines ver01.0.

Displacement belt	Y	Displacement belt is the forest which is located outside of the project area, where deforestation and forest degradation could occur due to the displacement of project activities, such as small- scale logging, agricultural encroachment, and collection of non-timber forest products. The displacement belt is delineated on the basis of information on the impact of project activities which are obtained from local experts and other sources. If other REDD+ projects exist within the belt, project areas of these projects are excluded from the displacement belt. If development plans, including Economic Land Concessions (ELCs), exist within the belt, those areas are also excluded because forest clearance
		areas are also excluded because forest clearance is likely planned inside these areas regardless the project activities.

TBD: to be decided by the project participant

F. Carbon pools and GHG sources

The net emission sources to be considered include all the following Carbon pools and GHG sources.

Project reference level			
Carbon pools and GHG sources		Included (Y/N)	Explanation
	Above ground biomass	Y	This pool is expected to contribute significantly to emissions and emission reductions and is therefore included.
	Below ground biomass	Y	This pool is expected to contribute significantly to emissions and emission reductions and is therefore included.
Carbon pools	Dead wood	N	It is expected that this pool would have decreased in the absence of the project and, therefore, it is conservatively excluded.
	Litter	N	It is expected that this pool would have decreased in the absence of the project and, therefore, it is conservatively excluded.
	Soil organic carbon	N	It is expected that this pool would have decreased in the absence of the project and, therefore, it is conservatively excluded.
GHG			
sources			
	Projec	t net emissio	ons

Carbon pools and GHG sources		Included	Explanation
		(Y/N)	-
	Above ground biomass	Y	This pool is expected to contribute significantly to emissions and emission reductions and is therefore included.
	Below ground biomass	Y	This pool is expected to contribute significantly to emissions and emission reductions and is therefore included.
Carbon pools	Dead wood	N	It is expected that this pool would have decreased in the absence of the project and, therefore, it is conservatively excluded.
	Litter	N	It is expected that this pool would have decreased in the absence of the project and, therefore, it is conservatively excluded.
	Soil organic carbon	Ν	It is expected that this pool would have decreased in the absence of the project, and therefore, it is conservatively excluded.
	CO ₂ emissions from combustion of fossil		This GHG source is estimated if the project activities which include
GHG	fuels		combustion of fossil fuels are implemented.
sources	N ₂ O and CO ₂ emissions from fertilizer		This GHG source is estimated if the project activities include fertilizer
	application		application.

G. Establishment of project reference level

G.1. Establishment of project reference level

	In order to maximize consistency, the project reference level is established by applying emission factors and
reference level	transition probabilities from the national forest reference level (National FRL).

<u>Reference area and reference period</u> are the same as the National FRL, and therefore the reference area is the total of Cambodia's land area. The reference period is the same as the reference period submitted in the National FRL to the UNFCCC. In the National FRL submitted in 2017; the reference period was 2006 to 2014.

<u>Calculation of transition probability</u> is done by applying one of two options provided in this methodology: (1) Option 1: using the National FRL transition probabilities from forest to non-forest classes only (i.e., transitions *between* different forest classes are not included); or (2) Option 2: using all the National FRL transition probabilities among classes that would result in

GHG emissions. The option selected should also be used for calculation of project net emissions in section H and for determining data and parameters fixed *ex ante* in section J. The option is selected in coordination with Government of Cambodia and project participants.

<u>Yearly reference emission</u> at the project reference level is calculated by applying the transition probabilities to areas of forests at the previous year and multiplying by emission factors.

To ensure the conservativeness of the calculation of the project emission reductions, dead wood, litter and soil organic carbon pools, of which carbon stocks would have decreased in the absence of the project, were excluded.

G.2. Calculation of project reference level

The project reference level in year y during the monitoring period is calculated as follows: $RL_y = \Delta CS_{refy} * 44/12$ Equation 1

Where:

RLy	Project reference level in year y ; tCO ₂
ΔCS_{refy}	Projected carbon stock change in the project area in year y; tC
44/12	Conversion factor of molecular weight of carbon to CO ₂ ; dimensionless

 $\Delta CS_{ref y}$ is calculated by applying either Option 1 or Option 2 selected in coordination with government of Cambodia and project participants.

Option 1: Use the National FRL transition probabilities from forest to non-forest classes only

Carbon stock change in the project area in year *y* is calculated as follows:

For the project start year:

 $\Delta CS_{ref y} = \sum_{i} (A_{i 0} * P_{i} * d_{y} / d_{0 y} * EF_{i})$ <u>Equation 2</u>
For subsequent years to the project start year:

$$\Delta CS_{ref y} = \sum_{i} (A_{i y-1} * P_i * d_y / d_{0 y} * EF_i)$$
Equation 332

Where:

 $\Delta CS_{ref y}$ Projected carbon stock change in the project area in year y; tC $A_{i 0}$ Area of forest class i in the project area at the inception of the project; ha

A _{i y-1}	Area of forest class <i>i</i> in the project area in year <i>y</i> - <i>1</i> ; ha
i	Forest class in the project area; dimensionless
Pi	Annual transition probability from forest class <i>i</i> to non-forest within the reference
	area; dimensionless, 0-1
<u>d</u> _y	Number of operating days in year y, days
<u>d</u> _{oy}	Number of days in year y, days
EF_i	Emission factor applicable for forest class i ; tC ha ⁻¹

Area of forest class *i* is assumed to decrease every year due to deforestation, and therefore calculated as follows:

For the project start year:

 $A_{iy} = A_{iy-1} * (1 - P_i)$

 $A_{iy+1} = A_{i\neq 0} * (1 - P_i) \underline{d_y} / d_{0y}$ For subsequent years to the project start year:

Equation <u>44</u>3

Equation 5

Where:

A _{i y+1}	Area of forest class <i>i</i> in the project area in year <i>y</i> +1; ha
A_{iy}	Area of forest class <i>i</i> in the project area in year <i>y</i> ; ha
<u>A_{i 0}</u>	Area of forest class <i>i</i> in the project area at the inception of the project; ha
<u>A</u> _{i y-1}	Area of forest class <i>i</i> in the project area in year <i>y</i> - <i>1</i> ; ha
Pi	Annual transition probability from forest class <i>i</i> to non-forest within the reference
	area; dimensionless, 0-1
<u>d</u> y	Number of operating days in year y, days
d _{o v}	Number of days in year y, days

Please refer to section J for determination of EF_i , A_{i0} (area at the inception of the project) and P_i .

Option 2: Use all the National FRL transition probabilities among classes that would result in GHG emissions.

To estimate the total emissions, the projected carbon stock change in year y in the project area is calculated as follows:

$$\Delta CS_{ref y} = \sum_{i} \sum_{j} cs_{ij y} \begin{cases} cs_{ij y}, & \text{if } cs_{ij y} > 0\\ 0, & \text{otherwise} \end{cases}$$
 Equation 64

Where:

 ΔCS_{refy} Projected carbon stock change in the project area in year y; tC

cs_{ij y} Projected carbon stock change in the project area from changes of land use category *i* to *j* in year *y*; tC
i, j Land use category in the project area; dimensionless

The notation cs_{ijy} is an element of *i*-by-*j* cross-tabulation matrix MCS_y which is a product of element-wise multiplication (Hadamard product) of *i*-by-*j* matrices of area changes and emission factors.

$$MCS_{\nu} = MCA_{\nu} \cdot MEF$$

Equation 75

Where:

- MCS_y i-by-j matrix in which each element is projected carbon stock change in the project area from changes of land use category i to j in the project area in year y, cs_{ijy} ; tC
- MCA_y *i*-by-*j* matrix in which each element is projected area of land converted from land use category *i* to *j* in the project area in year *y*, ca_{ijy} ; ha
- MEF *i*-by-*j* matrix in which each element is emission factor for area of land converted from land use category *i* to *j*, EF_{ij} ; tC ha⁻¹

Equation 5 is expressed as below:

cs _{11y}	cs _{12y}	 cs _{1jy}		ca _{11y}	ca _{12y}	 ca _{1jy}]	$[EF_{11}]$	EF ₁₂	 EF _{1j}]
cs _{21y}	cs _{22y}	 cs _{2jy}	_	ca _{21y}	ca _{22y}	 ca _{2jy}	EF ₂₁	EF ₂₂	 EF ₂₁
		 	_			 	·		
cs _{i1y}	cs _{i2y}	 cs _{ijy}		ca _{i1y}	ca _{i2y}	 ca _{ijy}	$\cdot \begin{bmatrix} EF_{11} \\ EF_{21} \\ \dots \\ EF_{i1} \end{bmatrix}$	EF _{i2}	 EF _{ij}]

For example, the cs_{IIy} is calculated as bellow:

$$cs_{11y} = ca_{11y} * EF_{11}$$

Projected area of land conversion in year y is calculated as the product between areas of land categories in the project area in year y-l and annual transition probabilities.

 $MCA_v = MA_{v-1}MP$

Equation 86

Where:

MCA _y	<i>i</i> -by- <i>j</i> matrix in which each element is the projected area of land converted from
	land use category <i>i</i> to <i>j</i> in year <i>y</i> , ca_{ijy} ; ha
MA _{y-1}	<i>i</i> -by- <i>j</i> diagonal matrix whose diagonal elements are areas of land use categories <i>i</i>
	in the project area in year y - I , $A_{i y-1}$; ha
MP	<i>i</i> -by- <i>j</i> matrix in which each element is the annual transition probability from land
	use category <i>i</i> to <i>j</i> , p_{ij} ; dimensionless, 0-1

Equation 6 is expressed as below:

Ca _{11y} Ca _{21y} Ca _{i1y}	ca _{12y}		ca _{1jy}		A _{1y-1}	0	 0 -	[p ₁₁	p ₁₂	 p _{1j}]
ca _{21y}	ca _{22y}		ca _{2jy}	=	0	A_{2y-1}	 0	p ₂₁	p ₂₂	 p _{2j}
	•••	•••					 		•••	
ca _{i1y}	ca _{i2y}		ca _{ijy}		0	0	 A _{iy-1-}	p _{i1}	p_{i2}	 p _{ij}

For example, selected elements are calculated as bellow:

$$\begin{split} & ca_{11y} = A_{1y\text{-}1} \, * \, p_{11} + 0 \, * \, p_{21} + \ldots + 0 \, * \, p_{i1} \\ & ca_{21y} = 0 * \, p_{11} + A_{2y\text{-}1} \, * \, p_{21} + \ldots + 0 \, * \, p_{i1} \\ & ca_{22y} = 0 \, * \, p_{12} + A_{2y\text{-}1} \, * \, p_{22} + \ldots + 0 \, * \, p_{i2} \\ & ca_{ijy} = 0 \, * \, p_{1j} + 0 \, * \, p_{2j} + \ldots + A_{iy\text{-}1} \, * \, p_{ij} \end{split}$$

Area of each land use category is decreased due to transition to other land categories and increased due to transition from other land use categories. In year y+1, the area of a land use category is the sum of the area staying in the same land use category (e.g., ca_{11y}) plus the area that transitioned to that land use category from other land use categories (e.g., ca_{21y} , ca_{31y} , and ca_{i1y}). Area of land use category *j* in year y+1, A_{jy+1} , is calculated as follows:

$$A_{j\,y+1} = \sum_{i} c a_{ij\,y}$$
 Equation 97

Where:

 $A_{j y+1}$ Area of land use category j in project area in year y+1; ha $ca_{ij y}$ Area of land converted from land use category i to j in the project area in year y;
ha

Please refer to section J for determination of EF_{ij} , A_{i0} and p_{ij} , i.e., MEF, MA_0 and MP.

H. Calculation of project net emissions

Project net emissions in year *y* during the monitoring period are estimated based on results of monitoring, and calculated as follows:

$$PE_y = \Delta CS_{pjy} * 44/12 + E_{fuely} + E_{fertilizery} + DE_y$$

Equation 108

Where:

PEy	Project net emissions in year y; tCO ₂ -eq
ΔCS_{pjy}	Carbon stock change in the project area in year y; tC
E _{fuel y}	CO_2 emissions from fossil fuel combustion in year y due to the project activities;
	tCO ₂
E _{fertilizer y}	GHG emissions from fertilizer application within the project area and the activity
	area as a part of the project activities in year y; tCO ₂ -eq
DEy	Displaced emissions to the displacement belt in year y ; tCO ₂

(1) Carbon stock change in the project area in year y, ΔCS_{pjy}

The same option applied in the calculation of the project reference level must be used for the project emissions.

Option 1: Use the National FRL transition probabilities from forest to non-forest classes only

Carbon stock change in the project area in year <i>y</i> is calculated as follows:	
$\Delta CS_{pjy} = \sum_{i} \Delta CS_{pjiy} = \sum_{i} CA_{pjiy} * EF_{i}$	Equation <u>11</u> 9

Where:

$\Delta CS_{pj\;y}$	Carbon stock change in the project area in year y; tC
ΔCS_{pjiy}	Carbon stock change in area converted from forest class i to non-forest in the
	project area in year y; tC
CA_{pjiy}	Area converted from forest class i to non-forest in the project area in year y ; ha
EFi	Emission factor applicable for forest class i ; tC ha ⁻¹

 CA_{pjiy} will be determined using Cambodia's official forest maps provided by the government; calculated as the yearly average, if the monitoring interval is more than one year.

Accuracy assessment: to better account for the uncertainty that may be present in Cambodia's official forest map within the project area, an accuracy assessment will be performed of the project area and displacement belt. The accuracy assessment will be performed on the most recent official forest map and using a combination of the points used by the government of Cambodia and with additional points to ensure representative coverage of all classes within the project area. The results of the accuracy assessment of the project area and the displacement belt will determine the error-adjusted area estimates for each forest class. The accuracy assessment will be performed at the start of the project and each subsequent monitoring period to ensure high quality estimates of emission and reductions. This process is based on the methods included in Olofsson et al. 2014 and is endorsed by the FAO. However, the error

adjustment of the areas will not be performed, if the government of Cambodia decides to require the project to use Cambodia's official forest map as it is.

See section J for EF_i .

Option 2: Use all the National FRL transition probabilities among classes that would result in GHG emissions

To estimate the total emissions, the carbon stock change in the project area in year y is calculated as follows:

 $\Delta CS_{pjy} = \sum_{i} \sum_{j} cs_{pjijy} \begin{cases} cs_{pjijy}, & \text{if } cs_{pjijy} > 0\\ 0, & \text{otherwise} \end{cases}$ Equation <u>1240</u>

Where:

 ΔCS_{pjy} Carbon stock change in the project area in year y; tC

 $cs_{pj ij y}$ Carbon stock change in the project area from changes of land use category *i* to *j* in year *y*; tC

The notation $cs_{pj \ ij \ y}$ is an element of *i*-by-*j* cross-tabulation matrix $MCS_{pj \ y}$ which is a product of element-wise multiplication (Hadamard product) of *i*-by-*j* matrices of area changes and emission factors.

$$MCS_{pjy} = MCA_{pjy} \cdot MEF$$
 Equation 1311

Where:

MCS _{pj y}	<i>i</i> -by- <i>j</i> matrix in which each element is carbon stock change in the project area
	from changes in land use category <i>i</i> to <i>j</i> in year <i>y</i> , $cs_{pj ij y}$; tC
MCA _{pj y}	<i>i</i> -by- <i>j</i> matrix in which each element is the area of land converted from land use
	category <i>i</i> to <i>j</i> in the project area in year <i>y</i> , $ca_{pj \ ij \ y}$; ha
ca _{pj ij y}	Area of land converted from land use category <i>i</i> to <i>j</i> in the project area in year <i>y</i> ;
	ha
MEF	<i>i</i> -by- <i>j</i> matrix in which each element is emission factor for area of land converted
	from land use category <i>i</i> to <i>j</i> , EF_{ij} ; tC ha ⁻¹

 $ca_{pj \ ij \ y}$ will be determined using Cambodia's official forest maps provided by the government; calculated as the yearly average, if the monitoring interval is more than one year.

To quantify and account for the uncertainty of Cambodia's official forest map in the project

area, an accuracy assessment will be performed as described above.

See section J for EF_{ij} .

(2) Emissions due to the project activities

Based on the requirements of the methodology guidelines ver01.0, emissions resulting from the implementation of the project activities shall be accounted, including fossil fuel combustion and the application of fertilizer (synthetic fertilizer, organic fertilizer, N-fixing crop, liming material and urea fertilizer). If the GHG emissions, due to use of fuel or the application of fertilizers, are estimated to less than five percent of the total net emissions at the time of validation, quantities of such GHG sources do not need to be monitored, and planned quantities can be used for calculation of GHG emissions.

Emissions from fossil fuel combustion

 CO_2 emissions from fossil fuel combustion resulting from the implementation of project activities¹ are calculated by applying the following direct method or indirect method, and these can be used interchangeably or simultaneously for different types of vehicle and equipment. E.g., project participant can calculate $E_{fuel y}$ by applying the direct method for motorbikes and the in-direct method for trucks.

Direct method

Equation <u>1412</u>

Where:

E _{fuel y}	CO_2 emissions from fossil fuel combustion in year y due to the project activities;
	tCO ₂
E _{fuel f y}	CO_2 emissions from combustion of fossil fuel type f in year y; t CO_2
FCfy	Quantity of fuel type <i>f</i> consumed in year <i>y</i> ; kg
NCV _f	Net calorific value of fuel <i>f</i> ; GJ kg ⁻¹
EF _{fuel f}	CO_2 emission factor of the fuel type <i>f</i> combusted; t CO_2 GJ ⁻¹
f	fuel types combusted; dimensionless
See sectio	n I for NCV and FE and

See section J for *NCV_f* and *EF*_{fuel f}.

¹ A/R methodological tool "Estimation of GHG emissions related to fossil fuel combustion in A/R CDM project activities" was referenced.

Indirect me	thod
$E_{fuel y} = \Sigma$	$\sum_{f} \sum_{j} E_{fuel j f y} = \sum_{f} \sum_{j} (NVE_{j f y} * TDU_{j f y} * SEC_{j f} * NCV_{f} * EF_{fuel f})$
	Equation <u>1513</u>
Where:	
E _{fuel y}	CO_2 emissions from fossil fuel combustion in year y due to the project activities;
	tCO ₂
E _{fuel j f y}	CO_2 emissions from fossil fuel combustion in vehicle or equipment type <i>j</i> using
5.5	fuel type <i>f</i> in year <i>y</i> ; tCO ₂
NVE _{jfy}	Number of vehicle or equipment type <i>j</i> using fuel type <i>f</i> in year <i>y</i> ; unit
TDU _{j f y}	Total travel distance for vehicle type j or use hours for equipment type j using
5-5	fuel type f in year y; km or hour unit ⁻¹
SECjf	Average specific energy consumption of vehicle or equipment type <i>j</i> for fuel type
	<i>f</i> ; kg km ⁻¹ or hour ⁻¹
NCV _f	Net calorific value of fuel f ; GJ kg ⁻¹
EF _{fuel f}	CO_2 emission factor of the fuel type <i>f</i> combusted; tCO ₂ GJ ⁻¹
f	fuel types combusted; dimensionless
j	type of vehicle or equipment; dimensionless
0	
For NCV_f , I	EF_{fuelf} , and SEC_{jf} , see section J.
Emissions	from fertilizer application
GHG emiss	sions from fertilizer application are calculated as follow:
$E_{\text{fertilizer y}} = 1$	$E_{direct-N y} + E_{indirect-N y} + E_{liming y} + E_{urea y} $ Equation <u>16</u> 14
Where:	
Efertilizer y	GHG emissions from fertilizer application within the project area and the activity
	area for implementation of the project activities in year y ; tCO ₂ -eq
Edirect-N y	Direct N ₂ O emissions as a result of nitrogen application within the project area
	and the activity area for implementation of the project activities in year y ; tCO ₂ -
	eq
Eindirect-Ny	Indirect N ₂ O emissions as a result of nitrogen application within the project area
	and the activity area for implementation of the project activities in year y ; tCO ₂ -
	eq
Eliming y	CO ₂ emissions as a result of adding liming materials within the project area and
	the activity area for implementation of the project activities in year y ; tCO ₂

 $E_{urea y}$ CO₂ emissions as a result of urea fertilization application within the project area and the activity area for implementation of the project activities in year y; tCO₂

Direct N_2O emissions as a result of nitrogen application for the implementation of the project activities are calculated as follow²:

 $E_{direct-Ny} = \sum_{c} [(F_{SN cy} + F_{ON cy} + F_{CR cy}) * EF_{direct-Nc}] * 44/28 * GWP_{N20}$ Equation <u>1715</u>

Where:

- $E_{direct-N y}$ Direct N₂O emissions as a result of nitrogen application within the project area and the activity area for implementation of the project activities in year y; tCO₂eq
- F_{SN c y} Mass of nitrogen in synthetic fertilizer applied for implementation of the project activities in cropland type *c* in the project area and the activity area in year *y*; tN
 F_{ON c y} Mass of nitrogen in organic fertilizer made from materials sourced from outside of the project area and the activity area and applied for implementation of the project activities in cropland type *c* in the project area and the activity area in year
- $F_{CR cy}$ Mass of nitrogen in crop residues (above-ground and below-ground) in N-fixing crops, introduced for implementation of the project activities in cropland type *c* in the project area and the activity area and returned to soils, in year *y*; tN
- $EF_{direct-N c}$ Emission factor for N₂O emissions from nitrogen inputs in cropland type c; t N₂O-N tN-input⁻¹

44/28 Ratio of molecular weight of N₂O and N; dimensionless

 GWP_{N2O} Global Warming Potential for N₂O; tCO₂ (t N₂O)⁻¹

c Types of croplands: upland cropland and flooded cropland such as rice paddy; dimensionless

See section J for $EF_{direct-Nc}$ and GWP_{N2O} .

v; tN

 $F_{SN c y} = M_{SN c y} * NC_{SN c}$ Equation 1846 $F_{ON c y} = M_{ON c y} * NC_{ON c}$ Equation 1947Where: $F_{SN c y}$ Mass of nitrogen in synthetic fertilizer applied for implementation of the project

² This is based on A/R Methodology tool "Estimation of direct nitrous oxide emission from nitrogen fertilization" and 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

	activities in cropland type c in the project area and the activity area in year y , tN
Fon cy	Mass of nitrogen in organic fertilizer made from materials sourced from outside
	of the project area and the activity area and applied for implementation of the
	project activities in cropland type c in the project area and the activity area in year
	y, tN
M_{SNcy}	Mass of synthetic fertilizer applied for implementation of the project activities in
	cropland type c in the project area and the activity area in year y , t
M_{ONcy}	Mass of organic fertilizer made from materials sourced from outside of the project
	area and the activity area and applied for implementation of the project activities
	in cropland type c in the project area and the activity area in year y , t
$NC_{SN c}$	Nitrogen content of synthetic fertilizer applied in cropland type c; tN (t fertilizer)
	-1
$NC_{ON c}$	Nitrogen content of organic fertilizer applied in cropland type c ; tN (t fertilizer) ⁻
	1

Data from producers of synthetic fertilizer and published data are used for $NC_{SN c} NC_{ON c}$, respectively. If multiple types of synthetic or organic fertilizers are used, choose the highest data as a conservative estimation. Note that organic fertilizer which is made from organic materials sourced from inside the project area and the activity area are NOT accounted because the emissions from those organic materials occur in the areas regardless the implementation of the project activities.

$$F_{CR\,c\,y} = \sum_{T} \left[Crop_{c\,T\,y} * Area_{c\,T\,y} * Frac_{Renew\,T} * (R_{AG\,T} * N_{AG\,T} + R_{BG\,T} * N_{BG\,T}) \right]$$
Equation 2018

Where:

F _{CR cy}	Mass of nitrogen in crop residues (above-ground and below-ground) in N-fixing
	crops, introduced for implementation of the project activities in cropland type c
	in the project area and the activity area and returned to soils, in year y ; tN
Crop _{c T y}	Harvested annual dry matter yield for N-fixing crop T per unit area, introduced
	for implementation of the project activities in cropland type c in the project area
	and the activity area in year y; t d.m. ha $^{-1}$
Area _{cTy}	Total annual area harvested of N-fixing crop T , introduced for implementation of
	the project activities in cropland type c in the project area and the activity area in
	year <i>y</i> ; ha
$Frac_{Renew T}$	Fraction of total area under N-fixing crop T that is renewed annually;
	dimensionless, 0-1

R _{AG T}	Ratio of above-ground residues to harvested yield for N-fixing crop T ; t d.m. (t
	d.m.) ⁻¹
N _{AG T}	N content of above-ground residues for N-fixing crop T; t N (t d.m.) ⁻¹
R_{BGT}	Ratio of below-ground residues to harvested yield for N-fixing crop T ; t d.m. (t
	d.m.) ⁻¹
N_{BGT}	N content of below-ground residues for N-fixing crop T ; t N (t d.m.) ⁻¹
Т	Types of N-fixing crops; dimensionless

Where cropland is renewed on average every X years, $Frac_{renew} = 1/X$. For annual crops $Frac_{renew} = 1$.

Indirect N_2O emissions as a result of nitrogen application for implementation of the project activities are calculated as follow:

 $E_{indirect-N,y} = \left[\left(F_{SN y} * Frac_{SN} + F_{ON y} * Frac_{ON} \right) * EF_{indirect-N} + \left(F_{SN y} + F_{ON y} + F_{CR y} \right) * Frac_{leach} * EF_{leach-N} \right] * \frac{44}{28} * GWP_{N20}$ Equation <u>2149</u>

Where:

Eindirect-Ny	Indirect N ₂ O emissions as a result of nitrogen application within the project area
	and the activity area for implementation of the project activities in year y ; tCO ₂ -
	eq
F_{SNy}	Mass of nitrogen in synthetic fertilizer applied for implementation of the project
	activities in the project area and the activity area in year y; tN
F _{ON y}	Mass of nitrogen in organic fertilizer made from materials sourced from outside
	the project area and the activity area and applied for implementation of the project
	activities in the project area and the activity area in year y ; tN
F _{CR y}	Mass of nitrogen in crop residues (above-ground and below-ground) in N-fixing
	crops, introduced for implementation of the project activities in the project area
	and the activity area and returned to soils, in year y; tN
Frac _{sn}	Fraction that volatilized as NH3 and NOX for synthetic fertilizers; dimensionless,
	0-1
Frac _{ON}	Fraction that volatilized as NH3 and NOX for organic fertilizers; dimensionless,
	0-1
$EF_{indirect-N}$	Emission factor for N_2O emissions from atmospheric deposition of N on soils and
	water surfaces; t N ₂ O-N (t NH ₃ -N and NO _X -N volatilized) ⁻¹
Fracleach	Fraction of N that is lost through leaching and runoff; dimensionless, 0-1
$EF_{leach-N}$	Emission factor for N_2O emissions from N leaching and runoff; t $N_2O\text{-}N$ (t N
	leaching and runoff) ⁻¹

44/28	Ratio of molecular weight of N2O and N; dimensionless
GWP _{N20}	Global Warming Potential for N ₂ O; tCO ₂ (t N ₂ O) ⁻¹

See Section J for Frac_{SN}, Frac_{ON}, Frac_{leach}, EF_{indirect-N}, EF_{leach-N} and GWP_{N2O}.

$F_{SN y} = \sum_{c} F_{SN c y}$	Equation 2220
$F_{ON y} = \sum_{c} F_{ON c y}$	Equation 2321
$F_{CR y} = \sum_{c} F_{CR c y}$	Equation <u>24</u> 22

Where:

$F_{SN y}$	Mass of nitrogen in synthetic fertilizer applied for implementation of the project
	activities in the project area and the activity area in year y; tN
F _{ON y}	Mass of nitrogen in organic fertilizer made from materials sourced from outside
	the project area and the activity area and applied for implementation of the project
	activities in the project area and the activity area in year y; tN
F _{CR y}	Mass of nitrogen in crop residues (above-ground and below-ground) in N-fixing
	crops, introduced for implementation of the project activities in the project area
	and the activity area and returned to soils, in year y ; tN
F_{SNcy}	Mass of nitrogen in synthetic fertilizer applied for implementation of the project
	activities in cropland type c in the project area and the activity area in year y ; tN
F_{ONcy}	Mass of nitrogen in organic fertilizer made from materials sourced from outside
	the project area and the activity area and applied for implementation of the project
	activities in cropland type c in the project area and the activity area in year y ; tN
F _{CR cy}	Mass of nitrogen in crop residues (above-ground and below-ground) in N-fixing
	crops, introduced for implementation of the project activities in cropland type c
	in the project area and the activity area and returned to soils, in year y; tN

Use $F_{SN\,c\,y},\,F_{ON\,c\,y}$ and $F_{CR\,c\,y}$ calculated in Equations 16, 17 and 18.

CO₂ emissions as a result of adding liming materials for implementation of the project activities are calculated as follow:

 $E_{liming y} = (M_{limestone y} * EF_{limestone} + M_{dolomite y} * EF_{dolomite}) * \frac{44}{12}$ Equation 2523

Where:

 $E_{\text{liming y}}$ CO₂ emissions as a result of adding liming materials within the project area and the activity area during implementation of the project activities in year *y*; tCO₂

Mlimestone y	Mass of calcic limestone (CaCO ₃) applied for implementation of the project
	activities in the project area and the activity area in year y; t
EFlimestone	Emission factor for limestone; t C (t limestone) ⁻¹
M _{dolomite y}	Mass of dolomite (CaMg(CO ₃) ₂) applied for implementation of the project
	activities in the project area and the activity area in year y; t
EF _{dolomite}	Emission factor for dolomite; t C (t dolomite) ⁻¹
44/12	Ratio of molecular weight of CO ₂ and C; dimensionless

See Section J for *EF*_{limestone} and *EF*_{dolomite}.

CO₂ emissions as a result of urea fertilization application for implementation of the project activities are calculated as follow:

 $E_{urea y} = M_{urea y} * EF_{urea} * \frac{44}{12}$ Equation <u>26</u>24

Where:

E _{urea y}	CO ₂ emissions as a result of application of urea within the project area and the
	activity area for implementation of the project activities in year y ; tCO ₂
M _{urea y}	Mass of urea fertilizer applied for implementation of the project activities in the
	project area and the activity area in year y; t
EF _{urea}	Emission factor for urea; t C/t urea
44/12	Ratio of molecular weight of CO ₂ and C; dimensionless

See Section J for *EF*_{urea}.

(3) Displaced emissions

In this methodology, displacement is assessed through monitoring of the displacement belt. The displacement belt captures the displacement of baseline activities due to the project activities, or interventions, in the project area.

Although a detailed analysis of the local drivers of deforestation and degradation is not anticipated, the local context will be captured through inputs from local and national experts including authorities. Displaced emissions are calculated as increases of emissions compared to reference emissions from the displacement belt which is separately calculated from reference emissions for the project reference level.

Displaced emissions are calculated as follows:

$DE_{\mathcal{Y}} = \begin{cases} DE_{\mathcal{Y}} \\ \end{bmatrix}$	$P_y - DR_y$, if $DP_y - DR_y > 0$ 0, otherwise	Equation <u>27</u> 25
Where:		
DEy	Displaced emissions to the displacement belt in year y ; tCO ₂	
DR_y	Reference emissions from the displacement belt in year y ; tCO ₂	
DPy	Project emissions from the displacement belt in year y ; tCO ₂	
DR_y and D_z	P_y are calculated as follows:	
$DR_y = \Delta CS$	S _{d y} * 44/12	Equation <u>28</u> 26
Where:		
DRy	Reference emissions from the displacement belt in year y ; tCO ₂	
ΔCS_{dy}	Projected carbon stock change in the displacement belt in year y	; tC
44/12	Conversion factor of molecular weight of carbon to CO ₂ ; dimension	sionless
$DP_y = \Delta CS$	$DP_{y} = \Delta CS_{d p j y} * 44/12 $ Equation 2927	
Where:		
DP_y	Project emissions from the displacement belt in year y ; tCO ₂	
ΔCS_{dpjy}	Actual carbon stock change in the displacement belt in year y; to	C
44/12	Conversion factor of molecular weight of carbon to CO ₂ ; dimension	sionless
Projected and actual carbon stock changes in the displacement belt area, i.e., ΔCS_{dy} and ΔCS_d _{<i>pjy</i>} , are calculated by applying the option used in Section G.2 Calculation of project reference level.		
Option 1: Use the National FRL transition probabilities from forest to non-forest classes only		
Projected carbon stock change in the displacement belt in year y is calculated as follows: For the project start year:		
$\Delta CS_{dy} = \sum_{i} A_{di0} * P_{di} * d_{y} / d_{0y} * EF_{i}$ Equation 3028		
For subsequent years to the project start year		
-	$\sum_{i} A_{d i y-1} * P_{d i} * \frac{d_y}{d_0 y} * EF_i$	Equation <u>31</u> 28
Where:		
ΔCS_{dy}	Projected carbon stock change in the displacement belt in year y	; tC

<u>Adio</u>	Area of forest class <i>i</i> in the displacement belt at the inception of the project; ha	
$A_{diy\underline{-1}}$	Area of forest class i in the displacement belt in year y - l ; ha	
P_{di}	Annual transition probability from forest class i to non-forest within the	
	displacement belt; dimensionless, 0-1	
<u>d</u> y	Number of operating days in year y, days	
<u>d</u> o y	Number of days in year y, days	
EFi	Emission factor applicable for forest class i ; tC ha ⁻¹	
	st class i is assumed to decrease every year due to deforestation, and therefore	
calculated as		
For the proje		
	$\frac{(1 - P_{d_i}) * d_y}{d_0 y} = Equation 3229$	
	ent years to the project start year:	
$A_{diy+1} = A_{di}$	$y_{-1} * (1 - P_{d_i})$ Equation 3329	
Where:		
A_{diy}	Area of forest class <i>i</i> in the displacement belt in year <i>y</i> ; ha	
<u>Adio</u>	Area of forest class <i>i</i> in the displacement belt at the inception of the project; ha	
<u>A</u> diy-1	Area of forest class <i>i</i> in the displacement belt in year <i>y</i> -1; ha	
P _{d i}	Annual transition probability from forest class <i>i</i> to non-forest within the	
	displacement belt; dimensionless, 0-1	
$\underline{\mathbf{d}}_{\mathbf{y}}$	Number of operating days in year y, days	
<u>d</u> _{o y}	Number of days in year y, days	
Please refer	section J for A_{di0} and P_{di} .	
Actual carbo	In stock change in the displacement belt in year y is calculated as follows:	
$\Delta CS_{d pj y} = \sum$	CA _{d pj i y} * EF _i Equation <u>34</u> 30	
Where:		
$\Delta CS_{d pj y}$	Actual carbon stock change in the displacement belt in year y; tC	
CA _{d pj i y}	Area converted from forest class <i>i</i> to non-forest in the displacement belt in year	
	y; ha	
EFi	Emission factor applicable for land use category <i>i</i> ; tC ha ⁻¹	
CA_{dpiiy} will be determined using Cambodia's official forest maps provided by the government;		
	yearly average, if the monitoring interval is more than one year. Where evidence	

can be collected that deforestation in the displacement belt is not attributable to the project, the detected deforestation is not considered as displacement and therefore is excluded from $CA_{d pj}$ *iy.*

To quantify and account for the uncertainty of Cambodia's official forest map in the project area, an accuracy assessment will be performed as described in Section H calculation of project net emission, sub-section (1) carbon stock change in the project area.

See section J for EF_i .

Option 2: Use all transition probabilities resulting in emissions in the National FRL

<u>Projected carbon stock change</u> in the displacement belt in year y is calculated as follows: To estimate the total emissions, the projected carbon stock change in year y in the displacement belt is calculated as follows:

$$\Delta CS_{dy} = \sum_{i} \sum_{j} cs_{dijy} \begin{cases} cs_{dijy}, & \text{if } cs_{dijy} > 0\\ 0, & \text{otherwise} \end{cases}$$
 Equation 3531

Where:

 ΔCS_{dy} Projected carbon stock change in the displacement belt in year y; tC cs_{dijy} Projected carbon stock change in the displacement belt from changes of land use
category i to j in year y; tC

The notation cs_{dij} is an element of *i*-by-*j* cross-tabulation matrix MCS_{dy} which is a product of element-wise multiplication (Hadamard product) of *i*-by-*j* matrices of area changes and emission factors.

$$MCS_{dv} = MCA_{dv} \cdot MEF$$

Equation <u>36</u>32

Where:

MCS_{dy}	<i>i</i> -by- <i>j</i> matrix in which each element is projected carbon stock change in the
	displacement belt from changes of land use category <i>i</i> to <i>j</i> in year <i>y</i> , cs_{dijy} ; tC

- MCA_{d y} i-by-j matrix in which each element is projected area of land converted from land use category i to j in the displacement belt in year y, $ca_{d ij y}$; ha
- MEF *i*-by-*j* matrix in which each element is the emission factor for area of land converted from land use category *i* to *j*, EF_{ij} ; tC ha⁻¹

Projected area of land conversion in year *y* is calculated as the product between areas of land categories in the displacement belt in year *y* and annual transition probability.

Equation 4036

 $MCA_{dy} = MA_{dy-1}MP_d$ Equation 3733 Where: MCA_{d v} *i*-by-*j* matrix in which each element is the projected area of land converted from land use category *i* to *j* in the displacement belt in year *y*, ca_{dij} , ha *i*-by-*j* diagonal matrix whose diagonal elements are areas of land use categories MAd y-1 in the displacement belt in year y-1, A_{diy-l} ; ha MP_d *i*-by-*j* matrix in which each element is the annual transition probability from land use category *i* to *j* in the displacement belt, p_{dij} ; dimensionless, 0-1 Similar to Equation 7, area of land use category j in year y+1, A_{djy+1} , is calculated as follows: $A_{d\,j\,y+1} = \sum_i c a_{d\,ij\,y}$ Equation 3834 Where: Area of land use category *j* in the displacement belt in year y+1; ha $A_{d j y+1}$ Area of land converted from land use category *i* to *j* in the displacement belt in ca_{d ij y} year y; ha Please refer section J for determination of EF_{ij} , A_{di0} and p_{dij} , i.e., MEF, MA_{d0} and MP_d . Actual carbon stock change in the displacement belt in year y is calculated as follows: To estimate the total emissions, the carbon stock change in the displacement belt in year y is calculated as follows: $\Delta CS_{d p j y} = \sum_{i} \sum_{j} cs_{d p j i j y} \begin{cases} cs_{d p j i j y}, & \text{if } cs_{d p j i j y} > 0\\ 0, & \text{otherwise} \end{cases}$ Equation 3935

Where:

 $\Delta CS_{d pj y} \qquad \text{Actual carbon stock change in the displacement belt in year } y; tC$ $cs_{d pj ij y} \qquad \text{Carbon stock change in the displacement belt from changes of land use category}$ i to j in year y; tC

The notation $cs_{d pj ij}$ is an element of the *i*-by-*j* cross-tabulation matrix $MCS_{d pj y}$ which is a product of element-wise multiplication (Hadamard product) of *i*-by-*j* matrices of area changes and emission factors.

$$MCS_{d p j y} = MCA_{d p j y} \cdot MEF$$

Where:

MCS_{dpjy}	<i>i</i> -by- <i>j</i> matrix in which each element is carbon stock change in the displacement
	belt from changes of land use category <i>i</i> to <i>j</i> in year <i>y</i> , $cs_{d p j i j y}$; tC
MCA _{d pj y}	<i>i</i> -by- <i>j</i> matrix in which each element is area of land converted from land use
	category <i>i</i> to <i>j</i> in the displacement belt in year <i>y</i> , $ca_{d pj ij y}$; ha
$ca_{d\ pj\ ij\ y}$	Area of land converted from land use category i to j in the displacement belt in
	year y; ha
MEF	<i>i</i> -by- <i>j</i> matrix in which each element is emission factor for area of land converted
	from land use category <i>i</i> to <i>j</i> , EF_{ij} ; tC ha ⁻¹

 $ca_{d\ pj\ ij\ y}$ will be determined by using Cambodia's official forest maps provided by the government, will be calculated as yearly average, if the monitoring interval is more than one year. Where evidence can be collected that deforestation in the displacement belt is not attributable to the project, the detected deforestation is not considered as displacement and therefore is excluded from $MCA_{d\ pj\ y}$.

To quantify and account for the uncertainty of Cambodia's official forest map in the project area, an accuracy assessment will be performed as described in Section H calculation of project net emission, sub-section (1) carbon stock change in the project area.

See section J for EF_{ij} .

I. Calculation of project emission reductions to be credited

Project emission reductions in year y are calculated as the difference between the project reference level and the project net emissions. Equation <u>41</u>37 $ER_v = RL_v - PE_v$ Where: ER_v Project emissions reductions in year y; tCO₂-eq RL_y Project reference level in year y; tCO₂ PE_v Project net emissions in year y; tCO₂-eq $ER_{credt y} = ER_y * (1-DF)$ Equation 4238 Where: Project emissions reductions available to be credited in year y; tCO₂-eq ER_{credit y},

ERyProject emissions reductions in year y; tCO2-eqDFDiscount factor, default as 0.2

A discount factor is applied as a measure for risk of reversals.

Project emissions reductions available to be credited for a monitoring period are calculated as follows:

 $ER_{credit p} = \sum_{i} ER_{credit y}$

Equation <u>43</u>39

Where:

ER
credit pProject emissions reductions available to be credited for a monitoring period p;
tCO2-eqER
credit y,Project emissions reductions available to be credited in year y; tCO2-eq

J. Data and parameters fixed ex ante

The lists of the source of each data and parameter fixed *ex ante* and the source of each of default values selected in this methodology are available at the end of this section. The same option applied in the calculation of project reference level must be used.

(1) Emission factors for land conversions

Emission factors are calculated by applying carbon stock data used in National FRL, or other official report by Cambodian government.

<u>Table 1</u> Table 1 shows carbon stock data used in the National FRL submitted in 2017. As new official data becomes available, emission factors can be updated in coordination with government of Cambodia.

Table 1 Above ground and below ground biomass data used in the National FRL submitted in

		201	1			
Forest/Non-	Land use category	Abbreviation	Above-	Below-	Total	biomass,
Forest			ground,	ground,	tCha ⁻¹	
			tCha ⁻¹	tCha ⁻¹		
Forest	Evergreen forest	Е	76.61	14.69		91.30
	Semi-evergreen	SE	114.21	20.9		135.11
	forest					

		l l			
	Pine forest	Р	47	9.54	56.54
	Deciduous forest	D	39.95	8.26	48.21
	Bamboo	В	0	0	0
	Mangrove	М	70.5	13.65	84.15
	Rear Mangrove	MR	77.55	14.85	92.40
	Flooded forest	FF	32.9	6.96	39.86
	Forest regrowth	FR	35.25	7.4	42.65
	Tree plantation	ТР	47	9.54	56.54
	Pine plantation	PP	47	9.54	56.54
Non-forest	Non-forest	NF	0	0	0

Although Cambodia defined tree plantation (TP) and pine plantation (PP) as forest, emissions and removals in areas converted from the other forest categories to these two categories were excluded from the National FRL submitted in 2017 in consideration of safeguards, while those in areas converted from TP and PP to the other land use categories are included. The project participant uses the latest National FRL, and apply zero as EF for the conversion categories which are excluded from calculation in the National FRL.

Option 1: Use the National FRL transition probabilities from forest to non-forest classes only EF_i is an emission factor for area of land converted from land use category *i*, which is forest, to non-forest.

$$EF_i = \sum_k C_{ik}$$

Equation 4440

Where:

EF_i	Emission factor applicable for forest class i ; tC ha ⁻¹
C_{ik}	Carbon stock in carbon pool k in forest class i per unit area; tC ha ⁻¹
k	Carbon pools included in establishment of National FRL; dimensionless

Above ground and below ground are the carbon pools included in the establishment of the National FRL submitted in 2017. <u>Table 2</u> shows the calculated EF_i based on the National FRL submitted in 2017.

Table 2 Emission factors, EF_i, for Option 1 based on the National FRL submitted in 2017

Forest class, <i>i</i>	Abbreviation	EF _i , tC ha ⁻¹
Evergreen forest	Е	91.30

Semi-evergreen forest	SE	135.11
Pine forest	Р	56.54
Deciduous forest	D	48.21
Bamboo	В	0
Mangrove	М	84.15
Rear Mangrove	MR	92.40
Flooded forest	FF	39.86
Forest regrowth	FR	42.65
Tree plantation	ТР	56.54
Pine plantation	РР	56.54
Non-forest	NF	0

Option 2: Use all the National FRL transition probabilities among classes that would result in emissions

 EF_{ij} is an emission factor for area of land converted from land use category *i* to *j*.

$$EF_{ij} = \sum_k C_{ik} - \sum_k C_{jk}$$

Equation 4541

Where:

EF_{ij}	Emission factor for area of land converted from land use category i to j ; tC ha ⁻¹
C_{ik}	Carbon stock in carbon pool k in land use category i per unit area; tC ha ⁻¹
k	Carbon pools included in establishment of National FRL; dimensionless

Table 3 Emission factors, EF_{ij} , for Option 2 based on the National FRL submitted in 2017

		Land us	e category	y j									
		Е	SE	Р	D	В	М	MR	FF	FR	TP	PP	NF
i	Е	0.00	NA	34.76	43.09	91.30	7.15	NA	51.44	48.65	NA	NA	91.30
	SE	43.81	0.00	78.57	86.90	135.11	50.96	42.71	95.25	92.46	NA	NA	135.11
	Р	NA	NA	0.00	8.33	56.54	NA	NA	16.68	13.89	NA	NA	56.54
	D	NA	NA	NA	0.00	48.21	NA	NA	8.35	5.56	NA	NA	48.21
	В	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	0.00
	М	NA	NA	27.61	35.94	84.15	0.00	NA	44.29	41.50	NA	NA	84.15
	MR	1.10	NA	35.86	44.19	92.40	8.25	0.00	52.54	49.75	NA	NA	92.40
	FF	NA	NA	NA	NA	39.86	NA	NA	0.00	NA	NA	NA	39.86
	FR	NA	NA	NA	NA	42.65	NA	NA	2.79	0.00	NA	NA	42.65
	TP	NA	NA	0.00	8.33	56.54	NA	NA	16.68	13.89	0.00	0.00	56.54
	PP	NA	NA	0.00	8.33	56.54	NA	NA	16.68	13.89	0.00	0.00	56.54
	NF	NA	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	0.00

Note that when a land use category with a higher carbon stock is converted to a lower carbon stock, e.g., conversion from evergreen forest to non-forest, the EF_{ij} is positive. Removals are not included in this methodology, and therefore emission factors for conversions from a land

use category with lower carbon stock to higher carbon stock are not available in <u>Table 3</u>Table 3. As previously described, emissions and removals in areas converted from the other forest categories to tree plantation (TP) or pine plantation (PP) were excluded in the establishment of the National FRL submitted in 2017, and therefore *EFs* of those transitions as well as transitions resulting in removals are also not available in <u>Table 3</u>Table 3.

(2) Area of land use category *i* at the inception of the projectThis method applies to both options, Option 1 and 2, and to the following parameters:

- A_{i0} Area of forest class *i* or land use category *i* in the project area at the inception of the project; ha
- A_{di0} Area of forest class *i* or land use category *i* in the displacement belt at the inception of the project; ha

The most recent version of Cambodia's official forest map (≤ 2 years) provided by Cambodian government used to determine the area of land use category *i* in the project area and in the displacement belt at the project start date. Once A_{i0} and A_{di0} are determined in the project design document, these areas, determined at the project start date, will not be updated.

To quantify and account for the uncertainty of Cambodia's official forest map in the project area, an accuracy assessment will be performed as described in Section H calculation of project net emission, sub-section (1) carbon stock change in the project area.

(3) Annual transition probability in the reference area

Option 1: Use the National FRL transition probabilities from forest to non-forest classes only Annual deforestation rate for each forest type existing inside the project area, P_i , is calculated by applying area, A_{refi} , and area change, CA_{refi} , from the National FRL and nationally endorsed data sets, and is used in Equation 2. <u>Table 4</u> shows P_i calculated based on the National FRL submitted in 2017.

$$P_i = CA_{ref i} / (A_{ref i} * T_{ref})$$

Equation 4642

Where:

Pi	Annual transition probability from forest class <i>i</i> to non-forest within the reference
	area; dimensionless, 0-1
CArefi	Area converted into non-forest from forest class <i>i</i> during the reference period,
	e.g., 2006-2014 in the National FRL submitted in 2017, in reference area; ha
A _{ref i}	Area of forest class i in the reference area at the first year, e.g., 2006 in the

National FRL submitted in 2017, of the reference period; ha

 T_{ref}

Number of years, e.g., eight in the National FRL submitted in 2017, in the reference period; year

Forest class	Abbreviation	P _i , dimensionless
Evergreen forest	Е	0.0249
Semi-evergreen forest	SE	0.0309
Pine forest	Р	0.0000
Deciduous forest	D	0.0345
Bamboo	В	0.0141
Mangrove	М	0.0100
Rear Mangrove	MR	0.0417
Flooded forest	FF	0.0506
Forest regrowth	FR	0.0972
Tree plantation	ТР	0.1169
Pine plantation	РР	0.000

Table 4 P_i calculated based on the data used in the National FRL submitted in 2017

Option 2: Use all the National FRL transition probabilities among classes that would result in GHG emissions

Annual transition probability from land use category *i* to *j* is obtained in the form of a transition probability matrix, MP, using the forest area change matrix reported in National FRL and nationally endorsed data sets. It is important to note that the annual transition probability cannot be obtained by simply dividing transition probability in multiple years by number of the years, because transition probability in multiple years, *c* years, is *c*-th power of annual transition probability. It is recommended to use a method provided in a peer reviewed scientific paper for calculation of the annual transition probability, such as Takada et al. 2010³. Calculated MP is used in Equation 6.

Obtain an area-based *i*-by-*j* transition matrix for each of time interval from the National FRL. In the National FRL submitted in 2017, Forest Area Change Matrices between 2006 and 2010 and between 2010 and 2014 area are available in Annex I Emission/Removal Calculation Tables. Annual transition probabilities derived using the matrices in the National FRL submitted in 2017 are available in Table 6Table 6 below.

³ Takada T, Miyamoto A and Hasegawa SF (2010) Derivation of a yearly transition probability matrix for land-use dynamics and its applications. Landscape Ecol 25:561-572

Transition probability in an observation interval t is calculated as follows: $prob_{ij t} = CA_{ref ij t}/A_{ref i t}$ Equation 4743

Where:

prob _{ij t}	Transition probability from land use category i to j during an observation time
	interval <i>t</i> ; dimensionless, 0-1
CA _{ref ij t}	Area converted from land use category i to j during an observation time interval
	<i>t</i> within the reference area; ha
A _{refit}	Area of land use category i at the first year of an observation time interval t within
	reference area; ha

The notion $prob_{ij t}$ is an element of *i*-by-*j* cross-tabulation matrix $MP_{multi t}$, and $MP_{multi t}$ is the T_{multi} -th power of annual transition matrix MP_t .

$$MP_{multit} = MP_t^{T_{multi}}$$

Equation 4844

Where:

 $\begin{array}{ll} \text{MP}_{\text{multi t}} & i\text{-by-}j \text{ matrix in which each element is the transition probability from land use} \\ & \text{category } i \text{ to } j \text{ during an observation time interval } t, prob_{ij t}; \text{ dimensionless, 0-1} \\ \text{MP}_{\text{t}} & i\text{-by-}j \text{ matrix in which each element is the annual transition probability from land} \\ & \text{use category } i \text{ to } j \text{ during an observation time interval } t, p_{ij t}; \text{ dimensionless, 0-1} \\ & \text{T}_{\text{multi}} & \text{number of years of observation interval; year} \end{array}$

<u>Table 5</u> shows the transition probability matrix, $MP_{multi \ 2006-2010}$, in which each element $prob_{ij \ 2006-2010}$ is the transition probability from *i* to *j* in 4 years between 2006 and 2010 in the cross-tabulation based on the National FRL submitted in 2017. Note that the diagonal elements represent the probabilities of land being in the same category.

Table 5 Cross-tabulation matrix of 4-year, 2006-2010, transition probability based on the National
FRL submitted in 2017

	2010	2010											
2006		Е	SE	Р	D	В	М	MR	FF	FR	TP	PP	NF
	Е	0.960	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.039
	Se	0.000	0.952	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.045
	Р	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.971	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.029
	В	0.000	0.000	0.000	0.000	0.992	0.000	0.000	0.000	0.000	0.000	0.000	0.008
	М	0.004	0.002	0.000	0.000	0.000	0.968	0.001	0.000	0.000	0.000	0.000	0.025
	MR	0.000	0.003	0.000	0.000	0.000	0.003	0.962	0.000	0.002	0.000	0.000	0.030
	FF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.790	0.001	0.000	0.000	0.209

FR	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.881	0.001	0.000	0.116
TP	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.004	0.184	0.000	0.811
PP												
NF	0.002	0.001	0.000	0.003	0.000	0.000	0.000	0.007	0.007	0.001	0.000	0.979

Obtain the annual transition probability matrix, MP_t , in which each element p_{ijt} is the annual transition probability during an observation time interval *t*, by using MP_{multit} and a method provided in a peer reviewed scientific paper for calculation of annual transition probability such as Takada et al. 2010. The obtained MP_t should be validated by applying Equation 44.

If multiple MP_t s from more than one observation time interval are derived, calculate average annual transition probability as follows:

$$p_{ij} = \frac{\sum_{t} p_{ij\,t}}{N_{int}}$$
Equation 4945

Where:

p_{ij}	Annual transition probability from land use category i to j within the reference
	area; dimensionless, 0-1

 p_{ijt} Annual transition probability from land use category *i* to *j* during an observation time interval *t*; dimensionless, 0-1

N_{int} Number of observation intervals reported in National FRL; interval

<u>Table 6</u> shows the annual transition probability matrix, MP, in which each element p_{ij} is annual transition probability from *i* to *j* based on observations during intervals of 2006-2010 and 2010-2014 presented in the National FRL submitted in 2017.

Table 6 Annual transition probability matrix based on observations during intervals of 2006-2010 and 2010-2014 presented in the National FRL submitted in 2017

	y+1												
у		Е	SE	Р	D	В	М	MR	FF	FR	ТР	PP	NF
	Е	0.971	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.027
	SE	0.000	0.963	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.035
	Р	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.960	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.040
	В	0.000	0.000	0.000	0.000	0.985	0.000	0.000	0.000	0.001	0.000	0.000	0.015
	М	0.001	0.000	0.000	0.000	0.000	0.988	0.001	0.000	0.000	0.000	0.000	0.010
	MR	0.000	0.000	0.000	0.000	0.000	0.003	0.944	0.000	0.005	0.001	0.000	0.048
	FF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.940	0.001	0.000	0.000	0.060
	FR	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.002	0.000	0.117
	TP	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	-0.001	0.003	0.780	0.000	0.219
	PP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
	NF	0.001	0.001	0.000	0.003	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.990

(4) Annual transition probability in the displacement belt

The same method as (3), Annual transition probability in the reference area, is applied for the

displacement belt instead of the reference area.

(5) Parameters for calculating emissions due to the project activities <u>Fossil fuel combustion</u>

Default net caloric value and net calorific based emission factors are available in the 2006 IPCC Guidelines, and those of selected fuels types are listed in the table for "the source of each data and parameter fixed *ex ante*".

Reference figures such as manufacturer specifications can be used for $SEC_{j,f}$. If no specific energy consumption data are available, fuel consumption and distance and/or hours are recorded before the initial verification to calculate $SEC_{j,f}$. Those figures can be used for the entire project period.

Fertilizer application

Data and parameter fixed *ex ante* and default values for calculating N_2O and CO_2 emissions are shown in the tables for "the source of each data and parameter fixed *ex ante*" and "the source of each of default values selected in this methodology" below.

Parameter	Description of data	Source
A_{i0}	Area of forest class i or land use category i in the	Cambodia's official
	project area at the inception of the project; ha	forest map
Pi	Option (1) Annual transition probability from forest	Cambodia's official
	class <i>i</i> to non-forest within the reference area;	forest reference level
	dimensionless, 0-1	(National FRL)
<u>d</u> y	Number of operating days in year y	Decided based on
		starting date of project
		operation and expected
		operational lifetime of
		project
<u>d</u> o y	Number of days in year y	Automatically decided
		by number of year y
p _{ij}	Option (2) Annual transition probability from land	Cambodia's official
	use category i to j within the reference area;	forest reference level
	dimensionless, 0-1	(National FRL)
EFi	Option (1) Emission factor applicable for forest	Cambodia's official
	class <i>i</i> ; tC ha ⁻¹	forest reference level

The source of each data and parameter fixed *ex ante* is listed as below.

		(National FRL)		
$\mathrm{EF}_{\mathrm{ij}}$	Option (2) Emission factor for area of land	Cambodia's official		
	converted from land use category <i>i</i> to <i>j</i> ; tC ha ⁻¹	forest reference level		
		(National FRL)		
A_{di0}	Area of forest class i in the displacement belt at the	Cambodia's official		
	inception of the project; ha	forest map		
P_{di}	Option (1) Annual transition probability from forest	Cambodia's official		
	class i to non-forest within the displacement belt;	forest maps		
	dimensionless, 0-1			
p _{d ij}	Option (2) Annual transition probability from land	Cambodia's official		
	use category i to j within the displacement belt;	forest maps		
	dimensionless, 0-1			
	Net calorific value of fuel <i>f</i> ; GJ kg ⁻¹	Table 1.2 of Ch. 1 Vol. 2		
NCV _f	- Gas/Diesel oil: 43.0 TJ Gg ⁻¹	of 2006 IPCC		
	– Motor Gasoline: 44.3 TJ Gg ⁻¹	Guidelines		
	- Crude Oil: 42.3 TJ Gg ⁻¹	Guidennes		
	CO_2 emission factor of the fuel type <i>f</i> combusted; t	Table 3.2.1 of Ch. 3 and		
	$CO_2 GJ^{-1}$	Table 3.2.1 of Ch. 3 and Table 2.5 of Ch.2, Vol. 2		
$EF_{fuel\;f}$	- Gas/Diesel Oil: 74,100 kg $CO_2 TJ^{-1}$	of 2006 IPCC Guidelines		
	– Motor Gasoline: 69,300 kg CO ₂ TJ ⁻¹	Tables 2.5 and 3.2.1		
	- Crude Oil: 73,300 kg TJ ⁻¹	1a0105 2.5 and 5.2.1		

The source of each of default values selected in this methodology is listed as below.

Parameter	Description of data	Source
	Emission factor for N ₂ O emissions from N inputs in	
	cropland type c ; tN ₂ O-N (tN-input) ⁻¹	Table 11.1 of Ch. 11
$EF_{direct\text{-}Nc}$	 Cropland in general: 0.01 tN₂O-N (tN-input)⁻¹ 	Vol. 4 of 2006 IPCC
	- Rice paddy (flooded rice field): 0.003 tN ₂ O-N	Guidelines
	(tN-input) ⁻¹	
	Emission factor for N ₂ O emissions from atmospheric	
	deposition of N on soils and water surfaces; tN_2O -N (t	Table 11.3 of Ch. 11
$EF_{indirect-N}$	NH ₃ -N and NO _X -N volatilized) ⁻¹	Vol. 4 of 2006 IPCC
	- 0.010 t N ₂ O-N (t NH ₃ -N and NO _X -N volatilized) ⁻	Guidelines
	1	
FF	Emission factor for N ₂ O emissions from N leaching	Table 11.3 of Ch. 11
$\mathrm{EF}_{\mathrm{leach-N}}$	and runoff; tN_2O -N (t leaching and runoff) ⁻¹	Vol. 4 of 2006 IPCC

	- $0.0075 \text{ tN}_2\text{O-N}$ (t N leaching and runoff) ⁻¹	Guidelines
EF _{limestone}	Emission factor for limestone; tC (t limestone) $^{-1}$	Section 11.3.1 of Ch.
	- 0.12 tC (t limestone) ⁻¹	11 Vol. 4 of 2006
		IPCC Guidelines
EF _{dolomite}	Emission factor for dolomite; tC (t dolomite) ⁻¹	Section 11.3.1 of Ch.
determine	- 0.13 tC (t dolomite) ⁻¹	11 Vol. 4 of 2006
		IPCC Guidelines
EFurea	Emission factor for urea; tC (t urea) ⁻¹	Section 11.4.1 of Ch.
	- 0.20 tC (t urea) ⁻¹	11 Vol. 4 of 2006
		IPCC Guidelines
GWP _{N2O}	Global Warming Potential for N ₂ O; tCO ₂ (tN ₂ O) ⁻¹	Table 2.14 in Ch.2 of
	- GWP_{100} for N ₂ O: 298 tCO ₂ (tN ₂ O) ⁻¹	Working Group I
		contribution to the
		IPCC Forth
		Assessment Report
Frac _{sn}	Fraction that volatilized as NH_3 and NO_X for synthetic	Table 11.3 of Ch. 11
	fertilizers; dimensionless, 0-1	Vol. 4 of 2006 IPCC
	- 0.10	Guidelines
Frac _{ON}	Fraction that volatilized as NH3 and NOX for organic	Table 11.3 of Ch. 11
	fertilizers; dimensionless, 0-1	Vol. 4 of 2006 IPCC
	- 0.20	Guidelines
Frac _{leach}	Fraction of N that area lost through leaching and	Table 11.3 of Ch. 11
	runoff; dimensionless, 0-1	Vol. 4 of 2006 IPCC
	- 0.30	Guidelines

History of the document

Version	Date	Contents revised			
01.0	21 February 2020	JC5, Annex 5			
		Initial approval.			
<u>01.1</u>	27 February 2021	Electronic decision by the Joint Committee			
		• Revised indication of years in the spreadsheet.			
		• Added a parameter of "number of operating days in year			
		y" and adjusted the equations including the parameter.			

Monitoring Plan Sheet (Input Sheet) [Attachment to Project Design Document]

(a)	(b)	(C)	(d)	(e)	(f)	(g)	(h)	()	0/
nitoring point	Parameters	Description of data	Estimated	Units	Monitoring	Source of data	Measurement methods and procedures	Monitoring	Other comme
No.		(Option 1) Area converted from forest class	Values		option	Cambodia's official		frequency	Input on
(1)	CA _{pj i y}	<i>i</i> to non-forest in the project area in year y	-	ha	Option A	forest map	-	-	"MPS(input PJ Opt
		(Option 1) Area converted from forest class							Input on
(2)	CA _{d pjiv}	<i>i</i> to non-forest in the displacement belt in	-	ha	Option A	Cambodia's official	-		"MPS(input PJ Opt
(-)	or a piry	year y			option	forest map			sheet
		(Direct method) Quantity of fuel type f				Invoices, project	Collect all purchase records of fuel used for the project activities, and		Input on
(3)	FC _{fy}	consumed in year y	-	kg	Option B/C	management record	record type and amount of fuel and type of vehicle/equipment.	Once every year	"MPS(input_PJ_Opt
		(Indirect method) Number of vehicle or				Project management	Record number of vehicle or equipment type <i>j</i> used for the project		Input on
(4)	NVE _{j f y}	equipment type <i>j</i> using fuel type <i>f</i> in year <i>y</i>	-	unit	Option C	record	activities	Once every year	"MPS(input PJ Op
							Record total travel distance or total use hours at least 50% of all		
(5)	TDU	(Indirect method) Total travel distance for				Project management	vehicles or equipment for each type of vehicle or equipment using		Input on
(5)	TDU _{j f y}	vehicle type <i>j</i> or use hours for equipment	-	km or hour	Option C	record (trip record etc)	GPS or watch, and calculate average total travel distance or total use		"MPS(input_PJ_Op
		type <i>j</i> using fuel type <i>f</i> in year <i>y</i>					hours.	1	sheet
		A				Manufacturer	Reference figures such as manufacturer specifications can be used. If	Once before the	Input on
(6)	SECif	Average specific energy consumption of vehicle or equipment type <i>j</i> for fuel type <i>f</i>	-	kg km ⁻¹ or hour ⁻¹	Option A/C	specifications or	no data available, fuel consumption and distance are recorded before	initial verification	"MPS(input_PJ_Op
				-		measurement	the initial verification.	Initial vernication	sheet
		Mass of synthetic fertilizer applied for					Collect all purchase records of synthetic fertilizer used for the project		Input on
(7)	M _{SN cy}	implementation of the project activities in	_	+	Option B/C	Invoices, project	activities, and record type and amount of fertilizer and cropland type		
(')	IN SN C Y	cropland type c in the project area and the		L.	Option b/C	management record	where fertilizer is applied.		sheet
		activity area in year y						ļ	Sheet
		Mass of organic fertilizer made from						1	
		materials sourced from outside of the					Measure weight of organic fertilizer made from materials sourced from	1	Input on
(8)	Moncy	project area and the activity area and	-	t	Option B/C	Invoices, project	outside of the project area and the activity area, record the weight,		
(-)	···one y	applied for implementation of the project		-		management record	fertilizer type and cropland type where fertilizer is applied.		sheet
		activities in cropland type c in the project						1	
		area and the activity area in year y				Data frans and durant		On so h of so the	la a chi a a
(9)	NC _{SN c}	Nitrogen content of synthetic fertilizer applied in cropland type <i>c</i>	-	tN (t fertilizer) ⁻¹	Option A	Data from producers of synthetic fertilize	-	Once before the	"MPS(input PJ Op
		Nitrogen content of organic fertilizer applied		, ,		or synuleuc teruiize		Once before the	
(10)	NC _{ON c}	in cropland type c	-	tN (t fertilizer) ⁻¹	Option A	Published data	-		"MPS(input PJ Or
		Harvested annual dry matter yield for N-							
		fixing crop T per unit area, introduced for				Published data or	Select 10% of farmers who introduce N-fixing crops under the project,	1	Input on
(11)	Crop _{c T y}	implementation of the project activities in	-	t d.m. ha ⁻¹	Option A/C	Project management	measure dry yield for N-fixing crop, and calculate average t d.m ha ⁻¹ .	Once every year	"MPS(input PJ Op
. ,	,	cropland type c in the project area and the		C d.i.i. iid		record	Alternatively published average dry yield data for the N-fixing crop can		sheet
		activity area in year y					be used.	1	
		Total annual area harvested of N-fixing					Record area harvested N-fixing crop by interviewing farmers.		Innut on
(12)	Area _{c T y}	crop T, introduced for implementation of		ha	Option C	Project management	Alternatively, a project activity plan for area of farmland where N-fixing	Once evenueer	Input on "MPS(input PJ Op
(12)	Alea _{cTy}	the project activities in cropland type c in	-	na	Option C	record	crop is introduced can be also used.		sheet
		the project area and the activity area in					crop is introduced can be also used.	1	
(40)	Р	Ratio of above-ground residues to			Onting A/O	Published data or	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC	Once before the	Input on
(13)	R _{AG T}	harvested yield for N-fixing crop T	-	t d.m. (t d.m.) ⁻¹	Option A/C	calculation	Guidelines, published and/or measured yield data.	initial verification	"MPS(input_PJ_Op
	D	Ratio of below-ground residues to		1		Published data or	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC	Once before the	
(14)	R _{BG T}	harvested yield for N-fixing crop T	-	t d.m. (t d.m.) ⁻¹	Option A/C	calculation	Guidelines, published and/or measured yield data.		"MPS(input_PJ_Op
		N content of above-ground residues for N-						Once before the	Input on
(15)	N _{AG T}		-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	initial verification	"MPS(input PJ Op
		fixing crop T						initial ventication	sheet
		N content of below-ground residues for N-						Once before the	Input on
(16)	N _{BG T}	fixing crop T	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	initial verification	"MPS(input_PJ_Op
		, ,							sheet
(17)	Frac _{Renew T}	Fraction of total area under N-fixing crop T	_	dimensionless	Option C	Interview	Interview for local agriculture expert	Once before the	
(11)	Renew 1	that is renewed annually		amonoiomeas	Spuoli O			initial verification	"MPS(input_PJ_Op
		Mass of calcic limestone (CaCO ₃) applied						1	Input on
(18)	M _{limestone y}	for implementation of the project activities	_	t	Option B/C	Invoices, project	Collect all purchase records of calcic limestone used for the project	Once every year	
(10)	····inflestone y	in the project area and the activity area in			Splich D/C	management record	activities, and record the amount.		sheet
		year y						ļ	
		Mass of dolomite (CaMg(CO ₃) ₂) applied for				Invoices, project	Collect all purchase records of dolomite used for the project activities,	I	Input on
(19)	M _{dolomite y}	implementation of the project activities in	-	t	Option B/C	management record	and record the amount.		"MPS(input_PJ_Op
		the project area and the activity area in				management record		L	sheet
		Mass of urea fertilizer applied for							Input on
	M _{urea y}				Option B/C	Invoices, project	Collect all purchase records of urea fertilizer used for the project		"MPS(input PJ Op

Table 2: Project-specific parameters to be fixed ex ante

(a)	ific parameters to be fixed ex ante (b)	(c)	(d)	(e)	(f)
Parameters	Description of data	Estimated	Units	Source of data	Other comments
A: a	Area of forest class <i>i</i> in the project area at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt1)" sheet
	Area of forest class <i>i</i> in the displacement belt at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt1)" sheet
d _y	Number of operating days in year y	-	days	Decided based on starting date of project operation and expected operational lifetime of project	Input on "MPS(input_RL_Opt1)" sheet
d _{oy}	Number of days in year <i>y</i>	-	days	Automatically decided by number of year y	Input on "MPS(input_RL_Opt1)" sheet
	Annual transition probability from Evergreen forest (E) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
P _{SE}	Annual transition probability from Semi-evergreen forest (SE) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
Pp	Annual transition probability from Pine forest (P) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
PD	Annual transition probability from Deciduous forest (D) to non- forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
PB	Annual transition probability from Bamboo (B) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
P _M	Annual transition probability from Mangrove (M) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
P _{MR}	Annual transition probability from Rear Mangrove (MR) to non- forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
P _{FF}	Annual transition probability from Flooded forest (FF) to non-forest within the reference area		dimensionless	Cambodia's official forest reference level (FRL)	
P _{FR}	Annual transition probability from Forest regrowth (FR) to non- forest within the reference area Annual transition probability from Tree plantation (TP) to non-forest		dimensionless	Cambodia's official forest reference level (FRL)	
P _{TP}	within the reference area Annual transition probability from Pine plantation (PP) to non-forest		dimensionless	Cambodia's official forest reference level (FRL)	
Ppp	Within the reference area Annual transition probability from Evergreen forest (E) to non-forest		dimensionless	Cambodia's official forest reference level (FRL)	
PdE	within the displacement belt Annual transition probability from Semi-evergreen forest (SE) to		dimensionless	Cambodia's official forest maps	
Pd SE	Annual transition probability from Pine forest (P) to non-forest Annual transition probability from Pine forest (P) to non-forest		dimensionless	Cambodia's official forest maps	
PdP	Annual transition probability from Deciduous forest (D) to non-		dimensionless	Cambodia's official forest maps	
PdD	Annual transition probability from Bamboo (B) to non-forest within		dimensionless	Cambodia's official forest maps	
Рав	Annual transition probability from Mangrove (M) to non-forest within Annual transition probability from Mangrove (M) to non-forest within		dimensionless	Cambodia's official forest maps	
PdM	Annual transition probability from Rear Mangrove (MR) to non-		dimensionless	Cambodia's official forest maps	
	forest within the displacement belt Annual transition probability from Flooded forest (FF) to non-forest		dimensionless	Cambodia's official forest maps	
PdFF	within the displacement belt Annual transition probability from Forest regrowth (FR) to non-		dimensionless	Cambodia's official forest maps	
PdFR	Annual transition probability from Tree plantation (TP) to non-forest		dimensionless	Cambodia's official forest maps	
PdTP	Annual transition probability from Pine plantation (PP) to non-forest Annual transition probability from Pine plantation (PP) to non-forest		dimensionless	Cambodia's official forest maps	
	within the displacement belt		dimensionless	Cambodia's official forest maps	

Emission factor applicable for Evergreen forest (E)	tC	Cha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Semi-evergreen forest (SE)	tC	Cha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Pine forest (P)	tC	C ha⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Deciduous forest (D)	tC	C ha⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Bamboo (B)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Mangrove (M)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Rear Mangrove (MR)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Flooded forest (FF)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Forest regrowth (FR)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Tree plantation (TP)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Emission factor applicable for Pine plantation (PP)	tC	C ha ⁻¹	Cambodia's official forest reference level (FRL)	
Net calorific value of fuel f	- G	J kg⁻¹	2006 IPCC Guidelines Tables 1.2	Input on "MPS(input_PJ_Opt1)" sheet
CO ₂ emission factor of the fuel type <i>f</i> combusted	- tC	CO ₂ GJ ⁻¹	2006 IPCC Guidelines Tables 2.5 and 3.2.1	Input on "MPS(input_PJ_Opt1)" sheet
	Emission factor applicable for Pine forest (P) Emission factor applicable for Deciduous forest (D) Emission factor applicable for Bamboo (B) Emission factor applicable for Mangrove (M) Emission factor applicable for Rear Mangrove (MR) Emission factor applicable for Flooded forest (FF) Emission factor applicable for Forest regrowth (FR) Emission factor applicable for Tree plantation (TP) Emission factor applicable for Pine plantation (PP) Net calorific value of fuel f	Emission factor applicable for Semi-evergreen forest (SE) tt Emission factor applicable for Pine forest (P) tt Emission factor applicable for Deciduous forest (D) tt Emission factor applicable for Bamboo (B) tt Emission factor applicable for Rangrove (M) tt Emission factor applicable for Rear Mangrove (MR) tt Emission factor applicable for Flooded forest (FF) tt Emission factor applicable for Forest regrowth (FR) tt Emission factor applicable for Tree plantation (TP) tt Emission factor applicable for Pine plantation (PP) tt	Emission factor applicable for Semi-evergreen forest (SE) tC ha ⁻¹ Emission factor applicable for Pine forest (P) tC ha ⁻¹ Emission factor applicable for Deciduous forest (D) tC ha ⁻¹ Emission factor applicable for Bamboo (B) tC ha ⁻¹ Emission factor applicable for Mangrove (M) tC ha ⁻¹ Emission factor applicable for Rear Mangrove (MR) tC ha ⁻¹ Emission factor applicable for Flooded forest (FF) tC ha ⁻¹ Emission factor applicable for Forest regrowth (FR) tC ha ⁻¹ Emission factor applicable for Tree plantation (TP) tC ha ⁻¹ Emission factor applicable for Pine plantation (PP) tC ha ⁻¹ Met calorific value of fuel f -	Emission factor applicable for Semi-evergreen forest (SE) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Pine forest (P) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Deciduous forest (D) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Deciduous forest (D) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Mangrove (M) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Rear Mangrove (MR) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Flooded forest (FF) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Flooded forest (FF) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Forest regrowth (FR) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Tree plantation (TP) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Pine plantation (PP) IC ha ⁻¹ Cambodia's official forest reference level (FRL) Emission factor applicable for Pine plantation (PP) IC ha ⁻¹ Cambodia'

Table3: Ex-ante estimation of CO₂ emission reductions to be credited

CO ₂ emission reductions		Units	
		0	tCO ₂ /p
Year	2018	0	tCO ₂ /y
	2019	0	tCO ₂ /y
	2020	0	tCO ₂ /y
	2021	0	tCO ₂ /y
	2022	0	tCO ₂ /y
	2023	0	tCO ₂ /y
	2024	0	tCO ₂ /y
	2025	0	tCO ₂ /y
	2026	0	tCO ₂ /y
	2027	0	tCO ₂ /y
	2028	0	tCO ₂ /y
	2029	0	tCO ₂ /y

[Monitoring option]

Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
Option B	Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipments (Data used: measured values)
Monitoring Spreadsheet: JCM_KH_AM004_ver01.1

																												Referen	nce Number:
Parameters									Ai,y											ΔC	S _{ref y}						RLy	d _v	d _{0y}
Description of	data						Area of for	est class <i>i</i> ir	n the project a	area in year	у							Proje	ected carbor	n stock chan	ge in the pro	oject area in	year y				Project reference level in year y	number of operating days in year y	number of days in year y
Units									ha												tC						tCO ₂ y ⁻¹	days	days
Forest class i		Ever fore	rgreen st	emi- vergreen vrest	Pine forest	Deciduous	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	-	-	-
Inception of the project		018													-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	018	0	0	C) (0	0	0 0) () (0 0		0 (0	0 0	0 0) () (0 0	0 0)	0 (0 0	0 0	0	0	(_
		<u>)19</u>	0	0	0) (0	0	0 0) (0 0	0 0		0 0	0	0 (0 0) () (0 0	0 0	0	0 0	0 0	0 0	0 0	0		
		120	0	0	C) (0	0	0 0) () (0 0		0 (0 (0 0) () () (0 0	0	0 0	0 0	0 0	0 0	0		
		121	0	0	0		0	0	0 0			0 0					0 0) () (0 0)	0 0	0 0	0 0		0		+'
		122	0	0	(0	0	0 0							0 0				2 (0 0	0 0			0		+'
Year –		123	0	0			J	0																			0		+
		125	0	0	0		5 N	0																			0		+
		126	0	0	0		n	0	0 0						1							<u>.</u>	0 0	0 0			0		+
		127	0	0	0		0	0	0 0)	0 0)	0 0	0 0			0		+
		128	0	0	0) (0	0	0 0					0 0)	0 0	0 0			2 () ()	0 0	0 0	0 0		0		+
		129	0	0	0) (0	0	0 0) (0 0		0 0	0 0			0 0	0 0)	0 0	0 0	0 0		0		++
Т	otal		-	-		-	-	-	-	-	-			-	-	-			-	-	-	-	-	-			0		

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aramoters						CA,	69											40	S _{ele}						AC5 ₆₇
eacription of (data			Алеа соти	ried from fore	at class / to n	on-format in th	e projectares	in year y						Carbon a	lock change	in area conve	ried from fore	at class / to n	an-forest in the	project area	in year y			Carbon stock change i the project area in year
inits						h													iC .						1C
orest class /		Evergreen forest	Semi- exergreen forest	Deciduous forest	Sanboo			Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Evergreen forest	Semi- evergreen forest		Deciduous forest	Samboo	Mangrove	Rear Mangrove			Tree plantation	Pine plantation	non forest	total
													0,0												
													0,0					0,00	0,00			0,00	0,00		
													0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0.00	0,00	0,00	
													0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
													0,0			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
ar l													0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
													0,0	0 0,00	0,00	0.00	0,00	0,00	0,00	0.00	0,00	0.00	0,00	0,00	
															0,00		0,00		0,00		0,00		0,00		
													0,0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
													0,0	0 0,00	0,00	0,00	0,00	0,00	0,00	0.00	0,00	0.00	0,00	0,00	
				 									0,0												
	Total												0,0	0 0,00	0,00	0,00	0,00	0,00	0,00	2 0,00	0,00	0,00	0,00	0,00	

et hom half all conducting (Birct attribute) (Bi

	m fossil fuel combustic										
Paramoters				PC _L				Etatity			E _{latic} (direct)
Description of	fdata		Quantity of fael	type f consur	ned in year y	CO ₂ emiss	sions from co		uai fuei type f	in your y	CO ₂ emissions from fossil fael combustion in year y due to the project activities (direct method)
Units				kg				100,			100,
Fuel type f		Gas/desel of	Motor gasoline	Crude oil		al		Crude oil			
	2/1					0,0	0,0		0,0	0,0	0,0
						0,0			0,0	0,0	0,0
						0,0	0,0	0,0	0,0	0,0	0,0
									0,0	0,0	0,0
						 0,0				0,0	0,0
Year						 0,0				0,0	0,0
						 0.0	0.0	0.0		0.0	0.0
						 0,0	0,0			0,0	0,0
						 0,0	0,0		0,0	0,0	0,0
						 0,0	0,0	0,0	0,0	0,0	0,0
						 0,0			0.0	0,0	0.0
	Total										0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0

	n fossil fuel combustic	n (Indirect me	rthod)														
Vehicle type																	
Fuel type f																	
				SEC					NCV,								
		Average spe	offic energy co	naumption of r	whicle or equi	pment type /	#NA	#NA	INA	INA	#NA	NA	NA.	NA.	NA.	NA.	NA
			kç	km1 or hour					IF toti			1					
Value							0,0000	0,0000		0,0000	0,0000	5					
Parameters				NVE.					TDU/,					Elatite			Elut, (indirect)
Description of	data	Number of	vehicle or equip		sing fuel type	f in year y	Total travel		ng fuel type f	in year y	r equipment	CO ₂ emissio		ng fuel type f		br equipment	CO ₂ emissions from fossil fael combustion in year y due to the project activities (indirect method)
Units				unit				k	m or hour unit					100,			100,
	201											MNA.	#NA	#NA	#NA	#NA	
												INIA	#NA	#NA	#NA	#NA	0,0
												INA	#NA	#NA	#NA	#NA	
												#N/A	#NA	#NA	#NA	#NA	0.0
												INA	#NA	#NA	#NA	#NA	0,0
Year												INA	#NA	#NA	#NA	#NA	0,0
1 Call												INA	#NA	#NA	#NA	#NA	0,0
	201											#NA	#NA	#NA	#NA	#NA	
												INA	#NA	#NA	#NA	#NA	0,0
												#NA	#NA	#NA	#NA	#NA	0,0
												#NA	#NA	#NA	#NA	#NA	0,0
												#N/A	#NA	#NA	#NA	#NA	0.0
																	0.0
	Total																

Emission from fertilizer application																
Parameters	N	SNo.	NC	961		Fracteres T			R ₆₀₁		Reat		Negr		Nagr	
Description of data	synthetic fert croplan	content of laxer applied in d type c	croplan	aer applied in d type c	crop 7 th	total area un at la reneveo	annually	harvested	cove-ground r yield for N-fai	harvested	elow-ground n yield for N-fol		4-faing crop 1		4-foing crop 7	
Units	1N (1.5e	tilzer)	2N (1.5er	tilzeri		dimensionies			dm (tdm)		dm (tdm)		tN(tdm)		tN(tdm)	
Cropland type c / N-fixing crop T	General (non-paddy)	Rice paddy	General (non-paddy)	Rice paddy												
Value																

Para	meters		M.	Neg	Mo	6xy			Cro	P _{eTy}					An	4. Ty		F.	No y	F ₀	No y	1	Chay.	Measurey	Maintey	Money	Education	E _{mirat Xy}	Europy	Europy	Electory
Deac	ription of c	lata	Mass of synt applied for in of the projec cropland ty project areas a areas in	nplementation tractivities in ps c in the nd the activity	Mass of organization of the project as activity areas for implement project as constant of the project are activity areas activity activity activity areas activity areas activity areas activity activit	n materials moutside of area and the and applied tation of the childes in pe c in the sa and the		station of the p	project activiti		type c in the					rop T, introdu the project a r y		synthetic fer	ntation of the ctivities in ge c in the ea and the	organic fee from maker from outsid area and the and ap implement project a cropland to project ar	nitrogen in rilizer made ials sourced is the project is activity area piled for tation of the indivities in ype c in the rea and the sa and the sa in year y	residues (and below foing crop for implem project cropland project a activity are	Inogen in crop above-ground ground) in N- ps, introduced excitition of the activities in type c in the rese and the a and returned b in year y	Mass of calcic invasions (CalCb ₁) applied for implemental on of the project activities in the project ansa and the activity area in year y	dolorrite (CaMg(CO ₂)) applied for implemental on of the project activities in the project area and the	fertilizer applied for implemental on of the project activities in the project area and the	within the project area and the activity area for implemental on of the project activities in year y	emissions as a result of nitrogen application within the project area and the project area for implemental on of the project activities in year y	erisations as a result of adding liming materials within the project area and the activity area for implemental on of the project activities in year y	of unea ferilization application within the project area and the activity area for implemental on of the project activities in year y	GHG emissions from fertizer application within the project areas and the activity areas for implemental on of the project activities in year y
Units									t d.m	, ha ^{rt}					2	a			N		IN		1N	t .		t	100 ₇ -eq	100,-eq	100,	100,	100 ₂ -eq
	land type o		General (non-paddy)	Rice paddy	General (non-paddy)	Rice paddy	Ger	wal (non-pad	sdy)		Rice paddy		Ge	wal (non-par	ddy)		Rice paddy	General (non-paddy)	Rice paddy	General (non-paddy)	Rice paddy	General (non-paddy	Rice paddy	NA	NA.	NA.	NA.	NA	NA	NA	NA
N-fix	ing crop T		NA	NA.	NA.	NA.												NA.	NA.	NA.	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																		 0,0	0,	0,0	0,0	0,	.0 0,0	1			0,0	0,0	. 0,0	0,0	0,0
																		 0,0									0,0				
																		 0,0		0,0			0,0 0,0	1			0,0				
																		0.0					0 00				0.0				
																		0,0					0 0,0				0,0				
Year																		0,0									0,0				
																		0.0	8	0,0	0,0		0,0				0.0	0.0	1 0.0	0.0	0.0
																		 0.0			0,0		0 0.0				0,0			0.0	0,0
																		 0.0					0 0.0				0,0		0.0		
																		 0.0									0,0				
																		 0.0	8	0.0	0.0	1 0	0 00				0.0	0.0	0.0	0.0	0.0
	-	[ctal		-					-	-	-	-	-									-					0.0		0.0	0.0	0.0

Actual carbon stock change in the displacement belt in year y	DR, DP, DE, d, d, Reference entropies Project e
Actual caston stack change in the displacement built in your y	from the displacement bet in the displacement bet in the displacement bet in year y year y
TC Typen Pine Streat Decideous Bamboo Mangoow Mangoow Stream Streat Tree Pine non forest Stream Stream Stre	100, 100, 100, daya a
mi- green Pine forest Screet Bamboo Margove Rear Flooded Forest Tree Pine partiation partiation partiation	
	ି <u>ରଗ ଗଣ</u> ରଗ ରଖ
	<u>e oo oo oo oo</u>
	0.0 0.0 0.0
00000000000000	



Iculations for emission reductions to be credited	Pool / Sources	Value	Units	Parame
roject emission reductions to be credited during the period p		0,0	tCO ₂ e	ERp
Project emission reductions to be credited in year y				
2018		0,0	tCO ₂ e	ER
2019		0,0	tCO ₂ e	ER
2020		,	tCO ₂ e	ER
2021		0,0	tCO ₂ e	ER
2022		,	tCO ₂ e	ER
2023		0,0	tCO ₂ e	ER
2024		- , -	tCO ₂ e	ER
2025			tCO ₂ e	ER
2026		0,0	tCO ₂ e	ER
2027		0,0	tCO ₂ e	ER
2028			tCO ₂ e	ER
2029		0,0	tCO ₂ e	ER
Iculations for project reference level				
roject reference level during period p		0,0	tCO ₂ e	RL
Project reference level in year y				
2018	Carbon stock	0,0	tCO ₂ e	RL
2019	Carbon stock	0,0	tCO ₂ e	RL
2020	Carbon stock	0,0	tCO ₂ e	RL
2021	Carbon stock	0,0	tCO ₂ e	RL
2022	Carbon stock	0,0	tCO ₂ e	RL
2023	Carbon stock	0,0	tCO ₂ e	RL
2024	Carbon stock	0,0	tCO ₂ e	RL
2025	Carbon stock	0,0	tCO ₂ e	RL
2026	Carbon stock	0,0	tCO ₂ e	RL
2027	Carbon stock	0,0	tCO ₂ e	RL
2028	Carbon stock	0,0	tCO ₂ e	RL
2029	Carbon stock	0,0	tCO ₂ e	RL

oject	net emissions during period p		0,0	tCO ₂ e	Pe
Emi	issions from carbon stock change in the project area in year y	/			
	2018	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2019	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2020	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2021	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2022	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2023	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2024	Carbon stock		tCO ₂ e	ΔCS _{pj y}
	2025	Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock	,	tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	1
		Carbon Slock	0,0	10020	ΔCS _{pj y}
	² emissions from fossil fuel combustion in year <i>y</i>			400 -	
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
	2023	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2024	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2025	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2026	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2027	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2028	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2029	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
GH	G emissions from fertilizer application in year y				
	2018	Fertilizer application	0,0	tCO ₂ e	Efertil
	2019	Fertilizer application	0,0	tCO ₂ e	Efertili
	2020	Fertilizer application	0,0	tCO ₂ e	Efertili
	2021	Fertilizer application	0,0	tCO ₂ e	Efertili
		Fertilizer application	0.0	tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
				tCO ₂ e	
		Fertilizer application	,	-	Efertili
		Fertilizer application	0,0	tCO ₂ e	Efertili
Disp	placement of net emissions in year y			100	
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
	2021	Carbon stock		tCO ₂ e	DE
	2022	Carbon stock		tCO ₂ e	DE
	2023	Carbon stock	0,0	tCO ₂ e	DE
		Carbon stock	0,0	tCO ₂ e	DE
	2024		0.0	tCO ₂ e	DE
		Carbon stock	0,0	10020	
	2025	Carbon stock Carbon stock		tCO ₂ e	
	2025 2026	Carbon stock	0,0	tCO ₂ e	DE
	2025 2026 2027	Carbon stock Carbon stock	0,0	tCO ₂ e tCO ₂ e	DE DE
	2025 2026 2027 2028	Carbon stock	0,0 0,0 0,0	tCO ₂ e	DE DE DE DE

[List of Default Values]

1 1			
Emission factor for N ₂ O emission from N inputs for general (non-paddy)	0.01	tN ₂ O-N (tN- input) ⁻¹	EF _{direct-N} (general)
Emission factor for N ₂ O emission from N inputs for Rice paddy (flooded rice field)	0.003	tN_O_N (tN_	EF _{direct-N} (paddy)
Fraction that volatilized as NH ₃ and NOx for synthetic fertilizers			Frac _{sn}
Fraction that volatilized as NH ₃ and NOx for organic fertilizers			Frac _{on}
Emission factor for N_2O emissions from atmospheric deposition of N on soils and water surfaces	0,010	volatilized) ⁻¹	EF _{indirect-N}
Fraction of N that is lost through leaching and runoff	0,30	dimensionless	Frac _{leach}
Emission factor for $N_2 O$ emissions from N leaching and runoff	0,0075	tN ₂ O-N (t leaching and runoff) ⁻¹	EF _{leach-N}
Emission factor for limestone	0,12	tC (t limestone) ⁻¹	EF _{limestone}
Emission factor for dolomite			EF _{dolomite}
Emission factor for urea	0,20		EF _{urea}
Global Warming Potential for N ₂ O	298	tCO ₂ tN ₂ O ⁻¹	GWP _{N2O}
Net calorific value of gas/diesel oil	0,043	GJ kg ⁻¹	NCV _f
Net calorific value of motor gasoline			NCV _f
Net calorific value of crude oil			NCV _f
CO ₂ emission factor of gas/diesel oil combusted			EF _{fuel f}
CO ₂ emission factor of motor gasoline combusted	0,0693	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of crude oil combusted	0,0733	tCO ₂ GJ ⁻¹	EF _{fuel f}

Monitoring Plan Sheet (Input Sheet) [Attachment to Project Design Document]

Table 1: Parameters to be monitored ex post

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Monitoring point No.	Parameters	Description of data	Estimated Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
	ca _{pj ij y}	(Option 2) Area of land converted from land use category <i>i</i> to <i>j</i> in the project area in year y	-	ha	Option A	Cambodia's official forest map	-	-	Input on "MPS(input_PJ_Opt2)" sheet
(2)	Ca _{d pj ij y}	(Option 2) Area of land converted from land use category <i>i</i> to <i>j</i> in the displacement belt in year <i>y</i>	-	ha	Option A	Cambodia's official forest map	-	-	Input on "MPS(input_PJ_DP_Opt2) sheet
(3)	FC _{fy}	(Direct method) Quantity of fuel type f consumed in year y	-	kg	Option B/C	Invoices, project management record	Collect all purchase records of fuel used for the project activities, and record type and amount of fuel and type of vehicle/equipment.	Once every year	Input on "MPS(input_PJ_all_Opt2)" sheet
(4)	NVE _{j fy}	(Indirect method) Number of vehicle or equipment type j using fuel type f in year y	-	unit	Option C	Project management record	Record number of vehicle or equipment type <i>j</i> used for the project activities	Once every year	Input on "MPS(input_PJ_all_Opt2)" sheet
(5)	TDU _{j y}	(Indirect method) Total travel distance for vehicle type <i>j</i> or use hours for equipment type <i>j</i> using fuel type <i>f</i> in year <i>y</i>	-	km or hour	Option C	Project management record (trip record etc)	Record total travel distance or total use hours at least 50% of all vehicles or equipment for each type of vehicle or equipment using GPS or watch, and calculate average total travel distance or total use hours.	Once every year	Input on "MPS(input_PJ_all_Opt2) sheet
(6)	SEC _{j f}	Average specific energy consumption of vehicle or equipment type j for fuel type f	-	kg km ⁻¹ or hour ⁻¹	Option A/C	Manufacturer specifications or measurement	Reference figures such as manufacturer specifications can be used. If no data available, fuel consumption and distance are recorded before the initial verification.	Once before the initial verification	Input on "MPS(input_PJ_all_Opt2) sheet
(7)	M _{SN cy}	Mass of synthetic fertilizer applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of synthetic fertilizer used for the project activities, and record type and amount of fertilizer and cropland type where fertilizer is applied.	Once every year	Input on "MPS(input_PJ_all_Opt2) sheet
(8)	M _{on c y}	Mass of organic fertilizer made from materials sourced from outside of the project area and the activity area and applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Measure weight of organic fertilizer made from materials sourced from outside of the project area and the activity area, record the weight, fertilizer type and cropland type where fertilizer is applied.		Input on "MPS(input_PJ_all_Opt2) sheet
(9)	NC _{SNc}	Nitrogen content of synthetic fertilizer applied in cropland type <i>c</i>	-	tN (t fertilizer) ⁻¹	Option A	Data from producers of synthetic fertilize	-	Once before the initial verification	Input on "MPS(input_PJ_all_Opt2) sheet
(10)	NC _{ON c}	Nitrogen content of organic fertilizer applied in cropland type <i>c</i>	-	tN (t fertilizer) ⁻¹	Option A	Published data	-	Once before the initial verification	Input on "MPS(input_PJ_all_Opt2) sheet
(11)	Crop _{c T y}	Harvested annual dry matter yield for N- fixing crop T per unit area, introduced for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t d.m. ha ⁻¹	Option A/C	Published data or Project management record	Select 10% of farmers who introduce N-fixing crops under the project, measure dry yield for N-fixing crop, and calculate average t d.m ha ⁻¹ . Alternatively published average dry yield data for the N-fixing crop can be used.	Once every year	Input on "MPS(input_PJ_all_Opt2) sheet
(12)	Area _{c T y}	Total annual area harvested of N-fixing crop T , introduced for implementation of the project activities in cropland type c in the project area and the activity area in	-	ha	Option C	Project management record	Record area harvested N-fixing crop by interviewing farmers. Alternatively, a project activity plan for area of farmland where N-fixing crop is introduced can be also used.	Once every year	Input on "MPS(input_PJ_all_Opt2) sheet
(13)	R _{AG T}	Ratio of above-ground residues to harvested yield for N-fixing crop <i>T</i>	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MPS(input_PJ_all_Opt2 sheet
(14)	R _{BG T}	Ratio of below-ground residues to harvested yield for N-fixing crop <i>T</i>	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MPS(input_PJ_all_Opt2] sheet
(15)	N _{AG T}	N content of above-ground residues for N- fixing crop T	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the initial verification	Input on "MPS(input PJ Opt1)"
(16)	N _{BG T}	N content of below-ground residues for N- fixing crop T	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the	
(17)	Frac _{Renew T}	Fraction of total area under N-fixing crop T that is renewed annually	-	dimensionless	Option C	Interview	Interview for local agriculture expert	Once before the	
	M _{limestone y}	Mass of calcic limestone (CaCO ₃) applied or implementation of the project activities in the project area and the activity area in	-	t	Option B/C	Invoices, project management record	Collect all purchase records of calcic limestone used for the project activities, and record the amount.		Input on "MPS(input_PJ_all_Opt2) sheet
(19)	M _{dolomite y}	Mass of dolomite (CaMg(CO ₃) ₂) applied for implementation of the project activities in the project area and the activity area in	-	t	Option B/C	Invoices, project management record	Collect all purchase records of dolomite used for the project activities, and record the amount.	Once every year	Input on "MPS(input_PJ_all_Opt2) sheet

(20)	Mass of impleme the proje	of urea fertilizer applied for nentation of the project activities in oject area and the activity area in	-	t	Option B/C	Invoices, project management record	Collect all purchase records of urea fertilizer used for the project activities, and record the amount.	Once every year "MPS(input_PJ_all_Opt2)" sheet
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Table 2: Project-specific parameters to be fixed ex ante

(a)	(b)	(C)	(d)	(e)	(f)
Parameters	Description of data	Estimated	Units	Source of data	Other comments
A _{i 0}	Area of land use category <i>i</i> in the project area at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt2)" sheet
A _{di0}	Area of land use category <i>i</i> in the displacement belt at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_PJ_DR_Opt2)" sheet
Pij	(Option 2) Annual transition probability from land use category i to j within the reference area	-	dimensionless	Cambodia's official forest reference level (FRL)	Input on "MPS(input_RL_Opt2)" sheet
P _{d ij}	(Option 2) Annual transition probability from land use category <i>i</i> to <i>j</i> within the displacement belt		dimensionless	Cambodia's official forest maps	Input on "MPS(input_PJ_DR_Opt2)" sheet
EFij	(Option 2) Emission factor for area of land converted from land use category <i>i</i> to <i>j</i>	-	tC ha⁻¹	Cambodia's official forest reference level (FRL)	Input on "MPS(input_RL_Opt2)" sheet
NCV _f	Net calorific value of fuel <i>f</i>	-	volume) ⁻		Input on "MPS(input_PJ_all_Opt2)" sheet
EF _{fuel f}	CO ₂ emission factor of the fuel type f combusted	-	tCO ₂ GJ ⁻¹	2006 IPCC Guidelines Tables 2.5 and 3.2.1	Input on "MPS(input_PJ_all_Opt2)" sheet

Table3: Ex-ante estim	nation of CO ₂ emission	reductions to be credited	
	CO ₂ emissio	on reductions	Units
during	g period <i>p</i>	0	tCO ₂ /p
Year	2019	0	tCO ₂ /y
	2020	0	tCO ₂ /y
	2021	0	tCO ₂ /y
	2022	0	tCO ₂ /y
	2023	0	tCO ₂ /y
	2024	0	tCO ₂ /y
	2025	0	tCO ₂ /y
	2026	0	tCO ₂ /y
	2027	0	tCO ₂ /y
	2028	0	tCO ₂ /y
	2029	0	tCO ₂ /y
	2030	0	tCO ₂ /y

[Monitoring option]

Option A Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications) Option B Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)		
	: publicly recognized data such as statistical data and specifications)	Option A Based on public data which is measured by entities other than the project participants (Dat
	a used: commercial evidence such as invoices)	Option B Based on the amount of transaction which is measured directly using measuring equipmer
Option C Based on the actual measurement using measuring equipments (Data used: measured values)		Option C Based on the actual measurement using measuring equipments (Data used: measured va

Project reference level											
Parameters					A	No					
Description of data			Area of land	use categor	y i in the pro	ject area at t	he inception	of the project	t		
Units					ł	na					
	Evergreen	Semi- evergreen forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest
Year 2018											

Parameter	s	Pi (MP) Annual transition probability from land use category <i>i</i> to <i>i</i> within the reference area											
Descriptio	n of data			Anr	nual transitio	n probability	from land us	e category i	to j within th	e reference	area		
Units							dimens	sionless					
						La	ind use cate	ory in year	/+1				
		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest												
~	Semi-evergreen												
category in year	forest												
×.	Pine forest												
- E	Deciduous forest												
5	Bamboo												
fe	Mangrove												
	Rear Mangrove												
nse	Flooded forest												
	Forest regrowth												
and i	Tree plantation												
	Pine plantation												
	Non-forest												

Parameters								ca _{ij y} (MCA _y)					
Description	of data				Area of la	and converte	d from land	use category	/itojinthe	e project area	a in year y			
Units								ha						
							Land use	category in	year 2019					
Year 2019			Semi- evergreen forest		Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	C	C	0 0	0	0	(
2018	Semi-evergreen forest	0	0	0	0	0	0	0	C	C) C	0	0	(
ear	Pine forest	0	0	0	0	0	0	0	0	0	0 0	0	0	(
ye	Deciduous forest	0	0	0	0	0	0	0	C	C	0 0	0	0	(
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0 0		0	(
category	Mangrove	0		0			0			0 0			0	
feg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0 0	0	0	C
ca	Flooded forest	0		0	0		0			0 0	0 0		0	C
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0 0	0	0	C
7	Tree plantation	0		0			0			0 0			0	C
and	Pine plantation	0		0	0		0	0		0 0	0 0		0	0
_	Non-forest	0		0			0			0 0			0	
	Total	0	0	0	0	0	0	0	0	0	0 0	0	0	

							Land use	category in	year 2020					
Year 2020		Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo						Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semi-evergreen forest	0	0	0	C	O	O	0	0	0	0	0	0	(
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	(
Æ	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	(
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	
Ś	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
6g	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	(
e se	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	(
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
auc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	(
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year 2021		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u>⊆</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
- S	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
anc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Parameters		EFit EFit EFit EFit EFit EFit EFit EFit											
Description	of data				Emission f	actor for are	a of land cor	nverted from	land use cat	egory i to j			
Units							tC	ha ⁻¹					
						Land	use categor	y after conve	ersion				
		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest												
	Semi-evergreen												
ore	forest												
before	Pine forest												
	Deciduous forest												
sio	Bamboo												
se category conversion	Mangrove												
	Rear Mangrove												
and use co	Flooded forest												
P	Forest regrowth												
La	Tree plantation												
	Pine plantation												
	Non-forest												

Parameters cs _{it v} (MCS _v)											RLy				
Description	of data			Projec	ted carbon s	tock change	in the project	t area from	changes of la	and use cate	gory <i>i</i> to <i>j</i> in	year y			Project reference leve in year y
Units								tC							tCO ₂
							Land use	category in	year 2019						
Year 2019		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
	Semi-evergreen forest	0	0	0	0	0	0 0	c	0	0	0	0	0	0	
	Pine forest	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
	Deciduous forest	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
	Bamboo	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
ν. Σ	Mangrove	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
feg	Rear Mangrove	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
ca	Flooded forest	0	0	0	0	0	0 0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
7	Tree plantation	0		0	0	0	0 0	C			0	0	0	0	
an	Pine plantation	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0 0	C	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2020						
Year 2020		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2019	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
Æ	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u> </u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
ea G	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
d use o	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2021						
Year 2021			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Mangrove		Forest regrowth	Tree plantation	plantation		Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
.=	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
è	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	C

							Land use	category in	year 2022					
Year 2022		Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E .	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷.	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	e category in	year 2023					
Year 2023		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0 0	0	0 0	0	0	0	0	0	0
2022	Semi-evergreen forest	0	0	0	0	0	0 0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
e,	Deciduous forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
. <u>=</u>	Bamboo	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
È	Mangrove	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Бa	Rear Mangrove	0	0	0	0	0 0) C	0 0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0 0) C	0 0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
	Total	0	0	0	0	0		0	0	0	0	0	0	

							Land use	category in	year 2024					
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manaroua	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
categ	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Ca1	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
n n	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025					
Year 2025			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	C	0	0	0	0	C
2024	Semi-evergreen forest	0	0	0	0	0	C	0	c	0	0	0	0	c
a	Pine forest	0	0	0	0	0	0	0	C	0	0	0	0	C
Уe	Deciduous forest	0	0	0	0	0	0	0	C	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	C	0	0	0	0	0
ē	Mangrove	0	0	0	0	0	0	0	C	0	0	0	0	(
6e	Rear Mangrove	0	0	0	0	0	0	0	C	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	C	0	0	0	0	0
ŝ	Forest regrowth	0	0	0	0	0	0	0	C	0	0	0	0	0
Ë	Tree plantation	0	0	0	0	0	0	0	C	0	0	0	0	0
ŭ	Pine plantation	0	0	0	0	0	0	0	C	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	C	0	0	0	0	(
	Total	0	0	0	0	0	0	0	C	0	0	0	0	

							Land use	category in	year 2026					
Year 2026		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove		Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u> </u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
l é	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e se	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022						
Year 2022		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₹.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ś	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
99	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5 T	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land us	e category in	year 2023													Land use	e category in	n year 2023						
ear 2023		Evergreer forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total		Year 2023		Evergreen forest Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest		0 0) () () () (0 0	C)	0 0	() (0	0		Evergreen forest	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
2022	Semi-evergreen forest		0 0) (0 0)) () C	C)	D C	() (0	0	2022	Semi-evergreen forest	0	0 0	0 0)	0 C) (0)	0 0	0 0	0 0	0	
ar	Pine forest		0 0) () () () (0 0	0)	0 0	() (0	0	ar	Pine forest	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
₹.	Deciduous forest		0 0) () () () (0 0	0)	0 0	() (0	0	e,	Deciduous forest	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
. =	Bamboo		0 0) () () () (0 0	0)	0 0	() (0	0	. <u>e</u>	Bamboo	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
ē.	Mangrove		0 0) () () () (0 0	0)	0 0	() (0	0	- E	Mangrove	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
6a	Rear Mangrove		0 0) () () () (0 0	0)	0 0	() (0	0	6a	Rear Mangrove	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
8	Flooded forest		0 0) () () () (0 0	0)	0 0	() (0	0	8	Flooded forest	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
8	Forest regrowth		0 0) () () (0 0	0)	0 0	(0	0	8	Forest regrowth	0	0 0	0 0		0 0		0		0 0) (0	0	1
7	Tree plantation		0 0) (0 0) ()) (0 0	0)	0 0	() (0	0	5	Tree plantation	0	0 0	0 0) ()	0 0) (0	0	0 0	0 0	0	0	
au	Pine plantation		0 0) () ()) (0 0	0)	D C	() (0	0	au	Pine plantation	0	0 0	0 0)	0 0) (0	0	0 0) (0	0	
1	Non-forest		0 0) (0 0) ()) (0 0	0)	0 0	() (0	0	Ľ	Non-forest	0	0 0	0 0) ()	0 0) (0	0	0 0	0 0	0	0	
	Total		0 0) () () () () (0)	0 0) (0			Total												0	

							Land use	category in	year 2024						
Year 2024			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₽,	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
, S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
J J L	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	0

							Land use	category in	year 2025						
Year 2025			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove				Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2024	Semi-evergreen forest	C	0	0	0	C	0	0	0	0	0	0	0	0	
a	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
È.	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ŝ	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
ue U	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2026						
Year 2026		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2025	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₹.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cal.	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	0

							Land use	category in	year 2027					
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
6g	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Forest regrowth	0	0	0	0	0	0	0	0		0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
auc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	e category in	year 2028					
Year 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
2027	Semi-evergreen forest	0	0	0	0	0 0	0 0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0) C) C	0 0	0	0	0	0	0	0
×.	Deciduous forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0) C) C	0 0	0	0	0	0	0	0
È	Mangrove	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ба	Rear Mangrove	0	0	0	0) C) C	0 0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0) C) C	0 0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
	Total	0	0	0	0			0	0	0	0	0	0	

							Land use	category in	year 2029					
Year 2029		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	C	0	0	0	0	0	0
2028	Semi-evergreen forest	0	0	0	0	0	0	C	0	0	0	0	0	0
a	Pine forest	0	0	0	0	0	0	C	0	0	0	0	0	0
ŝ.	Deciduous forest	0	0	0	0	0	0	C	0	0	0	0	0	0
. <u> </u>	Bamboo	0	0	0	0	0	0	C	0	0	0	0	0	0
÷.	Mangrove	0	0	0	0	0	0	C	0	0	0	0	0	0
catego	Rear Mangrove	0	0	0	0	0	0	C	0	0	0	0	0	0
Ca T	Flooded forest	0	0	0	0	0	0	C	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	C	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	C	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	C	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	C	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2030					
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
Уe	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. =	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
Σo Δ	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ŝ	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
anc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027						
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
Æ	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ś	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ē.	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	C	0	
ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
	Total													0	

							Land use	e category in	year 2028														Land use	e category i	n year 2028						
ar 2028		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Y	ear 2028		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	(0 0) (0 0	(0 0) (C) (0 0		0 0	0			Evergreen forest	0	0 0	0 0	0) (0 0)	0	0	0	0 0) () (0
2027	Semi-evergreen forest	(o c) (o c	() () (C) (0 0		D	0		2027	Semi-evergreen forest	C	0 0) (0 0) (0 0	D	0	D	0	0 0) ()	0
ar	Pine forest	(0 0) (0 0	() () (0) (0 0		0 0	0		ar	Pine forest	0	0 0) (0 0) (0 0)	0	0	0	0 0) (0
Æ	Deciduous forest	(0 0) (0 0	(0 0) (C) (0 0		0 0	0		Æ	Deciduous forest	0	0 0	0 0	0) (0 0)	0	0	0	0 0) () (0
. <u>=</u>	Bamboo	(0 0) (0 0	() () (0) (0 0		0 0	0		- <u>-</u>	Bamboo	0	0 0) (0 0) (0 0)	0	0	0	0 0) (0
Ś	Mangrove	(0 0) (0 0	() () (0		0 0		0 0	0	1	Ś	Mangrove	0	0 0) (0 0) (0 0	0	0	0	0	0 0) (0
6	Rear Mangrove	(0 0) (0 0	() () (0) (0 0		0 0	0		ō g	Rear Mangrove	0	0 0) (0 0) (0 0)	0	D	0	0 0) (0
8	Flooded forest	(0 0) (0 0	() () (0		0 0		0 0	0	1	and a second	Flooded forest	0	0 0) (0 0) (0 0	0	0	0	0	0 0) (0
8	Forest regrowth	(0 0) (0 0	() () (0		0 0		0 0	0		8	Forest regrowth	0	0 0) (0 0) (0 0)	0	0	0	0 0) (0
5	Tree plantation	(0 0) (0 0	(0 0) (0) (0 0		0 0	0		27	Tree plantation	0	0 0) C	0 0) (0 0)	0	0	0	0 0) () (0
an	Pine plantation	(0 0) (0 0	() () (0) (0 0		0 0	0		and	Pine plantation	0	0 0) (0 0) (0 0)	0	0	0	0 0) () (0
1	Non-forest	(0 0) (0 0	(0 0) (0) (0 0		0 0	0		1	Non-forest	0	0 0) C	0 0) (0 0)	0	0	0	0 0) () (0
	Total	(0 0) (0 0	() (0		0 0		0 0	0			Total														0

							Land use	category in	year 2029						
Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarove	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ě	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cate	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
86	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
n p	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
aŭ	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2030						
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2029	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
-e	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>c</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- Fo	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	(

Emission from carbon stock change in the project area

Parar	neters						с	a _{pjijy} (MCA _{pj}	y)					
Desci	ription of data				Area of la	ind converte	d from land	use category	/i tojin the	project area	a in year y			
Units								ha						
							Land use	category in	year 2019					
Year	2019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest													0
2018	Semi-evergreen forest													0
Les .	Pine forest													0
year	Deciduous forest													0
. <u>⊆</u>	Bamboo													0
category	Mangrove													0
ê	Rear Mangrove													0
cat	Flooded forest													0
nse	Forest regrowth													0
ñ	Tree plantation													0
Land	Pine plantation													0
Ľ	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2020					
Year	2020	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest		Tree plantation	Pine plantation	non forest	Total
	Evergreen forest													0
2019	Semi-evergreen forest													0
a	Pine forest													0
ye	Deciduous forest													0
.⊆	Bamboo													0
Ē	Mangrove													0
tegory	Rear Mangrove													0
a di	Flooded forest													0
nse	Forest regrowth													0
	Tree plantation													0
and	Pine plantation													0
2	Non-forest													0
	Total	0	0	C	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year	2021	Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total
	Evergreen forest													0
8	Semi-evergreen													
2020	forest													0
ar	Pine forest													0
ye.	Deciduous forest													0
. <u> </u>	Bamboo													0
gory	Mangrove													0
eg	Rear Mangrove													0
cate	Flooded forest													0
8	Forest regrowth													0
n p	Tree plantation													0
and	Pine plantation													0
Ľ	Non-forest													0
	Total	0	C	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022					
Ye	ar 2022	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo						Pine plantation	non forest	Total
	Evergreen forest													0
ā	Semi-evergreen													0
1000	forest													0
														0
	Pine forest Deciduous forest													0
-	Bamboo													0
	Mangrove													0
	Rear Mangrove													0
and new	Flooded forest													0
6														0
														0
3	Pine plantation													0
-	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Param	neters						C	s _{piijy} (MCS _{pi}	iv)					
Descri	iption of data			Ca	arbon stock o	hange in the	e project are	a from chan	ges of land u	use category	i to j in yea	r y		
Units								tC						
							Land use	category in	year 2019					
Year 2	019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	C
in in	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	C
ě,	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u>⊆</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
ő	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
se	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
- S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
DUE	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total													0

								Land use	category in	year 2020					
Y	ear 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove				Pine plantation	non forest	Total
		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	
	ye.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
	È	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
	tegory	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
	a di	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
	ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	<u>_</u>	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total													0

							Land use	category in	year 2021					
Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarava		Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	C	C
2020	Semi-evergreen forest	0	0	C	0	0	0	0	0	0	0	0	C	0
a	Pine forest	0	0	0	0	0	0	0	0	0	0	0	C	0
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	C	C
. E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	C	C
È	Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0
0	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0
cate	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	C	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	C	0
ñp	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	C	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	C	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	C	C
	Total													0

							Land use	category in	year 2022					
rear 2		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove			Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	(
Les .	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	(
yei	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	(
. ⊆	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	(
egory	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
ē.	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	(
nse (Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	(
	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
<u> </u>	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	(
	Total													(

						Land use	category in	vear 2023													Land use	e category in	vear 2023					
	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Manarovo		Flooded	Forest regrowth	Tree plantation	Pine	non forest	Total	Year	2023	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo		Poor	Flooded	Forest regrowth	Tree	Pine plantation	non forest	Total
	101001	forest		101001			mangroto	101001	rogroman	plantation	planadon					101001	forest		101001			mangroto	101001	rogroman	planation	planation		
Evergreen forest													0		Evergreen forest		0 (0 0	0	C	0 0) C) (0	0 (0 (0 0	ע
Semi-evergreen													0	2022	Semi-evergreen		0 0	0 0	0	0) (2	0 0	0 0	0 0	2
forest													-	20	forest		-		-						-			
Pine forest													0	eal	Pine forest				0	L C				2				1
Deciduous forest	_												0	- L	Deciduous forest				0					2				1
Bamboo Mangrove	-												0	~	Bamboo Mangrove				0					2				-
Rear Mangrove													0	l b	Rear Mangrove				0					, ,				<u>,</u>
Flooded forest		-											0	ate	Flooded forest				0									
Forest regrowth		-											0	0	Forest regrowth				0	0								
Tree plantation													0	n se	Tree plantation				0					<u>ר</u>				
Pine plantation		_											0	P	Pine plantation				0	0				1				1
Non-forest		_											0	Lai	Non-forest				0	0				1				1
Total	0	0 0	(0	0	0		0	0		0	0			Total		·	, <u> </u>			· · · · ·	,	<u> </u>	, 	· · ·		<u> </u>	-
Total		<u> </u>								· · ·			ļl		Total		-	-			-				-	-	-	
		1		1	1	Land use	category in	year 2024	1		1	1					1			1	Land use	category in	year 2024	1				
2024	Evergreen	Semi-	Ding for	Deciduous	Bamboo		Rear	Flooded	Forest	Tree	Pine		Total	Year	2024	Evergreen	Semi-	Ding fan	Deciduous forest	Dambar			Flooded	Forest	Tree	Pine		Tet
	forest	evergreen	Pine forest	forest	Bamboo	Mangrove	Mangrove	forest	regrowth			non forest	Iotai			forest	evergreen	Pine forest	forest	Damboo	Mangrove	Mangrove	forest	regrowth	plantation	plantation	non forest	lota
		forest					-		•				0		European (a		forest		-					-				
Evergreen forest Semi-evergreen													U	-	Evergreen forest Semi-evergreen		u (0	C		, C	, (,	u (u (, C	,
Semi-evergreen forest													0	2023			0 0	0 0	0	C	0	0 0) (0	0 (0 (0 0)
Pine forest													0	r 21	forest Pine forest	-	n (0	0					0 0	0 0		
Deciduous forest		-				-				1	-		0	/ea	Deciduous forest				0	0				1	0 0			í l
Bamboo		-		1				1	1	1	1		0	, E	Bamboo				0	0				1				1
Mangrove		-		1	1			1	1			1	0	2	Mangrove				0	0				5	0 0	0 0		5
Rear Mangrove													0	6	Rear Mangrove		0 0		0	0				2	0 0	0 0		5
Flooded forest													0	ate	Flooded forest		D (0 0	0	C) () (2	0 0	0 0	0 0	5
Forest regrowth													0	e	Forest regrowth		D (0 0	0	C) () (2	0 0	0 0	0 0	5
Tree plantation													0	sn	Tree plantation		0 (0 0	0	C	0	0 0) ()	0 (0 0	0 0)
Pine plantation													0	pue	Pine plantation		0 (0 0	0	C	0 (0 0) (כ	0 (0 (0 0	ו
Non-forest													0		Non-forest		0 (0 0	0	C	0	0 0) (0	0 (0 0	0 0)
Total	(0 0	((0	0	C	(0) (0 0	0			Total													
						Landuas	category in														I and use	e category in						
ır 2025	E	Semi-		D					E	Tree	Pine			Year	0005	-	Semi-		D		Lanu use	Rear	Flooded	E	Tree	Pine		
	Evergreen forest	Semi- evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove	Flooded forest	Forest regrowth	plantation		non forest	Total	Tear		Evergreen forest	evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Mangrove		Forest regrowth		plantation	non forest	Total
Evergreen forest	-												0		Evergreen forest			0 0	0	C	0	0 0) (0 (0 (0 0)
Semi-evergreen		1											0	2024	Semi-evergreen		0 0	0 0	0	0	0) () (0 0	0 (0 0	
forest	-													5	forest													
Pine forest													0	aar	Pine forest		0 (0 0	0	C		0 0) ()	0 (0 (0 0	J
Deciduous forest Bamboo													0	2	Deciduous forest Bamboo		0 0	0 0	0	C		0 0) (0 0	0 ()
Mangrove		-											0	5	Mangrove				0	0))
Rear Mangrove	_												0	go	Rear Mangrove				0					2				1
Flooded forest													0	ate	Flooded forest				0									
Forest regrowth		-				-				1	-		0	8	Forest regrowth		n (0	0				1	0 0			í l
Tree plantation		-		1	1			1	1			1	0	nse	Tree plantation		0 0		0	0				5	0 0	0 0		5
Pine plantation				1				1	1				0	2	Pine plantation		0 0	0 0	0	0	0 0				0 0	0 0	0 0	5
													0	La	Non-forest		0 0		0	C	0			0	0 0	0 0)
Non-forest					0	0		0	0) (0 0	0			Total													
	(0 0	(0 0		0															L and use	category in	vear 2026					
Non-forest	(0 0	(0 0		Landuse	category in	vear 2026															,0ai 2020	1	1	Pine		
Non-forest Total	(0 0 Semi-		Deciducus			category in		Forest	Tree	Pine				2026	Everareon	Semi-		Deciduous				Flooded	Forest	Tree			
Non-forest Total 2026	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	category in Rear Mangrove	Flooded		Tree plantation	Pine plantation	non forest	Total	Year	2026	Evergreen forest		Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	plantation	non forest	lota
Non-forest Total 2026			Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0	Year		forest	evergreen	Pine forest	Deciduous forest	Bamboo		Rear					non forest	l ota
Non-forest Total 2026 Evergreen forest		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total		2026 Evergreen forest Semi-evergreen	forest	evergreen forest	Pine forest	Deciduous forest	Bamboo C		Rear					non forest)
Non-forest Total 2026		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0		Evergreen forest	forest	evergreen forest	Pine forest	Deciduous forest 0	Bamboo C		Rear					non forest	l ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Pine forest		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0	ar 2025	Evergreen forest Semi-evergreen forest Pine forest	forest	evergreen forest	Pine forest	Deciduous forest 0 0	Bamboo C C		Rear					non forest	1 ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Pine forest Deciduous forest		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Pine forest Deciduous forest	forest	evergreen forest	Pine forest	Deciduous forest 0 0 0 0	Bamboo 0 0 0		Rear					non forest	1 ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Deciduous forest Deciduous forest Bamboo		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo	forest	evergreen forest	Pine forest	0	Bamboo C C C C C C C C C C C C C C C C C C		Rear					non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove	forest	evergreen forest		0	Bamboo C C C C C C C C C C C C C C C C C C		Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0 0 0		regrowth			non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove	forest	evergreen forest		0	Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0 0 0		regrowth	plantation 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 ()		non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 ota
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest	forest	evergreen forest		0	Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0		regrowth	plantation 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 ()		non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Iota))))))))))))))
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Prine forest Deckuous forest Bamboo Mangrove Rear Mangrove Flooded forest Flooded forest Forest regrowth		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth	forest	evergreen forest		0	Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0		regrowth	plantation 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 () 0 ()		non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Iota))))))))))))))
Non-forest Total 2025 Evergreen forest Semi-evergreen forest Bemboo Mangrove Rear Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantalo		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation		evergreen forest 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0		regrowth regrowth	plantation 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1)		non forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Iota)))))))))))))))))))
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation		evergreen forest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0		regrowth regrowth	plantation 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1)		non forest 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C	Iota 0
Non-forest Total 2026 Evergreen forest Semi-evergreen forest Decituous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantalo		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	year 2025	Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation		evergreen forest 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bamboo C C C C C C C C C C C C C C C C C C	Mangrove	Rear Mangrove 0 0 0 0 0 0 0 0 0 0 0 0		regrowth regrowth	plantation 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1)		non forest 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C	Iota 0

							category in	year 2027													Land use	category in	year 2027					
r 2027	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded		Tree plantation	Pine	non forest	Total	Year	2027	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded	Forest regrowth	Tree plantation	Pine	non forest	Tota
	IOIESI	forest		IUIESI			wangrove	IOIESI	regrowin	plantation	plantation					lorest	forest		loiest			wangrove	IOTESI	regiowiii	plantation	plantation		
Evergreen forest													0	1	Evergreen forest		0 (0 0	0	C	0 0	<u> </u>	0 0	1) () () (0
Semi-evergreen													0	2026	Semi-evergreen		n i	n n	0									n
forest														5	forest			-							· · · ·	· · · ·	· · · · ·	Ŭ
Pine forest													0	ar	Pine forest		0 (0 0	0	C	0 0	C C	0 0) () () (0
Deciduous forest													0	Š	Deciduous forest		0 0	0 0	0	C	0 0	C C	0 0) () () (0
Bamboo													0	-E	Bamboo		0 (0 0	0	C	0 0	<u> </u>	0 0		0 0) () (0
Mangrove													0	E.	Mangrove		0 (0 0	0	C	0 0	0 C) C	(0 0) () (0
Rear Mangrove													0	fe	Rear Mangrove		0 (0 0	0	C	0 0	C C) C) () () (0
Flooded forest													0	ca	Flooded forest		0 0	0 0	0	C	C	C	0 0	1) () () (0
Forest regrowth													0	8	Forest regrowth		0 (0 0	0	C	0 0	C C	0 0	() () () (0
Tree plantation													0	글	Tree plantation		0 (0 0	0	C	0 0	C C) C	() () () (0
Pine plantation													0	ano	Pine plantation		0 (0 0	0	C	0 0	C C) C	() () () (0
Non-forest													0	<u>ت</u>	Non-forest		0 (0 0	0	C	0 0	C C	0 0	() () () (0
Total	0	0 0	C	0	C	0	0 0	0	0	C	0	0			Total													
		·		·	·		·		·	·	·	·		_	•		· · · · · · · · · · · · · · · · · · ·		·	·		·						
		C.m.i			1	Land use	e category in	year 2028		1	1						Carri		1		Land use	category in	year 2028	1	1	1		_
2028	Evergreen	Semi-	Dino forcet	Deciduous	Bamboo	Monarour	Rear	Flooded	Forest	Tree	Pine	non foro-t	Total	Year	2028	Evergreen	Semi-	Ding forget	Deciduous	Rombor	Mongrour	Rear	Flooded	Forest	Tree	Pine	non forcet	Tet
	forest	evergreen	Fille lorest	forest	Damboo	mangrove	Rear Mangrove	forest	regrowth	plantation	plantation	non forest	TOTAL			forest	evergreen	Pine forest	forest	Damboo	Mangrove	Mangrove	forest	regrowth	plantation	plantation	non forest	100
		forest											0		European (a)		forest	0 0	-	-								0
Evergreen forest													0		Evergreen forest		U (0 0	0	C	<u> </u>	ц С	<u> </u>) () (U
Semi-evergreen		1											0	2027	Semi-evergreen		0 (0 0	0	C	0	0	0 0) () () (0
forest													-	20	forest			-										_
Pine forest													U	ear	Pine forest		U (0 0	0	C	C 0	C 0	C C	(0) (0	U
Deciduous forest	-												0	l X	Deciduous forest		0 (0 0	0	C	0 C	0 C) C		0 0	0 0	0 0	U
Bamboo													0	<u> </u>	Bamboo			0 0	0	C	C C	C C	<u> </u>) () (0	U
Mangrove													0	L D	Mangrove		0 (0 0	0	C	0 0	0 C) C		0 0) () (0
Rear Mangrove													0	te	Rear Mangrove		0 (0 0	0	C	0 0	0 C) C		0 0) () (0
Flooded forest													0	ca	Flooded forest		0 (0 0	0	C	0 0	0 C) C	(0 0) () (0
Forest regrowth													0	Se	Forest regrowth		0 (0 0	0	C	0 0	<u> </u>) C		0 0) () (0
Tree plantation													0	글	Tree plantation		0 (0 0	0	C	0 0	<u> </u>	0 0		0 0) () (0
Pine plantation													0	ano	Pine plantation		0 (0 0	0	C	0 0	<u> </u>	0 0		0 0) () (0
Non-forest													0		Non-forest		0 (0 0	0	C	0 0	C C) C	() () () (0
Total	0	0 0	0	0	0 0	0	0 0	0	0	() C	0 0	0			Total													
						Land use	category in	vear 2029													Land use	category in	vear 2029					
r 2029	E	Semi-		Desidue					Connet	T	Pine			Year	2020	E	Semi-		Desidue					Count	Tree	Pine		
2029	Evergreen forest	evergreen forest	Pine forest	forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest		Tree plantation		non forest	Total	rear.	2029	Evergreen forest		Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation		non forest	Tota
Evergreen forest		IUIESI											0		Evergreen forest		101051	0 0	0	0	0	0	0					0
Semi-evergreen														00	Semi-evergreen													
forest													0	2028	forest		0 (0 0	0	(C) C) C) C) (0 0) (0
Pine forest													0		Pine forest		0 (0 0	0	0	0 0	0 0	0 0) () () (0
Deciduous forest													0	/ea	Deciduous forest		0 0	0 0	0	0								0
Bamboo													0	Ē	Bamboo				0	0								0
Mangrove													0	2	Mangrove				0	0								0
Rear Mangrove		1			1					1	1		0	ob.	Rear Mangrove			0 0	0	0	, (n -
Flooded forest		1			1					1	1		0	ate	Flooded forest			0 0	0	0	, (n
Forest regrowth		1			1					1	1		0	0	Forest regrowth			0 0	0	-								n
Tree plantation	-	1			-		1			-	-		0	nse	Tree plantation		n i		0	0								0
Pine plantation		-			1		-			1	-		0	P	Pine plantation				0									0
Non-forest		-			1		-			1	-		0	ar	Non-forest				0									0
Total	0	1 0	ſ	0		0	0	0	0		0	0	0		Total			0 0	0	U					,	, (-
			,													-	-		-		-	-	-	-			-	-
						Land use	category in	year 2030													Land use	category in	year 2030					
		Semi-		Deciduous	Bamboo	Mangrove	Rear Mangrove				Pine	non forest	Total	Year	2030	Evergreen	Semi- evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear		Forest		Pine	non forest	То
2030	Evergreen	evergreen	Pine forest	farrant					regrowth	plantation	plantation					forest	forest		iorest			Mangrove	iorest	regrowth	plantation	plantation		
	Evergreen forest		Pine forest	forest		Ť	wangrove		-						Evergreen forest		0 (0 0	0) () (0
Evergreen forest		evergreen	Pine forest	forest			wangrove		-				U							U	u u				· ·			
Evergreen forest Semi-evergreen		evergreen	Pine forest	forest			wangrove		-				0	N N	Semi-evergreen		n	n n	0									n
Evergreen forest Semi-evergreen forest		evergreen	Pine forest	forest			Mangrove						0	2029	Semi-evergreen forest		0 (0 0	0	0	0	0			0 0	0 0) (0
Evergreen forest Semi-evergreen forest Pine forest		evergreen	Pine forest	forest			mangrove						0	ar 2029	Semi-evergreen forest Pine forest			0 0 0 0	0	0								0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest		evergreen	Pine forest	forest									0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest			0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine forest	forest									0 0 0 0	in year 2029	Semi-evergreen forest Pine forest Deciduous forest Bamboo			0 0 0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine torest	forest									0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo			0 0 0 0 0 0 0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove		evergreen	Pine torest	forest									0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest		0 (<u> </u>										0 0 0 0 0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove		0 (<u> </u>										0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove		0 (<u> </u>										0 0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth		0 (<u> </u>										0 0 0 0 0 0 0
Flooded forest Forest regrowth Tree plantation		evergreen	Pine torest	forest										year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation		0 (<u> </u>										0 0 0 0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Die forest Deciduous forest Bamboo Rear Mangrove Rear Mangrove Flooded forest Forest regrowth		evergreen	Pine torest	forest										year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth			0 0 0 0 0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0 0

Displaced emission -reference												
Parameters						A	110					
Description of data			Area	a of land use	e category i i	in the displa	cement belt	at the incept	ion of the pr	oject		
Units						ł	na					
	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest		Tree plantation	Pine plantation	non forest
Year 2018												

Parameters								MP _d)					
Description	of data			Annu	al transition	probability fr	om land use	category i t	o j within the	displaceme	ent belt		
Units								sionless					
						La	nd use cate	gory in year	/+1				
		Evergreen forest	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest												
in year y	Semi-evergreen forest												
Š	Pine forest												
	Deciduous forest												
and use category	Bamboo												
te	Mangrove												
8	Rear Mangrove												
se	Flooded forest												
2	Forest regrowth												
É	Tree plantation												
2	Pine plantation												
	Non-forest												

Parameters							С	a _{d ij y} (MCA _d	y)					
Description	of data				Area of land	l converted f	rom land use	e category i	to j in the di	splacement	belt in year y	,		
Units								ha						
							Land use	category in	year 2019					
Year 2019			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	C	0 0	0
Bar	Pine forest	0	0	0	0	0	0	0	0	0	0	C	0	0
Š.	Deciduous forest	0		0	0			0	0		0			0
.E	Bamboo	0		0	0			0	0	0	0			0
category	Mangrove	0						0	0		0			
E E	Rear Mangrove	0						0	0		0	C		0
8	Flooded forest	0			0			0	0		0	C		0
8	Forest regrowth	0		0				0	0		0			
- S	Tree plantation	0		0	0			0	0		0	C		0
Land use	Pine plantation	0			0			0	0		0			0
Ľ	Non-forest	0		0	0			0	0		0			0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2020					
Year 2020		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove		Forest regrowth		Pine plantation	non forest	Total
-	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	Semi-evergreen forest	0	0	0	0	a	0	a	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
68	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
- E	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
- S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
pu	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year 2021		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove					Pine plantation	non forest	Total
-	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
at	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ě	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ä	Tree plantation	0	0	0	0	0	0	0	0	0		0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Parameters							E						
Description	of data				Emission fa	actor for are	a of land cor	nverted from	land use ca	tegory i to j			
Units							tC	ha ⁻¹					
						Land	use categor	y after conv	ersion				
		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest	0	0	0	0	0	0	C	0	0	0	0	
before	Semi-evergreen forest	0	0	0	0	0	0	C	0	0	0	0	
pe	Pine forest	0	0	0	0	0	0	C	0	0	0	0	
category nversion	Deciduous forest	0	0	0	0	0	0	C	0	0	0	0	
se categon conversion	Bamboo	0	0	0	0	0	0	C	0	0	0	0	
ver ate	Mangrove	0	0	0	0		0	C	0		0	0	
0.0	Rear Mangrove	0	0		0		0	0	0		0		
o Ise	Flooded forest	0	0				0	0	0		0		
and	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	
ar.	Tree plantation	0	0	0	0	0	0	C	0	0	0	0	
_	Pine plantation	0	0	0	0		0	C	0		0		
	Non-forest	0	0	0	0	0	0	C	0	0	0	0	

Parameters								cs _{d ij y} (MCS _d	y)						DR _y
															Reference emissions from
Description	of data			Projected	carbon stoc	k change in f	the displace	ment belt fro	m changes	of land use	category i to	j in year y			the displacement belt in
															year y
Units								tC							ICO2
							Land use	category in	year 2019						
Year 2019		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0 0	0 0	0	(0 0	0) (0 0	0	0 0	0	1
2018	Semi-evergreen forest	0	C	0 0	0 0	0	(0 0	C) (o c	0	0 0	C	
ja L	Pine forest	0	0	0 0	0	0	(0	C) (0 0	C	1
ž	Deciduous forest	0	0	0 0		0	(0	0) (0 0	0	0 0	0	1
÷.	Bamboo	0	C	0 0	0	0					0 0	0			
tegori	Mangrove	0	0	0 0	0	0					0 0	0	0 0		
S	Rear Mangrove	0		0 0	0						0 0	0			
8	Flooded forest	0													
9	Forest regrowth	0													
5	Tree plantation	0	0					0 0							
and	Pine plantation	0	0												
Ľ.	Non-forest	0	0	0 0	0	0	(0	C	0 0	0 0	0	0 0		
	Total													0	

							Land use	category in	year 2020						
Year 2020		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
_	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2019	Semi-evergreen forest	0	0	0	0	0	0	C	C	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
-	Bamboo	0	0	0	0	0	0				0	0	0	0	
5	Mangrove	0	0	0	0	0	0				0	0	0	0	
60	Rear Mangrove	0	0	0	0	0	0				0		0	0	
5a	Flooded forest	0	0	0	0	0	0				0		0	0	
	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
S S	Tree plantation	0	0	0	0	0					0	0	0	0	
ů l	Pine plantation	0	0	0	0	0			0	0	0	0	0	0	
	Non-forest	0	0	0	0	0	0	0	(C	0 0	0	0	0	0	
	Total													0	C

							Land use	category in	year 2021						
Year 2021		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest		Tree plantation	plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ě	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
s	Tree plantation	0	0	0	0	0	0	0	0	0	0			0	
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	(

							Land use	category in	year 2022					
Year 2022		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
-E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
at	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
sn	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022						
Year 2022			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
2021	Semi-evergreen forest	C	0 0	0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
ž	Deciduous forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Bamboo	C		0	0	0	C						0	0	
6	Mangrove	C	0	0	0	0	C	0			0	0	0	0	
6	Rear Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Tree plantation	C	0 0	0	0	0	C	0			0	0	0	0	
and	Pine plantation	C	0	0	0	0	C	0	0	0	0	0	0	0	
La	Non-forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2023					
Year 2023		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2022	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
-E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E .	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Flooded forest	0		0	0	0	0	0	0	0	0	0	0	0
e	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ä	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Pu	Pine plantation	0		0	0			0	0		0	0	0	0
2	Non-forest	0		0	0		0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2023						
fear 2023		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total	
	Evergreen forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
2022	Semi-evergreen forest	0	C	0 0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
Gou	Mangrove	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
at	Flooded forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
e	Forest regrowth	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
SU	Tree plantation	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
p	Pine plantation	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
El	Non-forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2024					
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manaraua	Rear	Flooded			Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Sat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ě	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2024						
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0						0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0			0	0	0	0	
e e	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
G	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ě	Forest regrowth	0	0	0	0	0	0	0			0	0	0		
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	(

							Land use	category in	year 2025					
Year 2025		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0			0	0	0	0	0			0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷.	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
- Da	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
ca 1	Flooded forest	0	0	0	0	0	0	0	0			0	0	0
8	Forest regrowth	0	0		0	0	0	0	0			0	0	0
n n n	Tree plantation	0	0		0	0	0	0	0			0	0	0
Ĕ	Pine plantation	0	0		0	0	0	0	0			0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0			0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025						
Year 2025		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2024	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0					0		0	0	
ž	Deciduous forest	0	0	0	0	0					0		0	0	
- E	Bamboo	0	0	0	0	0							0	0	
6	Mangrove	0	0	0	0	0	0				0		0	0	
6 B	Rear Mangrove	0	0	0	0	0				0	0	0	0	0	
8	Flooded forest	0	0	0	0	0							0	0	
9	Forest regrowth	0	0	0	0	0			0	0	0		0	0	
, S	Tree plantation	0	0	0	0	0							0	0	
u u	Pine plantation	0	0	0	0	0							0	0	
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	C

							Land use	category in	year 2026					
Year 2026			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2025	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	C	0
ar 1	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0		0	0	0	0	0	0
1	Bamboo	0	0	0	0	0	0		0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0		0	0	0	0	0	0
6e	Rear Mangrove	0	0	0	0	0	0		0	0	0	0	0	0
Gal	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
S S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Pu	Pine plantation	0	0	0	0	0	0		0	0		0	0	0
	Non-forest	0	0	0	0	0	0		0	0		0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2026						
Year 2026		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2025	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
La la	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0				
1	Bamboo	0	0	0	0	0	0	0	0	0	0				
5.	Mangrove	0	0	0	0	0	0	0	0	0	0				
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0				
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0		
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0		
n n	Tree plantation	0	0	0	0	0	0	0	0	0	0				
Ĕ	Pine plantation	0	0	0	0	0	0	0	0	0	0				
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0

							Land use	category in	year 2027					
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027						
Year 2027			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
2026	Semi-evergreen forest	C	0 0	0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
ž	Deciduous forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Bamboo	C		0	0	0	C						0	0	
6	Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
ŝ	Tree plantation	C	0	0	0	0	C	0			0	0	0	0	
and	Pine plantation	C	0	0	0	0	C	0	0	0	0	0	0	0	
La	Non-forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2028					
'ear 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	
2027	Semi-evergreen forest	0	0	0	0	0 0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>e</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	
s	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	
3	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2028						
fear 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation		Total	
	Evergreen forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
2027	Semi-evergreen forest	0	a	0	0	0	c	0	0	a	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	C	0	0	0	0	0	0	0	
E.	Mangrove	0	0	0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0	0	0	C	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0		
0	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
3	Tree plantation	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Pine plantation	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Non-forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	vear 2029					
Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarava	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
Sar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.e	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Ge	Rear Mangrove	0	0	0	0	0	0	0	0		0	0		0
Cal C	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0		0	0		0
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
pu	Pine plantation	0	0	0		0	0	0	0		0			0
۳ ۲	Non-forest	0	0	0	0	0	0	0	0		0			0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

								Land use	category in	year 2029						
	Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			Flooded forest			Pine plantation	non forest	Total	
0		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	<u>s</u>	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	pue	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	La La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Total													0	(

							Land use	category in	year 2030					
Year 2030			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	C	0	C	0	0	0	0	0
2029	Semi-evergreen forest	0	0	0	0	0	C	0	C	0	0	0	0	0
ar	Pine forest	0	0			0	C	0	C	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷	Bamboo	0	0		0	0	0	0	0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
feg	Rear Mangrove	0	0			0	0		0	0	0	0	0	0
eat	Flooded forest	0	0			0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0			0	0	0	0	0	0	0	0	0
5	Tree plantation	0	0			0	0	0	0	0	0	0	0	0
ũ	Pine plantation	0	0			0	0		0	0	0	0	0	0
La	Non-forest	0	0			0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2030						
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove					Pine plantation	non forest	Total	
-	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2029	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0						
ž	Deciduous forest	0	0	0	0	0	0	0	0						
	Bamboo	0	0	0	0	0	0	0	0				0	0	
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ga	Rear Mangrove	0	0	0	0	0	0	0							
ea Te	Flooded forest	0	0	0	0	0	0	0					0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0				0	0	
5	Tree plantation	0	0	0	0	0	0	0							
e e	Pine plantation	0	0	0	0	0	0	0							
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	C

 DP,
 DE,

 Project emissions from the displacement belt in tCO2
 Displaced emissions to the displacement belt in year y tCO2

- ui ui ii	ced emission - ac eters						Cá	a _{d pjijy} (MCA	d pi y)						Para	meters						CS	d pijy (MCS	ipjy)					
escri	ption of data				Area of land	i converted f	rom land us	e category i	to j in the c	isplacement	t belt in year	y			Des	ription of data			Carb	on stock cha	ange in the d	isplacement	belt from cl	hanges of la	ind use categ	ory i to j in	year y		
ts								ha							Unit								tC						
				-			Land use	e category in	year 2019						_							Land use	category in	year 2019		-			
ar 2	019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year	2019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
2018	Evergreen forest														0	Evergreen forest		0 1	0 0	0 0	0	0	()	0 0	(C	0 () (
	Semi-evergreen lorest														2018	Semi-evergreen forest		0 1	0 0	0 0	0	0	()	o c	(D I	0 0	0 0
	Pine forest														. i	Pine forest		0 1	0 0	0	0	0	0	1	0 0	0	1	n (
5	Deciduous forest														o Š	Deciduous forest	1	0 1	0 0		0	0)	0 0		2		0 0
=	Bamboo														<u> </u>	Bamboo	1	0 1	0 0	0 0	0	0	0	0	0 0	0	0	0 0	0 0
category	Mangrove														0 6	Mangrove	(0 0	0 0	0 0	0	0	()	0 0	(D	0 0	0 0
ŝ	Rear Mangrove	_													category	Rear Mangrove	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0) (
	Flooded forest	-														Flooded forest					0	0							
ŝ	Forest regrowth Tree plantation														e e	Forest regrowth Tree plantation		0 1			0	0					2		
	Pine plantation														Land	Pine plantation	1	0 1	0 0		0	0)	0 0		2		
2	Non-forest														La D	Non-forest	(0 1	0 0	0 0	0	0	(0	0 0	(C	0 0) (
	Total	0	() () (0	() (0	0	0 0) () (0		Total													0
-							Land use	e category in	year 2020													Land use	category in	year 2020					
ar 2	020	Evergreen	Semi-	Pine forest	Deciduous	Bamboo	Manarove	Rear	Flooded	Forest	Tree	Pine	non forest	Total	Year	2020	Evergreen	Semi-	Pine forest	Deciduous	Bamboo	Mangrove	Rear	Flooded		Tree	Pine	non forest	Total
		forest	forest	1 110 10100	forest	Damboo	mangrovo	Mangrove	forest	regrowth	plantation	plantation	1011101000	rotar			forest	forest	1 110 101000	forest	Damboo	mangroto	Mangrove	forest	regrowth	plantation	plantation	non toroot	1 O Lai
	Evergreen forest														0	Evergreen forest		0 0	0 0	0 0	0	0	(0	0 0	(D	0 0	0 0
50.18	Semi-evergreen														2019	Semi-evergreen		0 1	0 0		0	0		1	0 0		1	n (1 0
	lorest															forest													
8	Pine forest Deciduous forest														in year	Pine forest Deciduous forest					0	0							
- E	Bamboo															Bamboo		0 1			0	0)			2		
61	Mangrove														Liopa	Mangrove	1	0 1	0 0	0 0	0	0	0	0	0 0	0	0	0 0	0 0
	Rear Mangrove															Rear Mangrove	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
× 1	Flooded forest														<u>8</u>	Flooded forest	(0 1	0 0	0 0	0	0	(0	0 0	(0	0 0	0 0
as i	Forest regrowth Tree plantation														nse o	Forest regrowth Tree plantation					0	0					2		
Land	Pine plantation														Land	Pine plantation	1	0 1	0 0		0	0)	0 0		2		0 0
	Non-forest														<u>۳</u> 0	Non-forest	(0 1	0 0	0 0	0	0	(0	0 0	(C	0 0	0 0
	Total	0	() () (0 0	0) (0	0	0 () (ו וכ	0		Total													0
							Land use	e category in	year 2021													Land use	category in	year 2021					
ear 2	021	Evergreen	Semi- evergreen	Pine forest	Deciduous	Bamboo	Mangrove	Rear	Flooded	Forest	Tree plantation	Pine	non forest	Total	Year	2021	Evergreen	Semi- evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded		Tree	Pine plantation	non forest	Total
_	Evergreen fereet	forest	forest		torest		-	Mangrove	torest	regrowth	plantation	plantation				Evergreen (erest	forest	forest	0 0	Torest			Mangrove	Torest	regrowth	piantation	plantation		
2020	Evergreen forest Semi-evergreen															Evergreen forest Semi-evergreen			<u> </u>	/ .	0	0		,	0 0			<u> </u>	0
	orest														2020	forest		0 1	0 0	0 0	0	0	0		0 0		0	0 0	0 0
year	Pine forest														year year	Pine forest	(0 0	0 0	0 0	0	0	(D	0 0	(0	0 0	0 0
	Deciduous forest														0 5	Deciduous forest	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
	Bamboo														2 2	Bamboo		0 1	0 0	0 0	0	0	0	0	0 0		0		
sgory	Mangrove Rear Mangrove										+		-		Logo	Mangrove Rear Mangrove		0	0 0		0	0			0 0		2		
	Flooded forest														ate 0	Flooded forest		0 1	0 0		0	0			0 0		2		0 0
ğ İ	Forest regrowth														0 8	Forest regrowth	(0 0	0 0	0 0	0	0	0	D	0 0	0	0	0 0	0 0
Ĩ	Tree plantation														0 3	Tree plantation	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0) (
	Pine plantation														Land D	Pine plantation	(0 1	0 0	0 0	0	0)	0 0	0	0	0 0	0 0
	Non-forest Total	0	() (0	(0	0	0 0) (0		Non-forest Total		0 1	0 0	0 0	0	0	(0 0	(J (
		-					Landuer	e category in	- wear 2022	-1	-1			-				1	1	1	1	Land use	category in	uppr 2022	1	1	1	1	
ar 2	122		Semi-		Deciduous			_		Forest	Tree	Pine			Year	2022	Evergreen	Semi-		Deciduous			Rear	Flooded	Forest	Tree	Pine		
Ĩ		forest	evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove	forest	regrowth	plantation		non forest	Total			forest	evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove				plantation	non forest	Total
	Evergreen forest														0	Evergreen forest		0 0	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
	Semi-evergreen														2021	Semi-evergreen		0	0 0			0		h	0 0		n .	n r	
3	bonn orongroon															forest			0 0										
202	lorest		1		+		-	-	-	-	+	+	-		year	Pine forest Deciduous forest	-			0	0	0	((
1707 18	orest Pine forest					1	1	1	1	-		-			<u> </u>	Bamboo		0	0 0		0	U U		1	u U				
	orest Pine forest Deciduous forest														5			-				0			0 0		2		
	lorest Pine forest Deciduous forest Bamboo Mangrove															Mangrove		0 1	n 0) (0	0	0		0 0		0		
ory in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove												-		egoi egoi	Mangrove Rear Mangrove		0 1	0 0	0 0		0					D D		
category III year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest														catego	Rear Mangrove Flooded forest			0 0 0 0 0 0		0	0 0 0							
se category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth														catego	Rear Mangrove Flooded forest Forest regrowth			0 0 0 0 0 0 0 0			0 0 0 0))))	0 C 0 C 0 C 0 C 0 C		0 0 0 0 0		
use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation	- -													Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation			0 0 0 0 0 0 0 0 0 0			0							
nd use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation														Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation						0							
Laiki use category III year 2021	lorest Prine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Prine plantation Non-forest								0		0			0	catego	Rear Mangrove Flooded forest Forest regrowth Tree plantation			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0			0 0		0 0 0 0 0 0 0 0		
Laiki use category III year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation	0							0	D	0 0			0	Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest						0 0 0							
Land use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest Total	0	Semi-) (Deciduous			category in Rear	0 year 2023 Flooded	D	0 () (0	Land use catego	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest	Evergreen	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0			C C C C C C C C C C C C C C C C C C C	category in)))))) year 2023 Flooded		1 000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0		

							Land use	category in	year 2023								
Year	2023	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year 2	2023	Evergre forest
	Evergreen forest													0		Evergreen forest	
2022	Semi-evergreen													0	2022	Semi-evergreen	
20	forest													0	20	forest	
ar	Pine forest													0	ar	Pine forest	
Š.	Deciduous forest													0	ž	Deciduous forest	
Ē	Bamboo													0	÷	Bamboo	
Gony	Mangrove													0	6	Mangrove	
6	Rear Mangrove													0	ategory	Rear Mangrove	
Gal	Flooded forest													0	cat	Flooded forest	
8	Forest regrowth													0	9	Forest regrowth	
3	Tree plantation													0	and us	Tree plantation	
and	Pine plantation													0	P	Pine plantation	
Ľ	Non-forest													0	Ľ	Non-forest	
	Total	() (0 0	0	0	C	0	C	0) (C	0			Total	

							Land use	category in	year 2023							
Year 2	2023		Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
2022	Semi-evergreen forest	0	0 0	C	0	0	0	0	C	0	C	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ž	Deciduous forest	0	0 0	0	0	0	0	0	0	0		0	0	0		
	Bamboo	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ŝ	Mangrove	0	0 0	0	0	0	0			0		0	0	0		
2	Rear Mangrove	0	0 0	0	0	0	0					0	0	0		
3	Flooded forest	0	0 0	0	0	0	0	0	0	0		0	0	0		
8	Forest regrowth	0	0 0	0	0	0	0					0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0					0	0	0		
Ĕ	Pine plantation	0	0 0	0	0	0	0					0	0	0		
1	Non-forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2024					
Year		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
~	Evergreen forest													0
2023	Semi-evergreen													0
20	forest													0
aar	Pine forest													0
× 1	Deciduous forest													0
. <u>.</u>	Bamboo													0
E S	Mangrove													0
8	Rear Mangrove													0
cat	Flooded forest													0
8	Forest regrowth													0
	Tree plantation													0
and	Pine plantation													0
La l	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025					
Year		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo					Tree plantation	Pine plantation	non forest	Total
-	Evergreen forest													0
2024	Semi-evergreen forest													0
year	Pine forest													0
	Deciduous forest													0
. <u></u>	Bamboo													0
5	Mangrove													0
	Rear Mangrove													0
	Flooded forest													0
0	Forest regrowth													0
ŝ	Tree plantation													0
and	Pine plantation													0
2	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2026					
'ear		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest													
2025	Semi-evergreen													
20	forest													
year	Pine forest													
	Deciduous forest													
÷.	Bamboo													
ŝ	Mangrove													
catego	Rear Mangrove													
Cal.	Flooded forest													
ŝ	Forest regrowth													
3	Tree plantation													
and	Pine plantation													
<u> </u>	Non-forest													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027				
Year	2027	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Pine plantation	non forest	Total
	Evergreen forest												C
58	Semi-evergreen												0
20	forest												0
aar	Pine forest												0
×.	Deciduous forest												0
÷	Bamboo												0
- S	Mangrove												0
6a	Rear Mangrove												0
Cal	Flooded forest												0
8	Forest regrowth												0
np	Tree plantation												0
anc	Pine plantation												0
La	Non-forest												0

							Land use	category in	year 2028					
Year	2028		Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest													(
2027	Semi-evergreen forest													(
ear	Pine forest													(
5	Deciduous forest													(
÷E	Bamboo													(
S	Mangrove													(
tegor	Rear Mangrove													(
cat	Flooded forest													(
m.	Forest regrowth													(
R	Tree plantation													(
and	Pine plantation													-
Г	Non-forest													-
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2024							
'ear 2	024	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
2023	Semi-evergreen forest	C	0 0	0	0	0	0	C	C	0	0	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
¥.	Deciduous forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
-=	Bamboo	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
ŝ	Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Rear Mangrove	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
cat	Flooded forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
9	Forest regrowth	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Pine plantation	C	0 0	0	0	0	0			0	0	0	0	0		
100	Non-forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2025							
Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
	Semi-evergreen forest	0	0	C	0	0	0	C) () C	. C) C	0	0		
ar	Pine forest	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Deciduous forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
-5	Bamboo	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
5	Mangrove	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Rear Mangrove	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Flooded forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
0	Forest regrowth	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
	Tree plantation	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
P	Pine plantation	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
5	Non-forest	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Total													0	0	

							Land use	category in	year 2026							
Year :		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove				Pine plantation	non forest	Total		
6	Evergreen forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2025	Semi-evergreen forest	a	o c	0	0	0	0	c	a	0	0	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
, ≍	Deciduous forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
- E	Bamboo	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
Gold	Mangrove	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
eg	Rear Mangrove	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
cat	Flooded forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
<u>s</u>	Forest regrowth	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
S	Tree plantation	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
PE	Pine plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
La	Non-forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0	

						Land us	e category	n year 2027													Land use	e category in	year 2027							
Year 2027	Evergree forest	n Semi- evergreen forest	Pine fores	t Deciduous forest	Bamboo	Mangrove	Rear Mangrov	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year	2027	Evergreer forest	Semi- evergreen forest	Pine forest	Deciduou: forest	s Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
Evergreen for	rest														Evergreen forest		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Semi-evergree	en													2026	Semi-evergreen forest		0 0) ()	0 0	0 0	0 0)	0 0)	0	0 0) C		
Pine forest														ar	Pine forest		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Deciduous for	rest													×.	Deciduous forest		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0		
E Bamboo														- E	Bamboo		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Rear Mangrove														5	Mangrove		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Rear Mangrov	ve													63	Rear Mangrove		0 0) ()	0 0) () ()	0 0)	0	0 0) C)	
B Flooded fores	it													8	Flooded forest		0 0) ()	0 0) () ()	0 0)	0	0 0) C)	
g Forest regrow	/th													2	Forest regrowth		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Tree plantatio	n													ŝ	Tree plantation		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0		
Pine plantation	n													2	Pine plantation		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Non-forest														-	Non-forest		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Total		0 0) (0 0	0 0	0	0	0 0)	0 1	0 0		0		Total													0	0	

							Land use	category in	year 2028							
Year 2	2028	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2027	Semi-evergreen forest	C	0 0	C	0	0	0	c	C	0	C	0	0	0		
ar	Pine forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
×	Deciduous forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Bamboo	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
5	Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
eg	Rear Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
at	Flooded forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
ġ	Forest regrowth	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
P	Pine plantation	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2	Non-forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2029					
Year	2029	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove			Tree plantation	Pine plantation	non forest	Total
-	Evergreen forest													0
028	Semi-evergreen													0
20	forest													0
ar	Pine forest													0
, ¥	Deciduous forest													0
	Bamboo													0
- S	Mangrove													0
5	Rear Mangrove													0
cat	Flooded forest													0
8	Forest regrowth													0
np	Tree plantation													0
č	Pine plantation													0
La	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2029							
(ear 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest		Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0		0			0	0	0	0	0 0	0	0		
	Semi-evergreen forest	0	0	0	0	0	0	0) (0	C) C	0	0		
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
¥	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
÷.	Bamboo	0	0	0	0	0				0	0	0 0	0	0		
5	Mangrove	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
	Flooded forest	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
9	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
ŝ	Tree plantation	0	0	0	0	0		0		0	0	0 0	0	0		
Б	Pine plantation	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0 0	0	0		
	Total													0	0	

							Land use	category in	year 2030					
(ear :	2030	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
-	Evergreen forest													
2029	Semi-evergreen forest													
aar	Pine forest													
≶.	Deciduous forest													
jĒ,	Bamboo													
ЪĞ	Mangrove													
teg	Rear Mangrove													
Gat	Flooded forest													
ê	Forest regrowth													
ňp	Tree plantation													
pue	Pine plantation													
<u> </u>	Non-forest													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	1			Total													0	0	0
			1				Land use category in year 2030													
on	non forest	Total		Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
		0	1		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0		8	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	5	Mangrove	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	eg	Rear Mangrove	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	at	Flooded forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	ě	Forest regrowth	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	S	Tree plantation	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	Ē	Non-forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
0	0]		Total													0	0	0

Emissions from fossil fuel combustion (Direct and Indirect methods)

Parameters		NCV _f				EF _{fuel f}		
Description of data		Net calorific value	of fuel f	CO ₂	emission fact	or of the fuel	type f comb	usted
Units		GJ kg ⁻¹				tCO ₂ GJ ⁻¹		
Fuel type f	Gas/diesel Motor oil gasol			Gas/diesel oil	Motor gasoline	Crude oil		
Value	0.0430 0	0.0443 0.042	3	0.0741	0.0693	0.0733		

Emissions from fossil fuel combustion (Direct method)

Parameters				FC _{fy}					E _{fuel f y}			E _{fuely} (direct)
										CO ₂ emissions from fossil fuel combustion		
Description	of data	Qi	antity of fue	I type f cons	sumed in yea	ry	CO ₂ emissi	ons from cor	nbustion of fe	ossil fuel typ		in year y due to the project activities (direct
												method)
Units				kg					tCO ₂			tCO ₂
Fuel type f			Motor gasoline	Crude oil				Motor gasoline	Crude oil			-
	2019						0,00	0,00	0,00	0,00	0.00	
	2020						0,00				0,00	
	2021						0,00					
	2022						0,00					
	2023						0,00					
Year	2024						0,00					
	2025						0,00					
	2026						0,00					
	2027						0,00					
	2028						0,00					
	2029						0,00					
	2030						0,00	0,00	0,00	0,00	0,00	
	Total	-	-		-	-	-	-	-	-	-	0,00

Emissions from fossil fuel combustion (Indirect method)

Vehicle type						1											-
Fuel type f																	-
				SECif					NCV _f								
		Averaç	ge specific er equipmer	nergy consu nt type j for f		hicle or	#N/A	#N/A	#N/A	#N/A	#N/A	NA	NA	NA	NA	NA	NA
			kg	g km ⁻¹ or hou	ır ^{.1}				EF _{fuel f}			na.	inc.	114	in A	110	
Value							0,0000	0,0000		0,0000	0,0000						
Parameters				NVE					TDUITY					E _{fuel jf y}			E _{fuel y} (indirect)
																	CO ₂ emissions from
Description o	of data	Number o	f vehicle or e	quipment ty year y	pej using fu	iel type f in				pej oruse h type fin yea			ssions from t uipment type				fossil fuel combustion in year y due to the
														,,	.,,,	.,	project activities (indirect method)
Units				unit				kr	n or hour un	ť				tCO ₂			tCO ₂
	2019											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2020											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2021											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2022											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2023											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
Year	2024											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
i Gai	2025											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2026											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2027											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2028											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	2029											#N/A	#N/A	#N/A	#N/A	#N/A	0,0 0,0 0,0
	2030											#N/A	#N/A	#N/A	#N/A	#N/A	0,0
	Total	-	-	-		-	-	-	-	-	-	-	-	-	-	-	0,0

Emission from fertilizer application								
Parameters	NC _{SN c}	NC _{ON o}	Frac _{Renew T}	R _{AG T}	R _{BG T}	N _{AG T}	N _{BG T}	
Description of data	Nitrogen content of synthetic fertilizer applied in cropland ty c	De Nitrogen content of organic fertilizer applied in cropland type c	Fraction of total area under N-fixing crop T that is renewed annually		Ratio of below-ground residues to harvested yield for N-fixing crop T	N content of above-ground residues for N-fixing crop T	N content of below-ground residues for N-fixing crop T	
Units	tN (t fertilizer) ¹	tN (t fertilizer) ⁻¹	dimensionless	t d.m. (t d.m.) ⁻¹	t d.m. (t d.m.) ⁻¹	t N (t d.m.) ⁻¹	t N (t d.m.) ⁻¹	
Cropland type c / N-fixing crop T	General (non- Rice pad paddy)	dy (non- paddy)						

Parameters		M	SNcy	Ma	Ncy			Crop	Рсту					Area	сТу			F _{SN}	łcy	F	DNcy	Fc	Rcy	M _{limestone y}	M _{dolomite y}	M _{ureay}	E _{direct-N y}	E _{indirect-N y}	E _{liming y}	E _{urea y}	E _{fertilizer y}
Description of	f data	Mass of fertilizer implemen project a cropland t project a	synthetic applied for tation of the totivities in ype c in the rea and the ea in year y	Mass or fertilizer r materials so outside of area and implement project ar cropland ty project ar	f organic made from ourced from the project the activity applied for ation of the	Harveste	or implemen	y matter yield tation of the p	I for N-fixing of project activiti e activity area	ies in cropla			ation of the p	harvested of f roject activitie and the activi	N-fixing crop	nd type c in t		Mass of n synthetic applie implementa project ac cropland ty project are activity are	itrogen in fertilizer ad for ation of the ctivities in pe c in the a and the	Mass of organic fe from mate from outsi area and area and implemen project a project a	nitrogen in rtilizer made rials sourced be the project the activity applied for tation of the activities in ype c in the rea and the ea in year y	Mass of i crop residi ground a ground) i crops, intr implement project a cropland t project ar activity	nitrogen in ues (above- ind below- in N-fixing roduced for ation of the ctivities in ype c in the ea and the area and to soils, in	Mass of calcic limestone (CaCO ₃) applied for implementa tion of the project activities in the project area and	Mass of dolomite (CaMg(CO 3) ₂) applied for implementa tion of the project activities in the project area and the activity	Mass of urea fertilizer applied for implementa tion of the project activities in the project	· · · · ·	Indirect N ₂ O emissions as a result of nitrogen application within the project area and the activity area for	CO2 emissions as a result of adding liming materials within the project area and the	CO ₂ emissions as a result of urea fertilization application within the project area and the activity area for implementati on of the project activities in	GHG emissions from fertilizer application within the project area and the activity area for implementati on of the project activities in year y
Units			t		t			t d.m.	. ha ⁻¹					ha	1			ť	N		tN	t	N	t	t	t	tCO2-eq	tCO2-eq	tCO ₂	year y tCO ₂	tCO2-eq
Cropland type	e c	General (non-	Rice paddy	General (non-	Rice paddy	Gen	eral (non-pa	ddy)		Rice paddy		Gen	eral (non-pa	ddy)	I	Rice paddy		General (non-	Rice padd	y General (non-	Rice paddy	General (non-	Rice paddy	NA	NA	NA	NA	NA	NA	NA	NA
N-fixing crop		NA	NA	NA	NA													NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019																	0,0	0,				0,0				0,0	0,0	0,0		
	2020																	0,0	0,								0,0	0,0	0,0		0,0
	2021 2022																	0,0									0,0		0,0		0,0
	2022 2023																	0.0	0.	0 0.	0.0 0.0						0.0	0.0	0,0	0.0	0.0
	2023																	0,0	0,								0,0				
Year	2024			1														0,0									0,0				0,0
	2025																	0,0	0,		0,0						0,0	0,0	0,0		0,0
	2020																			0 0	0,0		0,0				0,0			0,0	0,0
	2028																	0,0	0,	0 0, 0 0,	0.0	0,0					0,0		0,0	0,0	0.0
	2029																	0,0		0 0,	0,0	0,0	0.0				0,0				
	2030																	0,0	0,				0,0				0,0	0,0			0,0
	Total				-	-	-	-	-	-	-	-	-	-	-	-	-	-		-			-		-	-	0,0	0,0	0,0	0,0	0,0

Total of Proje	ct net emissions			
Parameters		∆CS _{PLV}	DEy	PEy
		Carbon	Displaced	
		stock	emissions	Project net
Description of	f data	change in	to the	emissions
Description	uata	the project	displaceme	in year y
		area in	nt belt in	iii yeai y
		year y	year y	
Units		tC	tCO ₂	tCO ₂
	2019	0,0	0,0	0,0
	2020	0.0	0.0	
	2021	0,0	0,0	
	2022	0,0	0,0	
	2023	0,0	0,0	
Year	2024	0,0	0,0	
	2025	0,0	0,0	
	2026	0,0	0,0	
	2027	0,0	0,0	
	2028	0,0	0,0	
	2029	0,0	0,0	
	2030	0,0		
	Total	0,0	0,0	0,0

Iculations for emission reductions to be credited	Pool / Sources	Value	Units	Paramete
Project emission reductions to be credited during the period <i>p</i>		0,0	tCO ₂ e	ERp
Project emission reductions to be credited in year y				
2019		0,0	tCO ₂ e	ERy
2020		0,0	tCO ₂ e	ERy
2021		0,0	tCO ₂ e	ERy
2022		0,0	tCO ₂ e	ERy
2023		0,0	tCO ₂ e	ERy
2024		0,0	tCO ₂ e	ERy
2025		0,0	tCO ₂ e	ERy
2026		0,0	tCO ₂ e	ERy
2027		0,0	tCO ₂ e	ERy
2028		0,0	tCO ₂ e	ERy
2029		0,0	tCO ₂ e	ERy
2030		0,0	tCO ₂ e	ERy
Iculations for project reference level				
Project reference level during period <i>p</i>		0,0	tCO ₂ e	RLp
Project reference level in year y				
2019	Carbon stock	0,0	tCO ₂ e	RLy
2020	Carbon stock	0,0	tCO ₂ e	RLy
2021	Carbon stock	0,0	tCO ₂ e	RLy
2022 (Carbon stock	0,0	tCO ₂ e	RLy
2023 (Carbon stock	0,0	tCO ₂ e	RLy
2024 (Carbon stock	0,0	tCO ₂ e	RLy
2025	Carbon stock	0,0	tCO ₂ e	RLy
2026	Carbon stock		tCO ₂ e	RL _v
2027 (Carbon stock	0,0	tCO ₂ e	RLy
2028 (Carbon stock	0,0	tCO ₂ e	RL _v
2029 (Carbon stock	0,0	tCO ₂ e	, RL _v
2030	Carbon stock		tCO ₂ e	, RL _y

ject net emissions during period <i>p</i>			0,0	tCO ₂ e	PE
Emissions from carbon stock change in the project area	a in year y	,			
	2019	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2020	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2021	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2022	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2023	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2024	Carbon stock		tCO ₂ e	ΔCS _{pj y} *
	2025	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2026	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2027	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2028	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2029	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2030	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
CO2 emissions from fossile fuel combustion at year y				_	
	2019	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels	,	tCO ₂ e	Efue
	2024	Combustion of fossil fuels		tCO ₂ e	Efue
	2025	Combustion of fossil fuels		tCO ₂ e	Efue
	2026	Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
	2028	Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels	· · · · · ·	tCO ₂ e	Efue
	2030	Combustion of fossil fuels		tCO ₂ e	Efue
GHG emissions from fertilizer application at year y			,		
	2019	Fertilizer application	0,0	tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application	,	tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
Displacement of net emissions during the period y				-	
	2019	Carbon stock	0.0	tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock	,	tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock	· · · · · · · · · · · · · · · · · · ·	tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
	2025				
			0.0	ItCCoe	
	2026	Carbon stock		tCO ₂ e	
	2026 2027	Carbon stock Carbon stock	0,0	tCO ₂ e	DE
	2026 2027 2028	Carbon stock Carbon stock Carbon stock	0,0 0,0	tCO ₂ e tCO ₂ e	DE DE
	2026 2027 2028 2029	Carbon stock Carbon stock	0,0 0,0 0,0	tCO ₂ e	DE DE DE DE DE

[List of Default Values]

Emission factor for N ₂ O emission from N inputs for general (non-paddy)	0,01	tN ₂ O-N (tN- input) ⁻¹	EF _{direct-N} (general)
Emission factor for N ₂ O emission from N inputs for Rice paddy (flooded rice field)	0.003	tNI O NI (tNI	EF _{direct-N} (paddy)
Fraction that volatilized as NH ₃ and NOx for synthetic fertilizers			Frac _{sn}
Fraction that volatilized as NH ₃ and NOx for organic fertilizers	0,20	dimentsionless	Frac _{on}
Emission factor for N_2O emissions from atmospheric deposition of N on soils and water surfaces	0,010	tN ₂ O-N (tNH ₃ -N and NO _X -N volatilized) ⁻¹	EF _{indirect-N}
Fraction of N that area lost through leaching and runoff	0,30	dimensionless	Frac _{leach}
Emission factor for N_2O emissions from N leaching and runoff		tN ₂ O-N (t leaching and runoff) ⁻¹	EF _{leach-N}
Emission factor for limestone	0,12	tC (t limestone) ⁻	EF _{limestone}
Emission factor for dolomite	0,13	tC (t dolomite) ⁻¹	EF _{dolomite}
Emission factor for urea	0,20	tC (t urea) ⁻¹	EF _{urea}
Global Warming Potential for N ₂ O	298	tCO ₂ tN ₂ O ⁻¹	GWP _{N2O}
Net calorific value of gas/diesel oil	0,043	GJ kg ⁻¹	NCV _f
Net calorific value of motor gasoline	0,0443	GJ kg ⁻¹	NCV _f
Net calorific value of crude oil	0,0423	GJ kg ⁻¹	NCV _f
CO ₂ emission factor of gas/diesel oil combusted	0,0741	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of motor gasoline combusted	0,0693	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of crude oil combusted	0,0733	tCO ₂ GJ ⁻¹	EF _{fuel f}

Monitoring Spreadsheet: JCM_KH_AM004_ver01.1

Reference Number:

Monitoring Structure and Procedure Sheet [Attachment to Project Design Document]

1. Monitoring Participants

Responsible organizations for implementing the methods and procedures for each data									
Description of data	Basic description of measurement methods and procedures	Organizations involved							

Responsible personel and their roles

Personnel	Role(s)

2. Monitoring Procedures

Description of data	Monitoring Procedure(s)

3. Procedures for recording and archiving data

Description of data	Procedures for recording and archiving

4. QA/QC procedures	
Description of data	QA/QC procedures

Annex

Monitoring Report Sheet (Input Sheet) [For Verification]

Table 1:	Parameters	monitored	ov nost

(a)	nonitored ex (b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Monitoring period	Monitoring point No.	Parameters	Description of data	Monitored Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
ponou		CA _{pjiy}	(Option 1) Area converted from forest class <i>i</i> to non-forest in the project area in year <i>y</i>	-	ha	Option A	Cambodia's official forest map	-	-	Input on "MRS(input_PJ_Opt1)" she
	(2)	CA _{d pjiy}	(Option 1) Area converted from forest class <i>i</i> to non-forest in the displacement belt in year y	-	ha	Option A	Cambodia's official forest map	-	-	Input on "MRS(input_PJ_Opt1)" she
	(3)	FC _{fy}	(Direct method) Quantity of fuel type f consumed in year y	-	kg	Option B/C	Invoices, project management record	Collect all purchase records of fuel used for the project activities, and record type and amount of fuel and type of vehicle/equipment.	Once every year	Input on "MRS(input PJ Opt1)" she
	(4)	NVEjfy	(Indirect method) Number of vehicle or equipment type <i>j</i> using fuel type <i>f</i> in year <i>y</i>	-	unit	Option C	Project management record	Record number of vehicle or equipment type <i>j</i> used for the project activities	Once every year	Input on "MRS(input_PJ_Opt1)" she
	(5)	TDUjfy	(Indirect method) Total travel distance for vehicle type j or use hours for equipment type j using fuel type f in year y	-	km or hour	Option C	Project management record (trip record etc)	Record total travel distance or total use hours at least 50% of all vehicles or equipment for each type of vehicle or equipment using GPS or watch, and calculate average total travel distance or total use hours.	Once every year	Input on "MRS(input_PJ_Opt1)" she
	(6)	SEC _{j f}	Average specific energy consumption of vehicle or equipment type j for fuel type f	-	kg km ⁻¹ or hour ⁻¹	Option A/C	Manufacturer specifications or measurement	Reference figures such as manufacturer specifications can be used. If no data available, fuel consumption and distance are recorded before the initial verification.	Once before the initial verification	Input on "MRS(input_PJ_Opt1)" she
	(7)	M _{SN c y}	Mass of synthetic fertilizer applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of synthetic fertilizer used for the project activities, and record type and amount of fertilizer and cropland type where fertilizer is applied.	Once every year	Input on "MRS(input_PJ_Opt1)" she
	(8)	M _{on cy}	Mass of organic fertilizer made from materials sourced from outside of the project area and the activity area and applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Measure weight of organic fertilizer made from materials sourced from outside of the project area and the activity area, record the weight, fertilizer type and cropland type where fertilizer is applied.	Once every year	Input on "MRS(input_PJ_Opt1)" she
	(9)	NC _{SN c}	Nitrogen content of synthetic fertilizer applied in cropland type c	-	tN (t fertilizer) ⁻¹	Option A	Data from producers of synthetic fertilize	f	Once before the initial verification	Input on "MRS(input PJ Opt1)" she
	(10)	NC _{ON c}	Nitrogen content of organic fertilizer applied in cropland type c	-	tN (t fertilizer) ⁻¹	Option A	Published data	-	Once before the	
	(11)	Crop _{c T y}	Harvested annual dry matter yield for N- fixing crop <i>T</i> per unit area, introduced for implementation of the project activities in cropland type <i>c</i> in the project area and the activity area in year <i>y</i>	-	t d.m. ha ⁻¹	Option A/C	Published data or Project management record	Select 10% of farmers who introduce N-fixing crops under the project, measure dry yield for N-fixing crop, and calculate average t d.m ha ⁻¹ . Alternatively published average dry yield data for the N-fixing crop can be used.	Once every year	Input on "MRS(input_PJ_Opt1)" she
	(12)	Area _{c T y}	Total annual area harvested of N-fixing crop T , introduced for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	ha	Option C	Project management record	Record area harvested N-fixing crop by interviewing farmers. Alternatively, a project activity plan for area of farmland where N-fixing crop is introduced can be also used.	Once every year	Input on "MRS(input_PJ_Opt1)" sh
	(13)	R _{AG T}	Ratio of above-ground residues to harvested yield for N-fixing crop <i>T</i>	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MRS(input_PJ_Opt1)" sh
	(14)	R _{BG T}	Ratio of below-ground residues to harvested yield for N-fixing crop <i>T</i>	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MRS(input_PJ_Opt1)" sh
	(15)	N _{AG T}	N content of above-ground residues for N-fixing crop ${\cal T}$	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the initial verification	Input on "MRS(input_PJ_Opt1)" sh
	(16)	N _{BG T}	N content of below-ground residues for N-fixing crop ${\cal T}$	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the initial verification	Input on "MRS(input_PJ_Opt1)" sh
	(17)	Frac _{Renew T}	Fraction of total area under N-fixing crop T that is renewed annually	-	dimensionless	Option C	Interview	Interview for local agriculture expert	Once before the initial verification	Input on "MRS(input PJ Opt1)" sh
	(18)	Mlimestone y	Mass of calcic limestone (CaCO ₃) applied for implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of calcic limestone used for the project activities, and record the amount.	Once every year	Input on "MRS(input_PJ_Opt1)" sh
	(19)	M _{dolomite y}	Mass of dolomite $(CaMg(CO_3)_2)$ applied for implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of dolomite used for the project activities, and record the amount.	Once every year	Input on "MRS(input_PJ_Opt1)" sh
	(20)	M _{urea y}	Mass of urea fertilizer applied for implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of urea fertilizer used for the project activities, and record the amount.	Once every year	Input on "MRS(input_PJ_Opt1)" she

Table 2: Project-specific parameters fixed ex ante

le 2: Project-specific paramete (a) Parameters	(b) Description of data	(c) (d) Estimated Units	(e) Source of data	(f) Other comments
Parameters	Area of forest class <i>i</i> in the project area at the inception of the	Estimated Units		
A _{i 0}	project	- ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt1)" sheet
A _{di0}	Area of forest class <i>i</i> in the displacement belt at the inception of the project	- ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt1)" sheet
d _y	Number of operating days in year <i>y</i>	- days	Decided based on starting date of project operation and expected operational lifetime of project	Input on "MPS(input_RL_Opt1)" sheet
d _{o y}	Number of days in year y	- days	Automatically decided by number of year y	Input on "MPS(input_RL_Opt1)" sheet
P _E	Annual transition probability from Evergreen forest (E) to non-forest within the reference area	0,0000 dimensionless	Automatically decided by number of year y	Input on "MPS(input_RL_Opt1)" sheet
SE	Annual transition probability from Semi-evergreen forest (SE) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _P	Annual transition probability from Pine forest (P) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
PD	Annual transition probability from Deciduous forest (D) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _B	Annual transition probability from Bamboo (B) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _M	Annual transition probability from Mangrove (M) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _{MR}	Annual transition probability from Rear Mangrove (MR) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _{FF}	Annual transition probability from Flooded forest (FF) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _{FR}	Annual transition probability from Forest regrowth (FR) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _{TP}	Annual transition probability from Tree plantation (TP) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
P _{pp}	Annual transition probability from Pine plantation (PP) to non-forest within the reference area	0,0000 dimensionless	Cambodia's official forest reference level (FRL)	
Pde	Annual transition probability from Evergreen forest (E) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
Pdse	Annual transition probability from Semi-evergreen forest (SE) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
P _{dP}	Annual transition probability from Pine forest (P) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
PdD	Annual transition probability from Deciduous forest (D) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
Р _{ав}	Annual transition probability from Bamboo (B) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
PdM	Annual transition probability from Mangrove (M) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
P _{d MR}	Annual transition probability from Rear Mangrove (MR) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
PdFF	Annual transition probability from Flooded forest (FF) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
PdFR	Annual transition probability from Forest regrowth (FR) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
PdTP	Annual transition probability from Tree plantation (TP) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
P _{d PP}	Annual transition probability from Pine plantation (PP) to non-forest within the displacement belt	0,0000 dimensionless	Cambodia's official forest maps	
EF _E	Emission factor applicable for Evergreen forest (E)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _{SE}	Emission factor applicable for Semi-evergreen forest (SE)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _P	Emission factor applicable for Pine forest (P)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EFD	Emission factor applicable for Deciduous forest (D)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EFB	Emission factor applicable for Bamboo (B)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _M	Emission factor applicable for Mangrove (M)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _{MR}	Emission factor applicable for Rear Mangrove (MR)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _{FF}	Emission factor applicable for Flooded forest (FF)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _{FR}	Emission factor applicable for Forest regrowth (FR)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EFTP	Emission factor applicable for Tree plantation (TP)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
EF _{PP}	Emission factor applicable for Pine plantation (PP)	0,0000 tC ha ⁻¹	Cambodia's official forest reference level (FRL)	
NCV _f	Net calorific value of fuel f	- GJ kg ⁻¹	2006 IPCC Guidelines Tables 1.2	Input on "MPS(input PJ Opt1)" sheet

Table3: Ex-post calculation of CO₂ emission reductions to be credited

Monitoring		CO ₂ emis	sion reductions	Units
	du	ring period p	0	tCO ₂ /p
	Year	2018	0	tCO ₂ /y
		2019	0	tCO ₂ /y
		2020	0	tCO ₂ /y
		2021	0	tCO ₂ /y
		2022	0	tCO ₂ /y
		2023	0	tCO ₂ /y
		2024	0	tCO ₂ /y
		2025	0	tCO ₂ /y
		2026	0	tCO ₂ /y
		2027	0	tCO ₂ /y
		2028	0	tCO ₂ /y
		2029	0	tCO ₂ /y

[Monitoring option]

-	Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
- 0	Option B	Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)
- 0	Option C	Based on the actual measurement using measuring equipments (Data used: measured values)

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																												Referen	nce Number:
Parameters									A _{i.y}											ΔC	CS _{refy}						RLy	dy	d _{oy}
Description of	fdata						Area of for	est class <i>i</i> in	the project a	area in year	у							Proje	ected carbor	n stock chan	ge in the pro	oject area in	year y				Project reference level in year y	number of operating days in year y	f number of days in year y
Units									ha												tC						tCO ₂ y ⁻¹	days	days
Forest class i		Evergre forest	een Semi- evergre forest	en P	Pine forest	Deciduou: forest	⁸ Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Evergreen	Semi- evergreen forest	Pine fores	t Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	-	-	-
Inception of the project	201		0	0	0		0	0 0	D C) () () (D	0	0 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	201	18	0	0	0		0	0 (0 0) () () (0	0	0	0 0) (0 () (0 () (0	0	0 (D C	0) C		
		19	0	0	0		0	0 0	0 0) () () ()	0	0	0 0) (0 0) (0 (0 0	0	0	0 (0 0	0	0 0	1	
		20	0	0	0		0	0 (0 0) () () ()	0	0	0 0	1	0 0) (0 (0 0	0	0	0 (0 0	0 0	0 0	1	
		21	0	0	0		0	0 (0 0) () () ()	0	0	0 0) (0 () (0 (0 1	0	0	0 (0 0	0 0	0 0		
		22	0	0	0		0	0 (0 0) () () ()	0	0	0 0) (0 0) (0 (0	0	0 (0 0	0 0	0 0	(
Year		23	0	0	0		0	0 0	0 0) () () (0	0 1	0	0 0	1	0 () (0 () (0	0	0 0	0 0	0 0	0 0		
-		24	0	0	0		0	0 0	0 0				2	0	0	0 0		0 (0 0		0	0	0 0	0 0		0 (
		25	0	0	0		0	0 0						0	0								0	0 0					+
		26	0	0	0		0								0								0	0 0					
-		27	0	0	0		0							0	0							0	0	0 0					+
-		20	0	0	0		0							0	0							0	0	0 (++
	Total		-	-	-		-	-			-		-	-	-					-	-	-	-	-					

Monitoring Spreadsheet		

aramotors						CA	er.											14.	3 ₆₉ ,						403 ₄₁
lescription of	data			Area cone	inted from for	ant classs / to n	on-fonest in th	e project area	a in year y						Carbon	slock change	in area corve	ried from for	ent classe / to re	on-forest in th	e project area	in year y			Carbon slock change is the project area in year
inita .						h													1C						1C
orest class /		Evergreen forest	Seni- evergreen forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Evergreen forest	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove	Rear Mangrove			Tree plantation	Pine plantation	non forest	total
	214													00 0,0				0,0	0,00						
	214													00 0,0	0,00		0,00	0,0	0,00	0,00	0,00	0,00	0,00	0,00	
													0,	00 0.0	0 0,00	0,00	0,00	0.0	0,00	0.00	0,00	0.00	0.00	0.00	
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Year	202													00 0,0	0,00			0,0	0,00	0,00	0,00	0,00	0,00		
	202												0,	00 0.0	0 0,00	0,00	0,00	0.0	0,00	0.00	0.00	0.00 0.00 0.00	0.00	0.00	
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	202			 									0,	00 0.0	0 0,00	0,00	0,00	0.0	0,00	0.00	0,00	0.00	0.00	0,00	
	202																								
	202												0,	00 0,0	0,00	0,00	0,00	0,0	0,00	0,00	0,00	0,00	0,00	0,00	
	Total																								

Parameters Description of data			NCV,				EF						
		Net calc	orific value of	fuel f	CO ₂ emission factor of the fuel type / combusted								
Units			GJ koʻ		100, CU ¹								
Fueltype / 😋	ss/dessi oil		Crude oil			Motor gasoline	Crude oil						
Value	0,0430	0,0443	0,0423		0,0741	0,0593	0,0733						

Parameters				FC ₁					E _{bell} ,			E _{lativ} (direct)
Description of			Quantity of fuel	type / consu	med in year y		CO ₂ emis	sions from co	mbuetion of fo	mil fasi type /	in your y	CO ₂ emissions from fossi fael combustion in year y due to the project activitie (direct method)
Units kg 100,												100,
uel type f			Motor	Crude oil				Motor casoline	Crude oil			
							0,0					0,
	201										0,0	
							0.0	0,0	0,0	0.0	0.0	0,
												0
												0
Year											0,0	
							0.0	0.0	0.0	0.0	0.0	0
								0,0			0,0	
							0,0				0,0	
							0.0	0,0	0.0	0.0	0.0	
							0,0					
	Total											

Emissions from fo																	
Vehicle type																	
Fuel type f																	
				SEC,					NCV;								
		Average spec		for fuel type /		ipment type /	0,0000	0,0000		0,0000	0,0000	NA	NA	NA	NA	NA	NA
			ic.	km ¹ or hour					EFinal								
Value							0,0000	0,0000		0,0000	0,0000						
Parameters				NAE _{sty}					TOU/y					Elatify			Etuty (indirect)
Description of dat	ita	Number of v	ehicle or equip		ning fuel type	f in year y	Total travel (type / usi	ing fuel type f	in year y	z equipment	CO ₂ emissio	na from fosail type / usi	ng fuel type f	on in vehicle 2 'in year y	zr equipment	due to the project activities (indirect method)
Units				unit				k	m or hour unit					100,			100 ₀
																	Q.
												0,0	0,0	0.0	0,0	0.0	Q.
												0,0				0,0	Q.
	2019 2020 2021											0.0	0.0	0,0	0,0	0,0	Q. Q.
												0.0	0.0	0.0	0.0	0.0	0. 0. 0.
												0.0	0.0	0.0	0.0	0.0	0 0 0
												0.0	0.0	0.0	0.0	0.0	0 0 0 0
	2019 2020 2021 2022 2022 2022 2022 2023											0.0 0,0 0,0 0,0	0.0 0.0 0.0 0.0	0.0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0	2.0 2.0 2.0 2.0	
												0,0 0,0 0,0 0,0 0,0 0,0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	
												0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
												0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Year	3313 3323 2321 3322 3323 3323 3324 3325 3327 3327 3327 3327 3327 3327 3327											0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	

Parameters	NC	104.0	NC	CRine 1		Fraction 1			RMAT			Reat		NMT		NegT	
Description of data	synthetic fert cropter		organic fertil cropian	d type c	crop T ti	total area un nat la renewes	i arreally	harvested	bove-ground r yield for N-for	ing crop 7	harvested	elow-ground r yield for N-fo		V-forg crop 3		below-ground V-fxing crop 7	
Units	2N (), fe	tilizer i	IN (1 fee	tilizer)		dimensionless			dm itdm)			dn (tdm)		tNitdml		tNitdmi	
Cropland type c / N-Buing crop 7	General (ron-paddy)	Rce paddy	General (non-paddy)	Rice paddy													
Value																	

Mass of nitrogen is residues (above-g and belove-ground fixing crops, intro	residues (a and below-p	(above-group	and imeason	e (CaMg(C	te Mass of urea	errission as a res	suit as a re-	ana areas	R as a resul		
project activities cropland type c is project area and activity area and re	for impleme project a project ar activity area	ops, introduce mentation of t tactivities in d type c in the area and the es and return	n N- appled 5 implement on of the project activities activities activities activities activities activities activities	or for tell implement a on of the project in activities act the proje the area and tell activity at	appeed to implement on of the project a in the project the project area and activities area and activities area and activities	tor nhat in in in in in in in in in in in in in	he within t area project a se and th area activity a for nibil implement he on of t ct projec a in activitie y year j	pen kning materials within the project any activity and the activity and the activity and the timplement a in activities i y year y	fertilizado applicatio within the na project ave ard the activity are for al implements on of the project n activities i ywar y	a processor a project area and the activity area for implemental on of the project activities in year y	
N N		IN .	t	t	t	100 ₂ -er	iq 100,-1	aq 100,	100,	tCO ₂ -eq	
dy General (non-paddy) Rice				NA			NA		NA	NA	
		NA	A NA	NA	NA			NA		NA	
			0,0					0,0 0		.0 0,0	
										0,0	
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20 0,0	0,0	3,0							1,0 0,1	0,0	
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							ha														1C													5	8													10								60,	100,		100,	days
laun /	Evergreen forest	Semi- evergreen forest	Pine fore	est Decidu Screst	ous Bambo	o Marg	prove Res	ar l ingrove 1	Flooded forest	Forest regrowth	Tree plantal	ation Pine	e tation n	on forest	Evergree forest	n Semi- evergre forest	en Pine	forest Dec	ciduous et	lamboo	Mangrow	e Rear Marge	ove Floo	xded Pi at re	'orest egrowth	Tree plantation	n Pine plantat	ton Dverg	reen even fore	ni- rgreen Pin Ist	e forest fo	eciduous a	lamboo	Mangrove	Rear Mangrove	Flooded	Forest regrow	th plants	éon pla	ne entation	non forest	Evergreen forest	Semi- evergree forest	en Pine fo	rest Decid	uous Barri	ttoo Ma	angrose	tear Aangrows	Flooded forest	Forest regrowth	Tree plantatio	n Pine plantatio	non fores						-
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Total	_	-	-	-	-	-	-	-		-	-	-	-			-	-	-	-		-	-	-	-		-	-	-	_																		-	-			-	-	-	-						~



from fertilizer application

Iculations for emission reductions to be credited	Pool / Sources	Value	Units	Paramet
Project emission reductions to be credited during the period <i>p</i>		0,0	tCO ₂ e	ERp
Project emission reductions to be credited in year y				
2018		0,0	tCO ₂ e	ERy
2019		0,0	tCO ₂ e	ERy
2020		0,0	tCO ₂ e	ERy
2021		0,0	tCO ₂ e	ERy
2022		0,0	tCO ₂ e	ERy
2023		0,0	tCO ₂ e	ERy
2024		0,0	tCO ₂ e	ERy
2025		0,0	tCO ₂ e	ERy
2026		0,0	tCO ₂ e	ERy
2027		0,0	tCO ₂ e	ERy
2028		0,0	tCO ₂ e	ERy
2029		0,0	tCO ₂ e	ERy
Iculations for project reference level				
Project reference level during period p		0,0	tCO ₂ e	RLp
Project reference level in year y				
2018	Carbon stock	0,0	tCO ₂ e	RLy
2019	Carbon stock	0,0	tCO ₂ e	RLy
2020	Carbon stock	0,0	tCO ₂ e	RLy
2021	Carbon stock	0,0	tCO ₂ e	RLy
2022	Carbon stock	0,0	tCO ₂ e	RLy
2023	Carbon stock	0,0	tCO ₂ e	RLy
2024	Carbon stock	0,0	tCO ₂ e	RLy
2025	Carbon stock	0,0	tCO ₂ e	RLy
2026	Carbon stock	0,0	tCO ₂ e	RLy
2027	Carbon stock	0,0	tCO ₂ e	RLy
2028	Carbon stock	0,0	tCO ₂ e	RLy
2029	Carbon stock	0,0	tCO ₂ e	RLy

oject	net emissions during period <i>p</i>		0,0	tCO ₂ e	Pe
Emi	issions from carbon stock change in the project area in year y	/			
	2018	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2019	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2020	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2021	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2022	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2023	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y}
	2024	Carbon stock		tCO ₂ e	ΔCS _{pj y}
	2025	Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock	,	tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	ΔCS _{pj y}
		Carbon stock		tCO ₂ e	1
		Carbon Slock	0,0	10026	ΔCS _{pj y}
	² emissions from fossil fuel combustion in year <i>y</i>			100 -	F (
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
	2023	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2024	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2025	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2026	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2027	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2028	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
	2029	Combustion of fossil fuels	0,0	tCO ₂ e	Efue
GH	G emissions from fertilizer application in year y				
	2018	Fertilizer application	0,0	tCO ₂ e	Efertil
	2019	Fertilizer application	0,0	tCO ₂ e	Efertili
	2020	Fertilizer application	0,0	tCO ₂ e	Efertili
	2021	Fertilizer application	0,0	tCO ₂ e	Efertili
		Fertilizer application	0.0	tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
		Fertilizer application		tCO ₂ e	Efertili
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		Fertilizer application		tCO ₂ e	Efertili
				tCO ₂ e	
		Fertilizer application	,	-	Efertili
		Fertilizer application	0,0	tCO ₂ e	Efertili
Disp	placement of net emissions in year y			100	
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
	2021	Carbon stock		tCO ₂ e	DE
	2022	Carbon stock		tCO ₂ e	DE
	2023	Carbon stock	0,0	tCO ₂ e	DE
	2024	Carbon stock	0,0	tCO ₂ e	DE
	2024		0,0	tCO ₂ e	DE
		Carbon stock			
	2025	Carbon stock Carbon stock	0.0	tCO ₂ e	DE
	2025 2026	Carbon stock		-	
	2025 2026 2027	Carbon stock Carbon stock	0,0	tCO ₂ e	DE
	2025 2026 2027 2028	Carbon stock	0,0	-	DE DE DE DE

[List of Default Values]

1 1			
Emission factor for N ₂ O emission from N inputs for general (non-paddy)	0.01	tN ₂ O-N (tN- input) ⁻¹	EF _{direct-N} (general)
Emission factor for N ₂ O emission from N inputs for Rice paddy (flooded rice field)	0.003	tN_O_N (tN_	EF _{direct-N} (paddy)
Fraction that volatilized as NH ₃ and NOx for synthetic fertilizers			Frac _{sn}
Fraction that volatilized as NH ₃ and NOx for organic fertilizers			Frac _{on}
Emission factor for N_2O emissions from atmospheric deposition of N on soils and water surfaces		volatilized) ⁻¹	EF _{indirect-N}
Fraction of N that is lost through leaching and runoff	0,30	dimensionless	Frac _{leach}
Emission factor for $N_2 O$ emissions from N leaching and runoff	· · · · · · · · · · · · · · · · · · ·	tN ₂ O-N (t leaching and runoff) ⁻¹	EF _{leach-N}
Emission factor for limestone	0,12	tC (t limestone) ⁻¹	EF _{limestone}
Emission factor for dolomite			EF _{dolomite}
Emission factor for urea	0,20		EF _{urea}
Global Warming Potential for N ₂ O	298	tCO ₂ tN ₂ O ⁻¹	GWP _{N2O}
Net calorific value of gas/diesel oil	0,043	GJ kg ⁻¹	NCV _f
Net calorific value of motor gasoline			NCV _f
Net calorific value of crude oil			NCV _f
CO ₂ emission factor of gas/diesel oil combusted			EF _{fuel f}
CO ₂ emission factor of motor gasoline combusted	0,0693	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of crude oil combusted	0,0733	tCO ₂ GJ ⁻¹	EF _{fuel f}

Monitoring Report Sheet (Input Sheet) [For Verification]

	(c) Parameters ca _{pi ij y}	Description of data (Option 2) Area of land converted from land	Monitored Values	(f) Units	Monitoring	Source of data	Measurement methods and procedures	Monitoring	Other comments
(1)	ca _{pjijy}		values						other comments
(2)		use category <i>i</i> to <i>j</i> in the project area in year	-	ha	option Option A	Cambodia's official forest map		frequency	Input on "MRS(input_PJ_Opt2)" shee
	ca _{d pj ij y}	(Option 2) Area of land converted from land use category <i>i</i> to <i>j</i> in the displacement belt in year <i>y</i>	-	ha	Option A	Cambodia's official forest map	-	-	Input on "MRS(input_PJ_DP_Opt2)" sheet
(3)	FC _{fy}	(Direct method) Quantity of fuel type f consumed in year y	-	kg	Option B/C	Invoices, project management record	Collect all purchase records of fuel used for the project activities, and record type and amount of fuel and type of vehicle/equipment.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(4)	NVE _{j fy}	(Indirect method) Number of vehicle or equipment type j using fuel type f in year y	-	unit	Option C	Project management record	Record number of vehicle or equipment type <i>j</i> used for the project activities	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(5)	TDU _{j y}	(Indirect method) Total travel distance for vehicle type j or use hours for equipment type j using fuel type f in year y	-	km or hour	Option C	Project management record (trip record etc)	Record total travel distance or total use hours at least 50% of all vehicles or equipment for each type of vehicle or equipment using GPS or watch, and calculate average total travel distance or total use hours.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(6)	SEC _{j f}	Average specific energy consumption of vehicle or equipment type j for fuel type f	-	kg km ⁻¹ or hour ⁻¹	Option A/C	Manufacturer specifications or measurement	Reference figures such as manufacturer specifications can be used. If no data available, fuel consumption and distance are recorded before the initial verification.	Once before the initial verification	Input on "MRS(input_PJ_all_Opt2)" sheet
(7)	M _{SN c y}	Mass of synthetic fertilizer applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of synthetic fertilizer used for the project activities, and record type and amount of fertilizer and cropland type where fertilizer is applied.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(8)	M _{oncy}	Mass of organic fertilizer made from materials sourced from outside of the project area and the activity area and applied for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Measure weight of organic fertilizer made from materials sourced from outside of the project area and the activity area, record the weight, fertilizer type and cropland type where fertilizer is applied.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(9)	NC _{SN c}	Nitrogen content of synthetic fertilizer applied in cropland type <i>c</i>	-	tN (t fertilizer) ⁻¹	Option A	Data from producers of synthetic fertilize	-	Once before the initial verification	Input on "MRS(input_PJ_all_Opt2)" sheet
(10)	NC _{ON c}	Nitrogen content of organic fertilizer applied in cropland type <i>c</i>	-	tN (t fertilizer) ⁻¹	Option A	Published data	-	Once before the initial verification	Input on "MRS(input_PJ_all_Opt2)" sheet
(11)	Crop _{c T y}	Harvested annual dry matter yield for N- fixing crop T per unit area, introduced for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	t d.m. ha ⁻¹	Option A/C	Published data or Project management record	Select 10% of farmers who introduce N-fixing crops under the project, measure dry yield for N-fixing crop, and calculate average t d.m ha ⁻¹ . Alternatively published average dry yield data for the N-fixing crop can be used.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(12)	Area _{c T y}	Total annual area harvested of N-fixing crop T, introduced for implementation of the project activities in cropland type c in the project area and the activity area in year y	-	ha	Option C	Project management record	Record area harvested N-fixing crop by interviewing farmers. Alternatively, a project activity plan for area of farmland where N-fixing crop is introduced can be also used.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(13)	R _{AG T}	Ratio of above-ground residues to harvested yield for N-fixing crop T	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MRS(input_PJ_all_Opt2)" sheet
(14)	R _{BG T}	Ratio of below-ground residues to harvested yield for N-fixing crop T	-	t d.m. (t d.m.) ⁻¹	Option A/C	Published data or calculation	Calculate based on Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines, published and/or measured yield data.	Once before the initial verification	Input on "MRS(input_PJ_all_Opt2)" sheet
(15)	N _{AG T}	N content of above-ground residues for N- fixing crop T	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the initial verification	Input on "MRS(input PJ Opt1)" she
(16)	N _{BG T}	N content of below-ground residues for N- fixing crop T	-	t N (t d.m.) ⁻¹	Option A	Published data	Table 11.2 of Ch. 11, Vol, 4 of 2006 IPCC Guidelines	Once before the initial verification	Input on "MRS(input PJ Opt1)" she
(17)	Frac _{Renew T}	Fraction of total area under N-fixing crop T that is renewed annually	-	dimensionless	Option C	Interview	Interview for local agriculture expert	Once before the	
(18)	M _{limestone y}	Mass of calcic limestone (CaCO ₃) applied or implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of calcic limestone used for the project activities, and record the amount.		Input on
(19)	M _{dolomite y}	Mass of dolomite (CaMg(CO ₃) ₂) applied for implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of dolomite used for the project activities, and record the amount.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
(20)	M _{urea y}	Mass of urea fertilizer applied for implementation of the project activities in the project area and the activity area in year y	-	t	Option B/C	Invoices, project management record	Collect all purchase records of urea fertilizer used for the project activities, and record the amount.	Once every year	Input on "MRS(input_PJ_all_Opt2)" sheet
Table 2: Project-specific parameters fixed ex ante

bie 2. Troject-specific paramete		(-)	(-1)	1 (-)	(6)
(a)	(b)	(c)	(d)	(e)	(f)
Parameters	Description of data	Estimated	Units	Source of data	Other comments
A _{i 0}	Area of land use category <i>i</i> in the project area at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_RL_Opt2)" sheet
A _{d i 0}	Area of land use category <i>i</i> in the displacement belt at the inception of the project	-	ha	Cambodia's official forest map	Input on "MPS(input_PJ_DR_Opt2)" sheet
p _{ij}	(Option 2) Annual transition probability from land use category i to j within the reference area	-	dimensionless	Cambodia's official forest reference level (FRL)	Input on "MPS(input_RL_Opt2)" sheet
P _{d ij}	(Option 2) Annual transition probability from land use category i to j within the displacement belt	-	dimensionless	Cambodia's official forest maps	Input on "MPS(input_PJ_DR_Opt2)" sheet
EFij	(Option 2) Emission factor for area of land converted from land use category <i>i</i> to <i>j</i>	-		Cambodia's official forest reference level (FRL)	Input on "MPS(input_RL_Opt2)" sheet
NCVf	Net calorific value of fuel f	-	GJ (mass or volume) ⁻¹	2006 IPCC Guidelines Tables 1.2	Input on "MPS(input_PJ_all_Opt2)" sheet
EF _{fuel f}	CO ₂ emission factor of the fuel type f combusted	-	tCO ₂ GJ ⁻¹	2006 IPCC Guidelines Tables 2.5 and 3.2.1	Input on "MPS(input_PJ_all_Opt2)" sheet

Table3: Ex-post calculation of CO₂ emission reductions to be credited

monitoring		CO ₂ emis	sion reductions	Units
	du	ring period p	0	tCO ₂ /p
	Year	2019	0	tCO ₂ /y
		2020	0	tCO ₂ /y
		2021	0	tCO ₂ /y
		2022	0	tCO ₂ /y
		2023	0	tCO ₂ /y
		2024	0	tCO ₂ /y
		2025	0	tCO ₂ /y
		2026	0	tCO ₂ /y
		2027	0	tCO ₂ /y
		2028	0	tCO ₂ /y
		2029	0	tCO ₂ /y
		2030	0	tCO ₂ /y

[Monitoring option]

[monitoring option]	
Option A Base	ed on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
Option B Base	ed on the amount of transaction which is measured directly using measuring equipments (Data used: commercial evidence such as invoices)
Option C Base	ed on the actual measurement using measuring equipments (Data used: measured values)

Project reference level													
Parameters							/	Aio .					
Description of data					Area of land	use categor	y i in the pro	oject area at t	the inception	of the project	st		
Units								na					
Land use category i		Evergreen forest	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
Year	2018	0	0	0	0) C) (0 0	0	0	0	0	C

Parameters							p _{ii} (MP)					
Description	of data			Anr	nual transitio	n probability	from land us	e category i	to j within th	e reference	area		
Units							dimens	ionless					
						La	nd use cate	ory in year y	+1				
		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest
	Evergreen forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
year y	Semi-evergreen forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
×	Pine forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Ë	Deciduous forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
category	Bamboo	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
fec	Mangrove	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
G	Rear Mangrove	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
nse	Flooded forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
- p	Forest regrowth	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land	Tree plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Pine plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Non-forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Parameters								ca _{ij y} (MCA _y))					
Description	of data				Area of la	and converte	d from land	use category	i tojin the	project area	in year y			
Units								ha						
	Land us								year 2019					
Year 2019			Flooded forest	Forest regrowth		Pine plantation	non forest	Total						
	Evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	C
-2018	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	C
ear ;	Pine forest	0	0	0	0	C	0	0	0	0	0		0	(
ye	Deciduous forest	0	0	0	0	C	0	0	0	0	0	0	0	C
. <u>=</u>	Bamboo	0	0	0	0		0	0	0	0	0		0	(
category	Mangrove	0			0		0	0			0		0	(
teg	Rear Mangrove	0			0		0	0		0	0		0	(
ca	Flooded forest	0			0		0	0			0		0	(
nse	Forest regrowth	0			0		0	0			0		0	C
	Tree plantation	0			0		0	0			0		0	0
and	Pine plantation	0			0			0			0		0	C
_	Non-forest	0			0			0			0		0	(
	Total	0	0	0	0	C	0	0	0	0	0	0	0	

							Land use	category in	year 2020					
Year 2020		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	(
2019	Semi-evergreen forest	0	0	0	0	c	c	0	0	0	0	0	0	C
ar	Pine forest	0	0	0	0	C	C	0	0	0	0	0	0	(
s,	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	(
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	(
E.	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
5	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
eat	Flooded forest	0	0	0	0	C	C	0	0	0	0	0	0	(
9	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	(
5	Tree plantation	0	0	0	0	C	C	0	0	0	0	0	0	(
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
ï	Non-forest	0	0	0	0	C	C	0	0	0	0	0	0	(
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year 2021		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.⊑	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
λiο	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
6 G	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
i i i i i i i i i i i i i i i i i i i	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
anc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Parameters							E	F _I					
Description	of data				Emission f	actor for are	a of land con	verted from	land use cat	egory i to j			
Units							tC I	ha ⁻¹					
						Land	use categor	y after conve	ersion				
		Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
before	Semi-evergreen forest	0,000											
Je l	Pine forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2 6	Deciduous forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Si do	Bamboo	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
se category conversion	Mangrove	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Rear Mangrove	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Flooded forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land	Forest regrowth	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
La	Tree plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Pine plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Non-forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Parameters			cs _{ijv} (MCS _v)												RLy
Description	of data			Projec	ted carbon s	tock change	in the project	ct area from	changes of la	and use cate	egory <i>i</i> to <i>j</i> in	year y			Project reference leve in year y
Units								tC							tCO ₂
	Land use category in year 2019														
Year 2019		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0 0	0	0	0	0	C	0	C	0 0	C	0	0	
2018	Semi-evergreen forest	0	0 0	0	0	0	0	C	0	C) C	C	0 0	0	
ar	Pine forest	0	0 0	0	0	0	0	C	0	0	0 0	0	0	0	
ye	Deciduous forest	0	0 0	0	0	0	0	C	0	C	0 0	C	0	0	
. <u>=</u>	Bamboo	0	0 0	0	0	0	0		0	0	0 0	0	0	0	
é.	Mangrove	0	0 0	0	0	0	0		0	0 0	0 0	0 0	0	0	
feg	Rear Mangrove	0	0 0	0	0	0	0		0	0	0 0	0	0	0	
ca	Flooded forest	0	0 0	0	0	0	0		0	0 0	0 0	0 0	0	0	
8	Forest regrowth	0	0 0	0	0	0	0	C	0	0	0 0	0	0	0	
a d	Tree plantation	0			0	0	0				0 0	0	0	0	
ano	Pine plantation	0	0 0	0	0	0	0		0	0	0 0	0	0	0	
Ľ.	Non-forest	0	0 0	0	0	0	0	C	0	0	0 0	0	0	0	
	Total													0	

							Land use	category in	year 2020						
Year 2020		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest		
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2019	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
yea	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- É	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
ea t	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2021						
Year 2021			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo					Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2020	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
Хe	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- Fo	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	0

							Land use	category in	year 2022					
Year 2022		Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E .	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷.	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	e category in	year 2023					
Year 2023		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0 0	0	0 0	0	0	0	0	0	0
2022	Semi-evergreen forest	0	0	0	0	0	0 0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
e,	Deciduous forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
. <u>=</u>	Bamboo	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
È	Mangrove	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Бa	Rear Mangrove	0	0	0	0	0 0) C	0 0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0 0	0	0 0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0 0) C	0 0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
	Total	0	0	0	0	0		0	0	0	0	0	0	

							Land use	category in	year 2024					
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarous	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
categ	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Ca1	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
n n	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025					
Year 2025			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	C	0	0	0	0	C
2024	Semi-evergreen forest	0	0	0	0	0	C	0	c	0	0	0	0	c
a	Pine forest	0	0	0	0	0	0	0	C	0	0	0	0	C
Уe	Deciduous forest	0	0	0	0	0	0	0	C	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	C	0	0	0	0	0
ē	Mangrove	0	0	0	0	0	0	0	C	0	0	0	0	(
6e	Rear Mangrove	0	0	0	0	0	0	0	C	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	C	0	0	0	0	0
ŝ	Forest regrowth	0	0	0	0	0	0	0	C	0	0	0	0	0
Ë	Tree plantation	0	0	0	0	0	0	0	C	0	0	0	0	0
ŭ	Pine plantation	0	0	0	0	0	0	0	C	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	C	0	0	0	0	(
	Total	0	0	0	0	0	0	0	C	0	0	0	0	

							Land use	category in	year 2026					
Year 2026		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove		Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u> </u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
l é	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e se	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022						
Year 2022		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₹.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ś	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
99	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5 T	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land us	e category in	year 2023													Land use	e category in	n year 2023						
ear 2023		Evergreer forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total		Year 2023		Evergreen forest Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest		0 0) () () () (0 0	C)	0 0	() (0	0		Evergreen forest	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
2022	Semi-evergreen forest		0 0) (0 0)) () C	C)	D C	()	0	0	2022	Semi-evergreen forest	0	0 0	0 0)	0 C)	0)	0 0	0 0	0 0	0	
ar	Pine forest		0 0) () () () (0 0	0)	0 0	() (0	0	ar	Pine forest	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
₹.	Deciduous forest		0 0) () () () (0 0	0)	0 0	() (0	0	e,	Deciduous forest	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
. =	Bamboo		0 0) () () () (0 0	0)	0 0	() (0	0	. <u>e</u>	Bamboo	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
ē.	Mangrove		0 0) () () () (0 0	0)	0 0	() (0	0	- E	Mangrove	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
6 a	Rear Mangrove		0 0) () () () (0 0	0)	0 0	() (0	0	6a	Rear Mangrove	0	0 0	0 0) (0 0) (0)	0 0) (0	0	
8	Flooded forest		0 0) () () () (0 0	0)	0 0	() (0	0	8	Flooded forest	0	0 0	0 0) (0 0) (0 0	0	0 0) (0	0	
8	Forest regrowth		0 0) () () (0 0	0)	0 0	(0	0	8	Forest regrowth	0	0 0	0 0		0 0		0		0 0) (0	0	1
7	Tree plantation		0 0) (0 0) ()) (0 0	0)	0 0	() (0	0	5	Tree plantation	0	0 0	0 0) ()	0 0) (0	0	0 0	0 0	0	0	
au	Pine plantation		0 0) () ()) (0 0	0)	D C	() (0	0	au	Pine plantation	0	0 0	0 0)	0 0) (0	0	0 0) (0	0	
1	Non-forest		0 0) (0 0) ()) (0 0	0)	0 0	() (0	0	Ľ	Non-forest	0	0 0	0 0) ()	0 0) (0	0	0 0	0 0	0	0	
	Total		0 0) () () () () (0)	0 0) (0			Total												0	

							Land use	category in	year 2024						
Year 2024			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₽,	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
, S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
J J L	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	0

							Land use	category in	year 2025						
Year 2025			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove				Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2024	Semi-evergreen forest	C	0	0	0	C	0	0	0	0	0	0	0	0	
a	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ę.	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ŝ	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
ue U	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2026						
Year 2026		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2025	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
₹.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cal.	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	0

							Land use	category in	year 2027					
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
e e	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
6g	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Forest regrowth	0	0	0	0	0	0	0	0		0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
auc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	e category in	year 2028					
Year 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
2027	Semi-evergreen forest	0	0	0	0	0 0	0 0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0) C) C	0 0	0	0	0	0	0	0
×.	Deciduous forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
.=	Bamboo	0	0	0	0) C) C	0 0	0	0	0	0	0	0
È	Mangrove	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ба	Rear Mangrove	0	0	0	0) C) C	0 0	0	0	0	0	0	0
8	Flooded forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0) C) C	0 0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0 0	0 0	0 0	0	0	0	0	0	0
	Total	0	0	0	0			0	0	0	0	0	0	

							Land use	category in	year 2029					
Year 2029		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	C	0	0	0	0	0	0
2028	Semi-evergreen forest	0	0	0	0	0	0	C	0	0	0	0	0	0
a	Pine forest	0	0	0	0	0	0	C	0	0	0	0	0	0
ŝ.	Deciduous forest	0	0	0	0	0	0	C	0	0	0	0	0	0
. <u> </u>	Bamboo	0	0	0	0	0	0	C	0	0	0	0	0	0
÷.	Mangrove	0	0	0	0	0	0	C	0	0	0	0	0	0
catego	Rear Mangrove	0	0	0	0	0	0	C	0	0	0	0	0	0
Ca T	Flooded forest	0	0	0	0	0	0	C	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	C	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	C	0	0	0	0	0	0
and	Pine plantation	0	0	0	0	0	0	C	0	0	0	0	0	0
-	Non-forest	0	0	0	0	0	0	C	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2030					
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
Уe	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. =	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
Σo Δ	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ŝ	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
anc	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027						
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
	Pine forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
Æ	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ś	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ē.	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	C	0	
ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
-	Non-forest	0	0	0	0	0	0	0	0	0	0	0	C	0	
	Total													0	

							Land use	e category in	year 2028														Land use	e category i	n year 2028						
ar 2028		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Y	ear 2028		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	(0 0) (0 0	(0 0) (C) (0 0		0 0	0			Evergreen forest	0	0 0	0 0	0) (0 0)	0	0	0	0 0) () (0
2027	Semi-evergreen forest	(o c) (o c	() () (C) (0 0		D	0		2027	Semi-evergreen forest	C	0 0) (0 0) (0 0	D	0	D	0	0 0) ()	0
ar	Pine forest	(0 0) (0 0	() () (0) (0 0		0 0	0		ar	Pine forest	0	0 0) (0 0) (0 0)	0	D	0	0 0) (0
Æ	Deciduous forest	(0 0) (0 0	(0 0) (C) (0 0		0 0	0		Æ	Deciduous forest	0	0 0	0 0	0) (0 0)	0	0	0	0 0) () (0
. <u>=</u>	Bamboo	(0 0) (0 0	() () (0) (0 0		0 0	0		- <u>-</u>	Bamboo	0	0 0) (0 0) (0 0)	0	D	0	0 0) (0
Ś	Mangrove	(0 0) (0 0	() () (0		0 0		0 0	0	1	Ś	Mangrove	0	0 0) (0 0) (0 0	0	0	0	0	0 0) (0
6	Rear Mangrove	(0 0) (0 0	() () (0) (0 0		0 0	0		ō g	Rear Mangrove	0	0 0) (0 0) (0 0)	0	D	0	0 0) (0
8	Flooded forest	(0 0) (0 0	() () (C		0 0		0 0	0	1	and a second	Flooded forest	0	0 0) (0 0) (0 0	0	0	0	0	0 0) (0
8	Forest regrowth	(0 0) (0 0	() () (0		0 0		0 1	0		8	Forest regrowth	0	0 0) (0 0) (0 0)	0	0	0	0 0) (0
5	Tree plantation	(0 0) (0 0	(0 0) (0) (0 0		0 0	0		5	Tree plantation	0	0 0) C	0 0) (0 0)	0	0	0	0 0) () (0
an	Pine plantation	(0 0) (0 0	() () (0) (0 0		0 0	0		and	Pine plantation	0	0 0) (0 0) (0 0)	0	0	0	0 0) () (0
1	Non-forest	(0 0) (0 0	(0 0) (0) (0 0		0 0	0		1	Non-forest	0	0 0) C	0 0) (0 0)	0	0	0	0 0) () (0
	Total	(0 0) (0 0	() (0		0 0		0 0	0			Total														0

							Land use	category in	year 2029						
Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarove	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ě	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cate	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
86	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
n p	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
aŭ	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2030						
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove		Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2029	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
-e	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>c</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
- Fo	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ge	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	(

Emission from carbon stock change in the project area

Parar	neters						с	a _{pjijy} (MCA _{pj}	y)					
Desci	ription of data				Area of la	ind converte	d from land	use category	/i tojin the	project area	a in year y			
Units								ha						
							Land use	category in	year 2019					
Year	2019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest													0
2018	Semi-evergreen forest													0
Les .	Pine forest													0
year	Deciduous forest													0
. <u>⊆</u>	Bamboo													0
category	Mangrove													0
ê	Rear Mangrove													0
cat	Flooded forest													0
nse	Forest regrowth													0
ñ	Tree plantation													0
Land	Pine plantation													0
Ľ	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2020					
Year	2020	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest		Tree plantation	Pine plantation	non forest	Total
	Evergreen forest													0
2019	Semi-evergreen forest													0
a	Pine forest													0
ye	Deciduous forest													0
.⊆	Bamboo													0
Ē	Mangrove													0
tegory	Rear Mangrove													0
a di	Flooded forest													0
nse	Forest regrowth													0
	Tree plantation													0
and	Pine plantation													0
2	Non-forest													0
	Total	0	0	C	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year	2021	Evergreen	Semi- evergreen forest		Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total
	Evergreen forest													0
8	Semi-evergreen													
2020	forest													0
ar	Pine forest													0
ye.	Deciduous forest													0
. <u> </u>	Bamboo													0
gory	Mangrove													0
eg	Rear Mangrove													0
cate	Flooded forest													0
8	Forest regrowth													0
n p	Tree plantation													0
and	Pine plantation													0
Ľ	Non-forest													0
	Total	0	C	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022					
Ye	ar 2022	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo						Pine plantation	non forest	Total
	Evergreen forest													0
ā	Semi-evergreen													0
1000	forest													0
														0
	Pine forest Deciduous forest													0
-	Bamboo													0
	Mangrove													0
	Rear Mangrove													0
and new	Flooded forest													0
9														0
														0
3	Pine plantation													0
-	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Param	neters						C	s _{piijy} (MCS _{pi}	iv)					
Descri	iption of data			Ca	arbon stock o	hange in the	e project are	a from chan	ges of land u	use category	i to j in yea	r y		
Units								tC						
							Land use	category in	year 2019					
Year 2	019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	C
in in	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	C
ě,	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u>⊆</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
ő	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
se	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
- S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
DUE	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total													0

								Land use	category in	year 2020					
Y	ear 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove				Pine plantation	non forest	Total
		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	
	ye.	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
	È	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
	tegory	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
	a di	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
	ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
	<u>_</u>	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total													0

							Land use	category in	year 2021					
Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarava		Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	C	C
2020	Semi-evergreen forest	0	0	C	0	0	0	0	0	0	0	0	C	0
a	Pine forest	0	0	0	0	0	0	0	0	0	0	0	C	0
ye	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	C	C
. E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	C	C
È	Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0
0	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	C	0
cate	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	C	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	C	0
ñp	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	C	0
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	C	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	C	C
	Total													0

							Land use	category in	year 2022					
rear 2		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove			Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	(
2021	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	(
Les les	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	(
yei	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	(
. ⊆	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	(
egory	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
ð	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	(
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	(
nse (Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	(
	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
and	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	(
<u> </u>	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	(
	Total													(

						Land use	category in	vear 2023													Land use	e category in	vear 2023					
	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Manarovo		Flooded	Forest regrowth	Tree plantation	Pine	non forest	Total	Year	2023	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo		Poor	Flooded	Forest regrowth	Tree	Pine plantation	non forest	Total
	101001	forest		101001			mangroto	101001	rogroman	plantation	planadon					101001	forest		101001			mangroto	101001	rogroman	planation	planation		
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forest													-	20	forest		-		-						-			
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Bamboo Mangrove													0	~	Bamboo Mangrove				0					2				-
Rear Mangrove													0	l b	Rear Mangrove				0					, ,				<u>,</u>
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Tree plantation													0	n se	Tree plantation				0					<u>ר</u>				
Pine plantation		_											0	P	Pine plantation				0	0				1				1
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Total	0	0 0	(0	0	0		0	0		0	0			Total		·	, <u> </u>			· · · · ·	,	<u> </u>	, 	·		<u> </u>	-
Total		<u> </u>								· · ·			ļl		Total		-	-			-				-	-	-	
		1		1	1	Land use	category in	year 2024	1		1	1					1			1	Land use	category in	year 2024	1				
2024	Evergreen	Semi-	Ding for	Deciduous	Bamboo		Rear	Flooded	Forest	Tree	Pine		Total	Year	2024	Evergreen	Semi-	Ding fan	Deciduous forest	Dambar			Flooded	Forest	Tree	Pine		Tet
	forest	evergreen	Pine forest	forest	Bamboo	Mangrove	Mangrove	forest	regrowth			non forest	Iotai			forest	evergreen	Pine forest	forest	Damboo	Mangrove	Mangrove	forest	regrowth	plantation	plantation	non forest	lota
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Bamboo		-		1				1	1	1	1		0	, E	Bamboo				0	0				1				1
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ır 2025	E	Semi-		D					E	Tree	Pine			Year	0005	-	Semi-		D		Lanu use	Rear	Flooded	E	Tree	Pine		
	Evergreen forest	Semi- evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove	Flooded forest	Forest regrowth	plantation		non forest	Total	Tear		Evergreen forest	evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Mangrove		Forest regrowth		plantation	non forest	Total
Evergreen forest	-												0		Evergreen forest	-		0 0	0	C	0	0 0) (0 (0 (0 0)
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Tree plantation		-		1	1			1	1			1	0	nse	Tree plantation				0	0				5	0	0 0		5
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Non-forest Total 2026	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	category in Rear Mangrove	Flooded		Tree plantation	Pine plantation	non forest	Total	Year	2026	Evergreen forest		Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	plantation	non forest	lota
Non-forest Total 2026			Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0	Year		forest	evergreen	Pine forest	Deciduous forest	Bamboo		Rear					non forest	l ota
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Non-forest Total 2026		evergreen	Pine forest	Deciduous forest	Bamboo	Manarova	Rear	Flooded				non forest	Total 0 0		Evergreen forest	forest	evergreen forest	Pine forest	Deciduous forest 0	Bamboo C		Rear					non forest	l ota
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r 2027	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded		Tree plantation	Pine	non forest	Total	Year	2027	Evergreen forest	evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded	Forest regrowth	Tree plantation	Pine	non forest	Tota
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	forest	evergreen	Fille lorest	forest	Damboo	mangrove	Rear Mangrove	forest	regrowth	plantation	plantation	non forest	TOTAL			forest	evergreen	Pine forest	forest	Damboo	Mangrove	Mangrove	forest	regrowth	plantation	plantation	non forest	100
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r 2029	E	Semi-		Desidue					Connet	T	Pine			Year	2020	E	Semi-		Desidue					Count	Tree	Pine		
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						Land use	category in	year 2030													Land use	category in	year 2030					
		Semi-		Deciduous	Bamboo	Mangrove	Rear Mangrove				Pine	non forest	Total	Year	2030	Evergreen	Semi- evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear		Forest		Pine	non forest	То
2030	Evergreen	evergreen	Pine forest	farrant					regrowth	plantation	plantation					forest	forest		iorest			Mangrove	iorest	regrowth	plantation	plantation		
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Evergreen forest Semi-evergreen forest Pine forest Deciduous forest		evergreen	Pine forest	forest									0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest			0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine forest	forest									0 0 0 0	in year 2029	Semi-evergreen forest Pine forest Deciduous forest Bamboo			0 0 0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine forest	forest									0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo			0 0 0 0 0 0 0 0 0 0 0 0										0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove		evergreen	Pine torest	forest									0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest		0 (<u> </u>										0 0 0 0 0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove		0 (<u> </u>										0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove		0 (<u> </u>										0 0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth		evergreen	Pine torest	forest									0 0 0 0 0 0 0 0 0	year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth		0 (<u> </u>										0 0 0 0 0 0 0
Flooded forest Forest regrowth Tree plantation		evergreen	Pine torest	forest										year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation		0 (<u> </u>										0 0 0 0 0 0 0 0 0
Evergreen forest Semi-evergreen forest Die forest Deciduous forest Bamboo Rear Mangrove Rear Mangrove Flooded forest Forest regrowth		evergreen	Pine torest	forest										year	Semi-evergreen forest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth			0 0 0 0 0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0 0

Displaced emission -ref	oronco																
Parameters	crenee						A	di 0									
Description of data			Area of land use category i in the displacement belt at the inception of the project														
Units			ha														
Land use category i		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest				
Year	2018	(0	0	0	0	0	0	0	0	0	0	0				

Parameters							p _{d ij} (
Description	of data			Annua	al transition p	probability fro	om land use	category i to	j within the	displaceme	nt belt		
Units							dimens	ionless					
						La	nd use categ	ory in year y	/+1				
		Evergreen forest	Semi- evergreen forest		Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest	0.000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
year y	Semi-evergreen forest	0,000				0,000				0,000		0,000	
, <u> </u>	Pine forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Deciduous forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
category	Bamboo	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
ţe	Mangrove	0,000				0,000				0,000	0,000	0,000	
8	Rear Mangrove	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
nse	Flooded forest	0,000			0,000	0,000			0,000	0,000			
	Forest regrowth	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land	Tree plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Pine plantation	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Non-forest	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Parameters							c	a _{d ij y} (MCA _d	y)					
Description	of data				Area of land	converted f	rom land us	e category i	to j in the di	splacement	belt in year y			
Units								ha						
							Land use	category in	year 2019					
Year 2019		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	(0 0	0	0	0
2018	Semi-evergreen forest	0	0	0	0	0	0	0	0	(0 0	0	0	0
Bar	Pine forest	0		0	0	0					0 0	0		0
ž	Deciduous forest	0		0	0	0			0		0 0	0	0	0
	Bamboo	0		0	0	0			0		0 0	0	0	0
ategory	Mangrove	0			0	0			0			0		0
teg	Rear Mangrove	0			0				0			0	0	0
8	Flooded forest	0			0							0		0
nse	Forest regrowth	0			0	0						0	0	0
S T	Tree plantation	0		0	0	0			0			0	0	0
and	Pine plantation	0		0	0	0			0			0	0	0
Ľ	Non-forest	0			0	0			0			0	0	0
	Total	0	0	0	0	0	0	0	0	0	0 0	0	0	

							Land use	category in	year 2020					
Year 2020		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest					Forest regrowth		Pine plantation	non forest	Total
-	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	Semi-evergreen forest	0	0	0	0	a	0	a	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0		0	0	0	0	0	0	0
1	Bamboo	0	0	0	0	0		0	0	0	0	0	0	0
	Mangrove	0		0	0	0	0	0	0	0	0	0	0	0
6e	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Flooded forest	0		0	0	0	0	0	0	0	0	0	0	0
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ä	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Due	Pine plantation	0	0	0	0	0		0	0	0	0	0	0	0
Ľ	Non-forest	0		0	0	0		0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2021					
Year 2021		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0		0	0	0	0	0		0	0	0	0
-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
at	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ě	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ä	Tree plantation	0	0	0	0	0		0	0		0	0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Parameters							E	F.					
Description	of data				Emission f	actor for are	a of land cor		land use ca	tegory i to i			
Units							tC						
						Land	use categor	y after conv	ersion				
		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	
efore	Semi-evergreen forest	0	a	0	a	0	0	0	0	0	0	0	
pe	Pine forest	0	0	0	0	0	0	0	0	0	0	0	
2 ⊂	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	
e category conversion	Bamboo	0	0	0	0	0	0	0	0	0	0	0	
ver ate	Mangrove	0	0	0	0						0	0	
	Rear Mangrove	0	0	0	0			0			0	0	
8 8	Flooded forest	0	0	0	0		0	0	0	0	0	0	
and	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	
a	Tree plantation	0	0	0	0						0	0	
_	Pine plantation	0	0		0						0	0	
	Non-forest	0	0	0	0	0	0	0	0	0	0	0	

Parameters								⇒s _{d ij y} (MCS _d	y)						DR _y
Description	of data			Projected	carbon stoc	k change in	the displace	ment belt fro	m changes	of land use	category i to	j in year y			Reference emissions from the displacement belt in year y
Jnits								tC							ICO ₂
							Land use	category in	year 2019						
fear 2019		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	C	0	0	(0 0	0	0	0	
2018	Semi-evergreen forest	0	C	0	0 0	0	C	0 0	0	(0 0	0	C	0	
, IS	Pine forest	0	0	0	0	0	C	0	0	(0 0	0	0	0	
ž	Deciduous forest	0				0	C	0							
	Bamboo	0													
5	Mangrove	0													
categor	Rear Mangrove	0													
8	Flooded forest	0													
99	Forest regrowth	0													
5	Tree plantation	0				0	C	0 0							
and	Pine plantation	0													
La	Non-forest	0	0	0	0	0	C	0	0	(0 0	0	0		
	Total													0	

							Land use	category in	year 2020						
Year 2020					TOTOSt			Mangrove		Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2019	Semi-evergreen forest	0	0	0	0	0	0	C	C	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0				0	0	0	0	0	0	0	0	0	
	Bamboo	0			0	0	0	0	0	0	0	0	0	0	
5	Mangrove	0	0	0			0			0	0	0	0	0	
69	Rear Mangrove	0	0	0			0			0	0	0	0	0	
8	Flooded forest	0	0	0		0	0			0	0		0	0	
90	Forest regrowth	0		0	0	0	0	0	C	0	0	0	0	0	
5	Tree plantation	0				0	0		C	0	0	0	0	0	
pu	Pine plantation	0	0	0	0	0	0	0	C	0	0		0	0	
<u>ت</u>	Non-forest	0	0	0	0	0	0	0	C	0 0	0	0	0	0	
	Total													0	C

							Land use	category in	year 2021						
Year 2021		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest		
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2020	Semi-evergreen forest	0	C	0	0	0	0	0	-	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
ŝ	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
ő	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
gat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ğ	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2022					
Year 2022		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
-E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
at	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
sn	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2022						
Year 2022			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
2021	Semi-evergreen forest	C	0 0	0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
ž	Deciduous forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Bamboo	C		0	0	0	C						0	0	
6	Mangrove	C	0	0	0	0	C	0			0	0	0	0	
6	Rear Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Tree plantation	C	0 0	0	0	0	C	0			0	0	0	0	
and	Pine plantation	C	0	0	0	0	C	0	0	0	0	0	0	0	
La	Non-forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2023					
Year 2023		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2022	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
-E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E .	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Flooded forest	0		0	0	0	0	0	0	0	0	0	0	0
e	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ä	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Pu	Pine plantation	0		0	0			0	0		0	0	0	0
2	Non-forest	0		0	0		0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2023						
fear 2023		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total	
	Evergreen forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
2022	Semi-evergreen forest	0	C	0 0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
Gou	Mangrove	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
at	Flooded forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
e	Forest regrowth	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
SU	Tree plantation	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
p	Pine plantation	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
_	Non-forest	0	0	0 0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2024					
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manaraua	Rear	Flooded			Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.E	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Sat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ě	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2024						
Year 2024		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2023	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0						0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	0	0			0	0	0	0	
e e	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
G	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ě	Forest regrowth	0	0	0	0	0	0	0			0	0	0		
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	(

							Land use	category in	year 2025					
Year 2025		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0			0	0	0	0	0			0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷.	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
- Da	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
ca 1	Flooded forest	0	0	0	0	0	0	0	0			0	0	0
8	Forest regrowth	0	0		0	0	0	0	0			0	0	0
n n n	Tree plantation	0	0		0	0	0	0	0			0	0	0
Ĕ	Pine plantation	0	0		0	0	0	0	0			0	0	0
Ľ	Non-forest	0	0	0	0	0	0	0	0			0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025						
Year 2025		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2024	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0					0		0	0	
ž	Deciduous forest	0	0	0	0	0					0		0	0	
- E	Bamboo	0	0	0	0	0							0	0	
6	Mangrove	0	0	0	0	0	0				0		0	0	
6 B	Rear Mangrove	0	0	0	0	0				0	0	0	0	0	
8	Flooded forest	0	0	0	0	0							0	0	
9	Forest regrowth	0	0	0	0	0			0	0	0		0	0	
- S	Tree plantation	0	0	0	0	0							0	0	
u u	Pine plantation	0	0	0	0	0							0	0	
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total													0	C

							Land use	category in	year 2026					
Year 2026			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2025	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	C	0
ar 1	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0		0	0	0	0	0	0
1	Bamboo	0	0	0	0	0	0		0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0		0	0	0	0	0	0
6e	Rear Mangrove	0	0	0	0	0	0		0	0	0	0	0	0
Gal	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
S S	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
Pu	Pine plantation	0	0	0	0	0	0		0	0		0	0	0
	Non-forest	0	0	0	0	0	0		0	0		0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2026						
Year 2026		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2025	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
La la	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0				
1	Bamboo	0	0	0	0	0	0	0	0	0	0				
5.	Mangrove	0	0	0	0	0	0	0	0	0	0				
69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0				
8	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0		
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0		
n n	Tree plantation	0	0	0	0	0	0	0	0	0	0				
Ĕ	Pine plantation	0	0	0	0	0	0	0	0	0	0				
2	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0

							Land use	category in	year 2027					
Year 2027		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
. <u>=</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
E E	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0
ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027						
Year 2027			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total	
	Evergreen forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
2026	Semi-evergreen forest	C	0 0	0	0	0	C	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
ž	Deciduous forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Bamboo	C		0	0	0	C						0	0	
6	Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	C	0	0	0	0	C	0	0	0	0	0	0	0	
8	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
ŝ	Tree plantation	C	0	0	0	0	C	0			0	0	0	0	
and	Pine plantation	C	0	0	0	0	C	0	0	0	0	0	0	0	
La	Non-forest	C	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	year 2028					
'ear 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	
2027	Semi-evergreen forest	0	0	0	0	0 0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	
. <u>e</u>	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	
÷	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	
eg	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	
0	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	
s	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	
P	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	
3	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2028						
fear 2028		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth		Pine plantation		Total	
	Evergreen forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
2027	Semi-evergreen forest	0	a	0	0	0	c	0	0	a	0	0	0	0	
ar	Pine forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
×	Deciduous forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
÷	Bamboo	0	0	0	0	0	C	0	0	0	0	0	0	0	
E.	Mangrove	0	0	0	0	0	C	0	0	0	0	0	0	0	
6	Rear Mangrove	0	0	0	0	0	C	0	0	0	0	0	0	0	
cat	Flooded forest	0	0	0	0	0	C	0	0	0	0	0	0		
0	Forest regrowth	0	0	0	0	0	C	0	0	0	0	0	0	0	
3	Tree plantation	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Pine plantation	0	0	0	0	0	C	0	0	0	0	0	0	0	
5	Non-forest	0	0	0	0	0	C	0	0	0	0	0	0	0	
	Total													0	

							Land use	category in	vear 2029					
Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Manarava	Rear	Flooded	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0
Sar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0
×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
.e	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
Ge	Rear Mangrove	0	0	0	0	0	0	0	0		0	0		0
Cal C	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0	0	0	0	0	0	0		0	0		0
5	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0
pu	Pine plantation	0	0	0		0	0	0	0		0			0
۳ ۲	Non-forest	0	0	0	0	0	0	0	0		0			0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

								Land use	category in	year 2029						
	Year 2029		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo			Flooded forest			Pine plantation	non forest	Total	
0		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	2028	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	69	Rear Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	cat	Flooded forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	<u>s</u>	Forest regrowth	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	ŝ	Tree plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	pue	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	La La	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Total													0	(

							Land use	category in	year 2030					
Year 2030			Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest	0	0	0	0	0	C	0	C	0	0	0	0	0
2029	Semi-evergreen forest	0	0	0	0	0	C	0	C	0	0	0	0	0
ar	Pine forest	0	0			0	C	0	C	0	0	0	0	0
ž	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0
÷	Bamboo	0	0		0	0	0	0	0	0	0	0	0	0
5	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0
feg	Rear Mangrove	0	0			0	0		0	0	0	0	0	0
eat	Flooded forest	0	0			0	0	0	0	0	0	0	0	0
8	Forest regrowth	0	0			0	0	0	0	0	0	0	0	0
5	Tree plantation	0	0			0	0	0	0	0	0	0	0	0
ũ	Pine plantation	0	0			0	0		0	0	0	0	0	0
La	Non-forest	0	0			0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2030						
Year 2030		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove					Pine plantation	non forest	Total	
-	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
2029	Semi-evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0	
ar	Pine forest	0	0	0	0	0	0	0	0						
ž	Deciduous forest	0	0	0	0	0	0	0	0						
	Bamboo	0	0	0	0	0	0	0	0				0	0	
6	Mangrove	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ga	Rear Mangrove	0	0	0	0	0	0	0							
ea Te	Flooded forest	0	0	0	0	0	0	0					0	0	
8	Forest regrowth	0	0	0	0	0	0	0	0				0	0	
5	Tree plantation	0	0	0	0	0	0	0							
e e	Pine plantation	0	0	0	0	0	0	0							
Ľ	Non-forest	0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	C

 DP,
 DE,

 Project emissions from the displacement belt in tCO2
 Displaced emissions to the displacement belt in year y tCO2

- ui ui ii	ced emission - ac eters						Cá	a _{d pjijy} (MCA	d pi y)						Para	meters						CS	d pijy (MCS	ipjy)					
escri	ption of data				Area of land	i converted f	rom land us	e category i	to j in the c	isplacement	t belt in year	y			Des	ription of data			Carb	on stock cha	ange in the d	isplacement	belt from cl	hanges of la	ind use categ	ory i to j in	year y		
ts								ha							Unit								tC						
				-			Land use	e category in	year 2019						_							Land use	category in	year 2019		-			
ar 2	019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year	2019	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total
2018	Evergreen forest														0	Evergreen forest		0 1	0 0	0 0	0	0	()	0 0	(C	0 () (
	Semi-evergreen lorest														2018	Semi-evergreen forest		0 1	0 0	0 0	0	0	()	o c	(D I	0 0	0 0
	Pine forest														. i	Pine forest		0 1	0 0	0	0	0	0	1	0 0	0	1	n (
5	Deciduous forest														o Š	Deciduous forest	1	0 1	0 0		0	0)	0 0		2		0 0
=	Bamboo														<u> </u>	Bamboo	1	0 1	0 0	0 0	0	0	0	0	0 0	0	0	0 0	0 0
category	Mangrove														0 6	Mangrove	(0 0	0 0	0 0	0	0	()	0 0	(D	0 0	0 0
ŝ	Rear Mangrove	_													category	Rear Mangrove	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0) (
	Flooded forest	-														Flooded forest					0	0							
ŝ	Forest regrowth Tree plantation														e e	Forest regrowth Tree plantation		0 1			0	0					2		
	Pine plantation														Land	Pine plantation	1	0 1	0 0		0	0)	0 0		2		
2	Non-forest														La D	Non-forest	(0 1	0 0	0 0	0	0	(0	0 0	(0	0 0) (
	Total	0	() () (0	() (0	0	0 0) () (0		Total													0
-							Land use	e category in	year 2020													Land use	category in	year 2020					
ar 2	020	Evergreen	Semi-	Pine forest	Deciduous	Bamboo	Manarove	Rear	Flooded	Forest	Tree	Pine	non forest	Total	Year	2020	Evergreen	Semi-	Pine forest	Deciduous	Bamboo	Mangrove	Rear	Flooded		Tree	Pine	non forest	Total
		forest	forest	1 110 10100	forest	Damboo	mangrovo	Mangrove	forest	regrowth	plantation	plantation	1011101000	rotar			forest	forest	1 110 101000	forest	Damboo	mangroto	Mangrove	forest	regrowth	plantation	plantation	non toroot	1 O Las
	Evergreen forest														0	Evergreen forest		0 0	0 0	0 0	0	0	(0	0 0	(D	0 0	0 0
51.0	Semi-evergreen														2019	Semi-evergreen		0 1	0 0		0	0		1	0 0		1	n (1 0
	lorest															forest													
8	Pine forest Deciduous forest														in year	Pine forest Deciduous forest					0	0							
- E	Bamboo															Bamboo	-	0 1			0	0)			2		
61	Mangrove														Liopa	Mangrove	1	0 1	0 0	0 0	0	0	0	0	0 0	0	0	0 0	0 0
	Rear Mangrove															Rear Mangrove	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
× 1	Flooded forest														<u>8</u>	Flooded forest	(0 1	0 0	0 0	0	0	(0	0 0	(0	0 0	0 0
as i	Forest regrowth Tree plantation														nse o	Forest regrowth Tree plantation					0	0					2		
Land	Pine plantation														Land	Pine plantation	1	0 1	0 0		0	0)	0 0		2		0 0
	Non-forest														<u>۳</u> 0	Non-forest	(0 1	0 0	0 0	0	0	(0	0 0	(0	0 0	0 0
	Total	0	() () (0 0	() (0	0	0 () (ו וכ	0		Total													0
							Land use	e category in	year 2021													Land use	category in	year 2021					
ear 2	021	Evergreen	Semi- evergreen	Pine forest	Deciduous	Bamboo	Mangrove	Rear	Flooded	Forest	Tree plantation	Pine	non forest	Total	Year	2021	Evergreen	Semi- evergreen	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded		Tree	Pine plantation	non forest	Total
_	Evergreen fereet	forest	forest		torest		-	Mangrove	torest	regrowth	plantation	plantation				Evergreen (erest	forest	forest	0 0	Torest			Mangrove	Torest	regrowth	piantation	plantation		
2020	Evergreen forest Semi-evergreen															Evergreen forest Semi-evergreen			<u> </u>	/ .	0	0		,	0 0			<u> </u>	0
	orest														2020	forest		0 1	0 0	0 0	0	0	0		0 0		0	0 0	0 0
year	Pine forest														year year	Pine forest	(0 0	0 0	0 0	0	0	(D	0 0	(0	0 0	0 0
	Deciduous forest														0 5	Deciduous forest	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
	Bamboo														2 2	Bamboo		0 1	0 0	0 0	0	0	0	0	0 0		0		
sgory	Mangrove Rear Mangrove										+		-		Logo	Mangrove Rear Mangrove		0	0 0		0	0			0 0		2		
	Flooded forest														ate 0	Flooded forest		0 1	0 0		0	0			0 0		2		0 0
ğ İ	Forest regrowth														0 8	Forest regrowth	(0 0	0 0	0 0	0	0	0	D	0 0	0	0	0 0	0 0
Ĩ	Tree plantation														0 3	Tree plantation	(0 1	0 0	0 0	0	0	()	0 0	(0	0 0) (
	Pine plantation														Land D	Pine plantation	(0 1	0 0	0 0	0	0)	0 0	0	0	0 0	0 0
	Non-forest Total	0	() (0	(0	0	0 0) (0		Non-forest Total		0 1	0 0	0 0	0	0	(0 0	(J (
		-					Landuer	e category in	- wear 2022	-1	-1			-				1	1	1	1	Land use	category in	uppr 2022	1	1	1	1	
ar 2	122		Semi-		Deciduous			_		Forest	Tree	Pine			Year	2022	Evergreen	Semi-		Deciduous			Rear	Flooded	Forest	Tree	Pine		
Ĩ		forest	evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove	forest	regrowth	plantation		non forest	Total			forest	evergreen forest	Pine forest	forest	Bamboo	Mangrove	Mangrove				plantation	non forest	Total
	Evergreen forest														0	Evergreen forest		0 0	0 0	0 0	0	0	()	0 0	(0	0 0	0 0
	Semi-evergreen														2021	Semi-evergreen		0	0 0			0		h	0 0		n .	n r	
3	bonn orongroon															forest			0 0										
202	lorest		1		+			-	-	-	+	+	-		year	Pine forest Deciduous forest				0	0	0	0			(
1707 18	orest Pine forest					1	1	1	1	-		-			<u> </u>	Bamboo		0	0 0		0	U U		1	u U				
	orest Pine forest Deciduous forest														5			-				0			0 0		2		
	lorest Pine forest Deciduous forest Bamboo Mangrove															Mangrove		0 1	n 0) (0	0	0		0 0		0		
ory in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove												-		egoi egoi	Mangrove Rear Mangrove		0 1	0 0	0 0		0					D D		
category III year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest														catego	Rear Mangrove Flooded forest			0 0 0 0 0 0		0	0 0 0							
se category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth														catego	Rear Mangrove Flooded forest Forest regrowth			0 0 0 0 0 0 0 0			0 0 0 0))))	0 C 0 C 0 C 0 C 0 C		0 0 0 0 0		
use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation	Image: Image:													Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation			0 0 0 0 0 0 0 0 0 0			0							
nd use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation	Image: Control of the second													Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation						0							
Laiki use category III year 2021	lorest Prine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Prine plantation Non-forest								0		0			0	catego	Rear Mangrove Flooded forest Forest regrowth Tree plantation			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0			0 0		D D D D D D D D D		
Laiki use category III year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation	0							0	D	0 0			0	Dicipical of Colorision of Col	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest						0 0 0							
Land use category in year 2021	lorest Pine forest Deciduous forest Bamboo Mangrove Rear Mangrove Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest Total	0	Semi-) (Deciduous			category in Rear	0 year 2023 Flooded	D	0 () (0	Land use catego	Rear Mangrove Flooded forest Forest regrowth Tree plantation Pine plantation Non-forest	Evergreen	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0			C C C C C C C C C C C C C C C C C C C	category in)))))) year 2023 Flooded		1 000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0		

							Land use	category in	year 2023								
Year	2023	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year 2	2023	Evergre forest
	Evergreen forest													0		Evergreen forest	
2022	Semi-evergreen													0	2022	Semi-evergreen	
20	forest													0	20	forest	
ar	Pine forest													0	ar	Pine forest	
Š.	Deciduous forest													0	ž	Deciduous forest	
Ē	Bamboo													0	÷	Bamboo	
Gony	Mangrove													0	6	Mangrove	
6	Rear Mangrove													0	ategory	Rear Mangrove	
Gal	Flooded forest													0	cat	Flooded forest	
8	Forest regrowth													0	9	Forest regrowth	
3	Tree plantation													0	and us	Tree plantation	
and	Pine plantation													0	P	Pine plantation	
Ľ	Non-forest													0	Ľ	Non-forest	
	Total	() (0 0	0	0	C	0	C	0) (C	0			Total	

							Land use	category in	year 2023							
Year 2	2023		Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
2022	Semi-evergreen forest	0	0 0	C	0	0	0	0	C	0	C	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ž	Deciduous forest	0	0 0	0	0	0	0	0	0	0		0	0	0		
	Bamboo	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ŝ	Mangrove	0	0 0	0	0	0	0			0		0	0	0		
2	Rear Mangrove	0	0 0	0	0	0	0					0	0	0		
3	Flooded forest	0	0 0	0	0	0	0	0	0	0		0	0	0		
8	Forest regrowth	0	0 0	0	0	0	0					0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0					0	0	0		
Ĕ	Pine plantation	0	0 0	0	0	0	0					0	0	0		
1	Non-forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2024					
Year		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
~	Evergreen forest													0
2023	Semi-evergreen													0
20	forest													0
aar	Pine forest													0
× 1	Deciduous forest													0
. <u>.</u>	Bamboo													0
E S	Mangrove													0
8	Rear Mangrove													0
cat	Flooded forest													0
8	Forest regrowth													0
	Tree plantation													0
and	Pine plantation													0
La l	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2025					
Year		Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo					Tree plantation	Pine plantation	non forest	Total
-	Evergreen forest													0
2024	Semi-evergreen forest													0
year	Pine forest													0
	Deciduous forest													0
. <u></u>	Bamboo													0
5	Mangrove													0
	Rear Mangrove													0
	Flooded forest													0
e.	Forest regrowth													0
ŝ	Tree plantation													0
and	Pine plantation													0
2	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2026					
'ear		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Tree plantation	Pine plantation	non forest	Total
	Evergreen forest													
2025	Semi-evergreen													
20	forest													
year	Pine forest													
	Deciduous forest													
÷.	Bamboo													
ŝ	Mangrove													
catego	Rear Mangrove													
Cal.	Flooded forest													
ŝ	Forest regrowth													
3	Tree plantation													
and	Pine plantation													
<u> </u>	Non-forest													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2027				
Year	2027	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth	Pine plantation	non forest	Total
	Evergreen forest												C
58	Semi-evergreen												0
20	forest												0
aar	Pine forest												0
×.	Deciduous forest												0
÷	Bamboo												0
- S	Mangrove												0
6a	Rear Mangrove												0
Cal	Flooded forest												0
8	Forest regrowth												0
np	Tree plantation												0
anc	Pine plantation												0
La	Non-forest												0

							Land use	category in	year 2028					
Year	2028		Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo		Rear Mangrove	Flooded forest	Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest													(
2027	Semi-evergreen forest													(
ear	Pine forest													(
5	Deciduous forest													(
÷E	Bamboo													(
S	Mangrove													(
tegor	Rear Mangrove													(
cat	Flooded forest													(
m.	Forest regrowth													(
R	Tree plantation													(
and	Pine plantation													-
Г	Non-forest													-
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2024							
'ear 2	024	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
2023	Semi-evergreen forest	C	0 0	0	0	0	0	C	C	0	0	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
¥.	Deciduous forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
-=	Bamboo	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
ŝ	Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Rear Mangrove	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
cat	Flooded forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
9	Forest regrowth	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Pine plantation	C	0 0	0	0	0	0			0	0	0	0	0		
100	Non-forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2025							
Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
	Semi-evergreen forest	0	0	C	0	0	0	C) () C	. C) C	0	0		
ar	Pine forest	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Deciduous forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
-5	Bamboo	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
5	Mangrove	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Rear Mangrove	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Flooded forest	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
0	Forest regrowth	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
	Tree plantation	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
P	Pine plantation	0	0	0	0	0	0	C) (0 0	0	0 0	0	0		
5	Non-forest	0	0	0	0	0	0	C	0	0 0	0	0 0	0	0		
	Total													0	0	

							Land use	category in	year 2026							
Year :		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove				Pine plantation	non forest	Total		
6	Evergreen forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2025	Semi-evergreen forest	a	o c	0	0	0	0	c	a	0	0	0	0	0		
ar	Pine forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
, ≍	Deciduous forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
- E	Bamboo	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
Gol	Mangrove	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
eg	Rear Mangrove	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
cat	Flooded forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
<u>s</u>	Forest regrowth	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
S	Tree plantation	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
PE	Pine plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
La	Non-forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Total													0	0	

						Land us	e category	n year 2027													Land use	e category in	year 2027							
Year 2027	Evergree forest	n Semi- evergreen forest	Pine fores	t Deciduous forest	Bamboo	Mangrove	Rear Mangrov	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total	Year	2027	Evergreer forest	Semi- evergreen forest	Pine forest	Deciduou: forest	s Bamboo	Mangrove	Rear Mangrove	Flooded forest	Forest regrowth	Tree plantation	Pine plantation	non forest	Total		
Evergreen for	rest														Evergreen forest		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Semi-evergree	en													2026	Semi-evergreen forest		0 0) ()	0 0	0 0	0 0)	0 0)	0	0 0) C		
Pine forest														ar	Pine forest		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Deciduous for	rest													×.	Deciduous forest		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0		
E Bamboo														- E	Bamboo		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Rear Mangrove														5	Mangrove		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Rear Mangrov	ve													63	Rear Mangrove		0 0) ()	0 0) () ()	0 0)	0	0 0) C)	
B Flooded fores	it													5	Flooded forest		0 0) ()	0 0) () ()	0 0)	0	0 0) C)	
g Forest regrow	/th													2	Forest regrowth		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Tree plantatio	n													ŝ	Tree plantation		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0		
Pine plantation	n													2	Pine plantation		0 0) ()	0 0) () ()	0 0)	0	0 0	0 0)	
Non-forest														-	Non-forest		0 0) ()	0 0	0 0) ()	0 0)	0	0 0	0 0)	
Total		0 0) (0 0	0 0	0	0	0 0)	0 1	0 0		0		Total													0	0	

							Land use	category in	year 2028							
Year 2	2028	Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
	Evergreen forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2027	Semi-evergreen forest	C	0 0	C	0	0	0	c	C	0	C	0	0	0		
ar	Pine forest	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
×	Deciduous forest	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
	Bamboo	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
6	Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
eg	Rear Mangrove	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
at	Flooded forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
ġ	Forest regrowth	C	0 0	0	0	0	0	C	0	0	0	0	0	0		
ŝ	Tree plantation	0	0 0	0	0	0	0	0	0	0	0	0	0	0		
P	Pine plantation	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
2	Non-forest	0	0 0	0	0	0	0	C	0	0	0	0	0	0		
	Total													0	0	

							Land use	category in	year 2029					
Year :	2029	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo				Forest regrowth		Pine plantation	non forest	Total
	Evergreen forest													0
2028	Semi-evergreen													0
20	forest													0
ar	Pine forest													0
×.	Deciduous forest													0
1.5	Bamboo													0
6	Mangrove													0
feg	Rear Mangrove													0
cat	Flooded forest													0
8	Forest regrowth													0
	Tree plantation													0
and	Pine plantation													0
La	Non-forest													0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

							Land use	category in	year 2029							
Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove	Rear Mangrove	Flooded forest		Tree plantation	Pine plantation	non forest	Total		
	Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
2028	Semi-evergreen forest	C	0	0	0	0	C	C	c	0	C	C	0	0		
ar	Pine forest	0	0	0	0	0	0	C	0	0	0	C	0	0		
¥	Deciduous forest	0	0	0	0	0	0	C	0	0	0	0	0	0		
- 5	Bamboo	0	0	0	0	0	0	C	0	0	0	C	0	0		
ŝ	Mangrove	0	0	0	0	0	0	C	C	0	0	C	0	0		
ē	Rear Mangrove	0	0	0	0	0	0	C	0	0	0	0	0	0		
	Flooded forest	0	0	0	0	0	0	C	0	0	0	0	0	0		
9	Forest regrowth	0	0	0	0	0	0	C	0	0	0	0	0	0		
ŝ	Tree plantation	0	0	0	0	0	0	C	0	0	0	0	0	0		
р	Pine plantation	0	0	0	0	0	0	C	0	0	0	C	0	0		
La	Non-forest	0	0	0	0	0	0	C	C	0	0	C	0	0		
	Total													0	0	

							Land use	category in	year 2030					
(ear :	2030	Evergreen	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove			Forest regrowth		Pine plantation	non forest	Total
-	Evergreen forest													
2029	Semi-evergreen forest													
aar	Pine forest													
≶.	Deciduous forest													
jĒ,	Bamboo													
ЪĞ	Mangrove													
teg	Rear Mangrove													
Gat	Flooded forest													
ê	Forest regrowth													
ňp	Tree plantation													
pue	Pine plantation													
<u> </u>	Non-forest													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	1			Total													0	0	0
			1								Land use	category in	year 2030							
on	non forest	Total		Year 2		Evergreen forest	Semi- evergreen forest	Pine forest	Deciduous forest	Bamboo	Mangrove		Flooded forest			Pine plantation	non forest	Total		
		0	1		Evergreen forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0		8	Semi-evergreen forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	ar	Pine forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	×	Deciduous forest	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	-5	Bamboo	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	5	Mangrove	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	eg	Rear Mangrove	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	at	Flooded forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	ě	Forest regrowth	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	S	Tree plantation	0	0	0	0	C	0	0	0	0	0	0	0	0		
		0	1	2	Pine plantation	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	1	Ē	Non-forest	0	0	0	0	C	0	0	0	0	0	0	0	0		
0	0]		Total													0	0	0

Emissions from fossil fuel combustion (Direct and Indirect methods)

Parameters			NCV _f		EF _{fuel f}							
Description of data		Net ca	lorific value o	of fuel f	CO ₂	emission fact	or of the fuel	type f comb	usted			
Units			GJ kg ⁻¹				tCO ₂ GJ ⁻¹					
Fuel type f	Gas/diesel oil	Motor gasoline	Crude oil		Gas/diesel oil	Motor gasoline	Crude oil					
Value	0.0430	0.0443	0.0423		0.0741	0.0693	0.0733					

Emissions from fossil fuel combustion (Direct method)

Parameters				FC _{fy}						E _{fuely} (direct)		
Description	of data	Qı	uantity of fue	I type f cons	sumed in yea	r y	CO ₂ emissi	ons from cor		CO ₂ emissions from fossil fuel combustion in year y due to the		
												project activities (direct method)
Units				kg					tCO ₂			tCO ₂
Fuel type f		Gas/diesel oil	Motor gasoline	Crude oil			Gas/diesel oil	Motor gasoline	Crude oil			-
	2019						0,00		0,00	0,00	0,00	0,00
	2020						0,00				0,00	
	2021						0,00				0,00	
	2022						0,00				0,00	
	2023						0,00				0,00	
Year	2024						0,00			0,00	0,00	
	2025						0,00			0,00	0,00	
	2026						0,00				0,00	
	2027						0,00				0,00	
	2028						0,00				0.00	
	2029						0,00					
	2030	L					0,00	0,00	0,00	0,00	0,00	
	Total	-	-		-	-	-	-	-	-	-	0,00

Emissions from fossil fuel combustion (Indirect method)

Vehicle type																	-
Fuel type f																	-
				SECif	1	1			NCV _f								
		Avera		nergy consu nt type j for		hicle or	0,0000	0,0000	0,0000	0,0000	0,0000	NA	NA	NA	NA	NA	NA
			kç	g km ⁻¹ or hou	ur-1				EF _{fuel f}				INA	INA	INA	INA	INPA
Value							0,0000	0,0000		0,0000	0,0000						
Parameters				NVE					TDU _{if y}					E _{fuel j f y}			E _{fuel y} (indirect)
																	CO ₂ emissions from
Description of	of data	Number o	f vehicle or e	equipment ty	pe j using fu	iel type f in				pej oruseh		CO ₂ emis	ssions from f	ossil fuel co	mbustion in v	vehicle or	fossil fuel combustion in year v due to the
Description	Ji uata			year y			equ	ipment type	j using fuel	type f in yea	r y	equ	uipment type	j using fuel	type f in yea	ur y	project activities
																(indirect method)	
Units				unit				ke	n or hour uni	r1				tCO ₂			tCO ₂
01110	2019		1	unit	1	1		N	TOI HOUL OIL			0.00	0,00		0,00	0.00	
	2013											0.00	0.00				
	2021											0.00	0.00	0.00		0.00	
	2021											0.00	0.00				
	2023											0.00	0.00	0.00			
	2024											0.00	0.00				
Year	2025											0.00	0.00				
	2026											0.00	0.00	0.00			
	2027											0.00	0.00	0.00			
	2028											0,00	0,00	0,00	0,00	0,00	
	2029											0,00	0,00	0,00	0,00	0,00	
	2030											0,00	0,00	0,00	0,00	0,00	0,0
	Total		-	-			-	-	-	-	-	-	-	-	-	-	0,0

Emission from fertilizer applicatio	n																
Parameters	NC _{SN c}		NC _{ON c}			Frac _{Renew T}			R _{AG T}			R _{BG T}		N _{AG T}	N _{BG T}		
Description of data	Nitrogen conte synthetic fertil applied in croplar c	ilizer org	Nitrogen o ganic fertil in croplar	lizer applied	Fraction of crop T th	total area un at is renewe					Ratio of belo harvested yi			f above-grou N-fixing crop		below-grour N-fixing crop	
Units	tN (t fertilizer	er) ⁻¹	tN (t fer	tilizer) ⁻¹	(limensionles	is	t	d.m. (t d.m.)	4	td	i.m. (t d.m.)	1	t N (t d.m.) ⁻¹	t	N (t d.m.) ⁻¹	
Cropland type <i>c</i> / N-fixing crop <i>T</i> Value	General (non- Rice paddy)	e paddy	General (non- paddy)	Rice paddy													

Parameters		M	SNcy	Mc	Ncy			Crop	Рсту					Area	сТу			F _{SN}	lcy	Fc	DNcy	Fc	CRcy	M _{limestone y}	M _{dolomite y}	M _{ureay}	E _{direct-N y}	E _{indirect-N y}	E _{liming y}	E _{urea y}	E _{fertilizer y}
Description of	f data	Mass of fertilizer implemen project a cropland t project al	f synthetic applied for itation of the activities in type c in the rea and the rea in year y	Mass o fertilizer r materials s outside of area and area and implement project a cropland ty	f organic made from ourced from the project the activity applied for ation of the ctivities in ype c in the ea and the	introduced fo	r implement	y matter yield tation of the p	d for N-fixing o project activiti e activity area	es in cropla			ation of the p	harvested of f roject activitie and the activi	N-fixing crop	d type c in t		Mass of ni synthetic applie implementa project act cropland typ project are activity area	itrogen in fertilizer ed for ation of the tivities in pe c in the ta and the	Mass of organic fe from mater from outsic area and area and implemen project a cropland t project al	nitrogen in rtilizer made rials sourced be the project the activity applied for tation of the activities in ype c in the rea and the ea in year y	Mass of crop resid ground a ground) crops, int implemen project a cropland t project a activity returned	i nitrogen in Jues (above- and below- in N-fixing troduced for traduced for tration of the activities in type c in the rea and the v area and t to soils, in ear y	Mass of calcic limestone (CaCO ₃) applied for implementa tion of the project activities in the project area and	Mass of dolomite (CaMg(CO 3)2) applied for implementa tion of the project activities in the project area and the activity	Mass of urea fertilizer applied for implementa tion of the project activities in the project	Direct N ₂ O emissions as a result of nitrogen application within the project area and the activity area for	Indirect N ₂ O emissions as a result of nitrogen application within the project area and the activity area for implementati on of the project activities in year y	CO ₂ emissions as a result of adding liming materials within the project area and the	CO ₂ emissions as a result of urea fertilization application within the project area and the activity area for implementati on of the project activities in	GHG
Units			t		t			t d.m.	. ha ⁻¹					ha	1			ťN	1		tN		tN	t	t	t	tCO2-eq	tCO2-eq	tCO ₂	year y tCO ₂	tCO2-eq
Cropland type	вc	General (non-	Rice paddy	General (non-	Rice paddy	Gene	eral (non-pa	ddy)	1	Rice paddy		Gen	ieral (non-pa	ddy)	I	Rice paddy		General (non-	Rice padd	General (non-	Rice paddy	General (non-	Rice paddy	NA	NA	NA	NA	NA	NA	NA	NA
N-fixing crop 7		NA	NA	NA	NA													NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019																	0,0	0,0								0,0				
	2020																	0,0		0,0	0,0						0,0		0,0		0,0
L L	2021 2022																	0,0									0,0				
-	2022																	0.0	0.0	0.0	0.0 0.0	0.0					0.0	0.0	0,0	0.0	0,0
-	2023		1		-													0.0 0,0 0,0	0,0	0,0	0,0						0,0	0,0	0,0	0,0	0,0
Year	2024																	0,0	0,0				0 0,0				0,0				
	2026																	0,0	0,0		0,0		0 0.0				0,0	0,0	0,0		
	2027																	0,0	0,0	0,0	0,0						0,0	0,0	0,0	0,0	0,0
	2028																	0,0		0,0	0,0						0,0	0,0	0,0	0,0	0,0
	2029																	0,0	0,0								0,0				
	2030																	0,0	0,0	0,0	0,0	0,0	0,0				0,0				0,0
1	Total				-	-	-	-	-	-	-	-	-	-	-	-	-	-		-		-		-	-	-	0.0	0,0	0,0	0.0	0.0

Parameters		∆CS _{pjy}		PEy
		Carbon	Displaced	
		stock	emissions	Project net
Description o	f data	change in	to the	emissions
		the project	displaceme	in year y
		area in year y	ni beli in	
Units		tC	tCO ₂	tCO ₂
	2019	0,0		0,0
	2020			
	2021			
	2022			0,0
	2023			
Year	2024			
	2025			
	2026			
	2027			0,0
	2020			
	2020			
	Total	0,0		

Iculations for emission reductions to be credited	Pool / Sources	Value	Units	Parame
roject emission reductions to be credited during the period p		0,0	tCO ₂ e	ERp
Project emission reductions to be credited in year y				
2019		0,0	tCO ₂ e	ER
2020		0,0	tCO ₂ e	ER
2021			tCO ₂ e	ER
2022		0,0	tCO ₂ e	ER
2023		0,0	tCO ₂ e	ER
2024		,	tCO ₂ e	ER
2025		0,0	tCO ₂ e	ER
2026		0,0	tCO ₂ e	ER
2027		0,0	tCO ₂ e	ER
2028		0,0	tCO ₂ e	ER
2029		'	tCO ₂ e	ER
2030		0,0	tCO ₂ e	ER
Iculations for project reference level				
roject reference level during period p		0,0	tCO ₂ e	RL
Project reference level in year y				
2019	Carbon stock	0,0	tCO ₂ e	RL
2020	Carbon stock		tCO ₂ e	RL
2021	Carbon stock		tCO ₂ e	RL
2022	Carbon stock		tCO ₂ e	RL
2023	Carbon stock		tCO ₂ e	RL
2024	Carbon stock		tCO ₂ e	RL
	Carbon stock		tCO ₂ e	RL
2026	Carbon stock		tCO ₂ e	RL
2027	Carbon stock		tCO ₂ e	RL
2028	Carbon stock		tCO ₂ e	RL,
2029	Carbon stock	0,0	tCO ₂ e	RL
2030	Carbon stock	0,0	tCO ₂ e	RL

ject net emissions during period <i>p</i>			0,0	tCO ₂ e	PE
Emissions from carbon stock change in the project are	ea in year y	,			
	2019	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2020	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2021	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2022	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2023	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2024	Carbon stock		tCO ₂ e	ΔCS _{pj y} *
	2025	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2026	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2027	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2028	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2029	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
	2030	Carbon stock	0,0	tCO ₂ e	ΔCS _{pj y} *
CO2 emissions from fossile fuel combustion at year y				_	
		Combustion of fossil fuels	0,0	tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels	,	tCO ₂ e	Efue
	2024	Combustion of fossil fuels		tCO ₂ e	Efue
	2025	Combustion of fossil fuels		tCO ₂ e	Efue
	2026	Combustion of fossil fuels		tCO ₂ e	Efue
	2027	Combustion of fossil fuels		tCO ₂ e	Efue
	2028	Combustion of fossil fuels		tCO ₂ e	Efue
		Combustion of fossil fuels		tCO ₂ e	Efue
	2030	Combustion of fossil fuels		tCO ₂ e	Efue
GHG emissions from fertilizer application at year y				_	
	2019	Fertilizer application	0,0	tCO ₂ e	Efertiliz
		Fertilizer application	0,0	tCO ₂ e	Efertiliz
	2021	Fertilizer application	0,0	tCO ₂ e	Efertiliz
	2022	Fertilizer application	0,0	tCO ₂ e	Efertiliz
	2023	Fertilizer application	0,0	tCO ₂ e	Efertiliz
		Fertilizer application	0,0	tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application	,	tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
		Fertilizer application		tCO ₂ e	Efertiliz
Displacement of net emissions during the period y			, 		
	2019	Carbon stock	0,0	tCO ₂ e	DE
	2020	Carbon stock		tCO ₂ e	DE
	2021	Carbon stock	0,0	tCO ₂ e	DE
	2022	Carbon stock	0,0	tCO ₂ e	DE
	2023	Carbon stock	0,0	tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
		Carbon stock		tCO ₂ e	DE
	/			tCO ₂ e	DE
	2028	Carbon stock			
		Carbon stock			
	2029	Carbon stock Carbon stock Carbon stock	0,0	tCO ₂ e tCO ₂ e	DE

[List of Default Values]

Emission factor for N ₂ O emission from N inputs for general (non-paddy)	0,01	tN ₂ O-N (tN- input) ⁻¹	EF _{direct-N} (general)
Emission factor for N ₂ O emission from N inputs for Rice paddy (flooded rice field)	0.003	tNLON/tN	EF _{direct-N} (paddy)
Fraction that volatilized as NH ₃ and NOx for synthetic fertilizers			Frac _{sn}
Fraction that volatilized as NH ₃ and NOx for organic fertilizers	0,20	dimentsionless	Frac _{on}
Emission factor for N_2O emissions from atmospheric deposition of N on soils and water surfaces	0,010	tN ₂ O-N (tNH ₃ -N and NO _X -N volatilized) ⁻¹	EF _{indirect-N}
Fraction of N that area lost through leaching and runoff	0,30	dimensionless	Frac _{leach}
Emission factor for N_2O emissions from N leaching and runoff		tN ₂ O-N (t leaching and runoff) ⁻¹	EF _{leach-N}
Emission factor for limestone	0,12	tC (t limestone) ⁻	EF _{limestone}
Emission factor for dolomite	0,13	tC (t dolomite) ⁻¹	EF _{dolomite}
Emission factor for urea	0,20	tC (t urea) ⁻¹	EF _{urea}
Global Warming Potential for N ₂ O	298	tCO ₂ tN ₂ O ⁻¹	GWP _{N2O}
Net calorific value of gas/diesel oil	0,043	GJ kg ⁻¹	NCV _f
Net calorific value of motor gasoline	0,0443	GJ kg ⁻¹	NCV _f
Net calorific value of crude oil	0,0423	GJ kg ⁻¹	NCV _f
CO ₂ emission factor of gas/diesel oil combusted	0,0741	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of motor gasoline combusted	0,0693	tCO ₂ GJ ⁻¹	EF _{fuel f}
CO ₂ emission factor of crude oil combusted	0,0733	tCO ₂ GJ ⁻¹	EF _{fuel f}

Monitoring Spreadsheet: JCM_KH_AM004_ver01.1

Reference Number:

Monitoring Report Sheet Attachment

1. Monitoring sites of the ground-based survey(s)

Description of data	Monitoring sites (Map and locations)

2. Reassessment of project reference level

3. Recording and archiving data

Description of data	Actual situation of recording and archiving

Annex