

TABLE 3 SECTORAL REPORT FOR AGRICULTURE, FORESTRY, AND OTHER LAND USE
(Sheet 1 of 2)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC
	(Gg)					
Total Agriculture, Forestry, and Other Land Use						
A. Livestock						
1. Enteric Fermentation						
2. Manure Management ⁽¹⁾						
B. Land						
1. Forest land						
2. Cropland						
3. Grassland						
4. Wetlands						
5. Settlements						
6. Other Land						
C. Aggregate sources and non-CO₂ emissions sources on land (2)						
1. Biomass burning						
2. Liming						
3. Urea application						
4. Direct N ₂ O Emissions from managed soils (3)						
5. Indirect N ₂ O Emissions from managed soils						
6. Indirect N ₂ O Emissions from manure management						
7. Rice cultivations						
8. Other (please specify)						
D. Other						
1. Harvested Wood Products						
2. Other (please specify)						

(1) Indirect N₂O emissions are not included here but under category 3.C.6.

(2) Combined data reported both for Agriculture and LULUCF sector. [Include info on the mapping] Sectoral reports for agriculture and LULUCF provide the data per sector. In general, non-CO₂ emissions from cropland and part of grassland are reported under Agriculture.

(3) Emissions could be reported by land category is information is available.

TABLE 3 SECTORAL REPORT FOR AGRICULTURE, FORESTRY, AND OTHER LAND USE
(Sheet 1 of 2)

Year
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Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC
	(Gg)					
Total Agriculture, Forestry, and Other Land Use						
A. Livestock						
1. Enteric Fermentation						
a. Cattle						
b. Buffalo						
c. Sheep						
d. Goats						
e. Camels and Llamas						
f. Horses						
g. Mules and Asses						
h. Swine						
i. Poultry						
j. Other (as specified in table 4.A)						
2. Manure Management ⁽¹⁾						
a. Cattle						
b. Buffalo						
c. Sheep						
d. Goats						
e. Camels and Llamas						
f. Horses						
g. Mules and Asses						
h. Swine						
i. Poultry						
j. Other (as specified in table 4.A)						
B. Land						
1. Forest land						
a. Forest land Remaining Forest land						
b. Land Converted to Forest land						
2. Cropland						
a. Cropland Remaining Cropland						
b. Land Converted to Cropland						
3. Grassland						
a. Grassland Remaining Grassland						
b. Land Converted to Grassland						
4. Wetlands						
a. Wetlands Remaining Wetlands						
b. Land Converted to Wetlands						
5. Settlements						
a. Settlements Remaining Settlements						
b. Land Converted to Settlements						
6. Other Land						
a. Other land Remaining Other land						
b. Land Converted to Other land						
C. Aggregate sources and non-CO₂ emissions sources on land (2)						
1. Biomass burning						
a. Biomass burning in forest lands						
b. Biomass burning in croplands						
c. Biomass burning in grasslands						
d. Biomass burning in all other land						
2. Liming						
3. Urea application						
4. Direct N ₂ O Emissions from managed soils (3)						
5. Indirect N ₂ O Emissions from managed soils						
6. Indirect N ₂ O Emissions from manure management						
7. Rice cultivations						
8. Other (please specify)						
D. Other						
1. Harvested Wood Products						
2. Other (please specify)						

(1) Indirect N₂O emissions are not included here but under category 3.C.6.

(2) Combined data reported both for Agriculture and LULUCF sector. [Include info on the mapping]

(3) Emissions could be reported by land category is information is available.

TABLE 3(I) SECTORAL REPORT FOR AGRICULTURE
(Sheet 1 of 2)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x	CO	NMVOC
	(Gg)				
Total Agriculture					
A. Livestock					
1. Enteric Fermentation					
1. Cattle ⁽¹⁾					
<i>Option A:</i>					
Dairy Cattle					
Non-Dairy Cattle					
<i>Option B:</i>					
Mature Dairy Cattle					
Mature Non-Dairy Cattle					
Young Cattle					
2. Buffalo					
3. Sheep					
4. Goats					
5. Camels and Llamas					
6. Horses					
7. Mules and Asses					
8. Swine					
9. Poultry					
10. Other (as specified in table 3.A)					
2. Manure Management					
1. Cattle ⁽¹⁾					
<i>Option A:</i>					
Dairy Cattle					
Non-Dairy Cattle					
<i>Option B:</i>					
Mature Dairy Cattle					
Mature Non-Dairy Cattle					
Young Cattle					
2. Buffalo					
3. Sheep					
4. Goats					
5. Camels and Llamas					
6. Horses					
7. Mules and Asses					
8. Swine					
9. Poultry					
10. Other livestock (as specified in table 3.B(a))					

Note: All footnotes for this table are given at the end of the table on sheet 2.

TABLE 3(I) SECTORAL REPORT FOR AGRICULTURE
(Sheet 2 of 2)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x (Gg)	CO	NM VOC
B. Manure Management (continued)					
11. Anaerobic Lagoons					
12. Liquid Systems					
13. Solid Storage and Dry Lot					
14. Other (please specify)					
C. Aggregated sources and non-CO₂ emission sources on land					
C. Rice Cultivation (new category 3.C.7)					
1. Irrigated					
2. Rainfed					
3. Deep Water					
4. Other (as specified in table 4.C)					
D. Agricultural Soils⁽¹⁾ (new categories 3.C.4-6)					
1. Direct N ₂ O Emissions from Managed Soils Soil Emissions					
2. Indirect N ₂ O emissions from Managed Soils Pasture, Range and Paddock Manure ⁽²⁾					
3. Indirect N ₂ O Emissions from Manure Management					
4. Other (as specified in table 4.D)					
E. Prescribed Burning of Savannas (new category 3.C.1)					
F. Field Burning of Agricultural Residues (new category 3.C.1)					
1. Cereals					
2. Pulses					
3. Tubers and Roots					
4. Sugar Cane					
5. Other (as specified in table 3.F)					
D. Other (please specify)					

(1) The sum for cattle would be calculated on the basis of entries made under either option A (dairy and non-dairy cattle) or option B (mature dairy cattle, mature non-dairy cattle and young cattle).

(2) See footnote 4 to Summary 1.A of this common reporting format. Parties which choose to report CO₂ emissions and removals from agricultural soils under 4.D Agricultural Soils of the sector Agriculture should report the amount (in Gg) of these emissions or removals in table Summary 1.A of the CRF. References to additional information (activity data, emissions factors) reported in the NIR should be provided in the documentation box to table 4.D. In line with the corresponding table in the IPCC Guidelines (i.e. IPCC Sectoral Report for Agriculture), this table does not include provisions for reporting CO₂ estimates.

(3) Direct N₂O emissions from pasture, range and paddock manure are to be reported in the "4.D Agricultural Soils" category. All other N₂O emissions from animal manure are to be reported in the "4.B Manure Management" category. See also chapter 4.4 of the IPCC good practice guidance report.

(4) Precise mapping what goes in to be included

Note: The IPCC Guidelines do not provide methodologies for the calculation of CH₄ emissions and CH₄ and N₂O removals from agricultural soils, or CO₂ emissions from prescribed burning of savannas and field burning of agricultural residues. Parties that have estimated such emissions should provide, in the NIR, additional information (activity data and emission factors) used to derive these estimates and include a reference to the section of the NIR in the documentation box of the corresponding Sectoral background data tables.

Documentation box:

• Parties should provide detailed explanations on the agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

• If estimates are reported under "4.G Other", use this documentation box to provide information regarding activities covered under this category and to provide reference to the section in the NIR where background information can be found.

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x (Gg)	CO	NM VOC
C. Aggregate sources and non-CO₂ emissions sources on land					
1. Biomass burning					
a. Prescribed Burning of Savannas					
b. Field Burning of Agricultural Residues					
Cereals					
Pulses					
Tubers and Roots					
Sugar Cane					
Other (as specified in table 3.F)					
4. Direct N ₂ O Emissions from Managed Soils					
5. Indirect N ₂ O emissions from Managed Soils					
6. Indirect N ₂ O Emissions from Manure Management					
7. Rice Cultivation					
Irrigated					
Rainfed					
Deep Water					
Other (as specified in table 4.C)					
D. Other (please specify)					

TABLE 3(I).A.1 SECTORAL BACKGROUND DATA FOR AGRICULTURE
Enteric Fermentation
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTORS ⁽³⁾
	Population size ⁽¹⁾ (1000s)	Average gross energy intake (GE) (MJ/head/day)	Average CH ₄ conversion rate (Y _m) ⁽²⁾ (%)	CH ₄ (kg CH ₄ /head/yr)
1. Cattle				
<i>Option A:</i>				
Dairy Cattle ⁽⁴⁾				
Non-Dairy Cattle				
<i>Option B:</i>				
Mature Dairy Cattle				
Mature Non-Dairy Cattle				
Young Cattle				
2. Buffalo				
3. Sheep				
4. Goats				
5. Camels and Llamas				
6. Horses				
7. Mules and Asses				
8. Swine				
9. Poultry				
10. Other <i>(please specify)</i>				
deer, reindeer, rabbit				

⁽¹⁾ Parties are encouraged to provide detailed livestock population data by animal type and region, if available, in the NIR, and provide in the documentation box below a reference to the relevant section. Parties should use the same animal population statistics to estimate CH₄ emissions from enteric fermentation, CH₄ and N₂O from manure management, N₂O direct emissions from soil and N₂O emissions associated with manure production, as well as emissions from the use of manure as fuel, and sewage-related emissions reported in the Waste sector.

⁽²⁾ Y_m refers to the fraction of gross energy in feed converted to methane and should be given in per cent in this table.

⁽³⁾ The implied emission factors will not be calculated until the corresponding emission estimates are entered directly into Table 4.

⁽⁴⁾ Including data on dairy heifers, if available.

Documentation box:

- Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
- Indicate in this documentation box whether the activity data used are one-year estimates or a three-year averages.
- Provide a reference to the relevant section in the NIR, in particular with regard to:
 - (a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance), including information on whether these data are one-year estimates
 - (b) parameters relevant to the application of IPCC good practice guidance.

Additional information (only for those livestock types for which Tier 2 was used)^(a)

Disaggregated list of animals ^(b)		Dairy Cattle	Non-Dairy Cattle	Other <i>(specify)</i>	
Indicators:					
Weight	(kg)				
Feeding situation ^(c)					
Milk yield	(kg/day)				
Work	(h/day)				
Pregnant	(%)				
Digestibility of feed	(%)				

^(a) See also Tables A-1 and A-2 of the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.31-4.34). These data are relevant if Parties do not have data on average feed intake.

^(b) Disaggregate to the split actually used. Add columns to the table if necessary.

^(c) Specify feeding situation as pasture, stall fed, confined, open range, etc.

TABLE 3(I)A.2(a) SECTORAL BACKGROUND DATA FOR AGRICULTURE
CH₄ Emissions from Manure Management
(Sheet 1 of 2)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION							IMPLIED EMISSION FACTORS ⁽⁴⁾
	Population size (1000s)	Allocation by climate region ⁽¹⁾			Typical animal mass (average) (kg)	VS ⁽²⁾ daily excretion (average) (kg dm/head/day)	CH ₄ producing potential (Bo) ⁽²⁾ (average) (m ³ CH ₄ /kg VS)	CH ₄ (kg CH ₄ /head/yr)
		Cool	Temperate	Warm				
		(%)						
1. Cattle								
Option A:								
Dairy Cattle ⁽³⁾								
Non-Dairy Cattle								
Option B:								
Mature Dairy Cattle								
Mature Non-Dairy Cattle								
Young Cattle								
2. Buffalo								
3. Sheep								
4. Goats								
5. Camels and Llamas								
6. Horses								
7. Mules and Asses								
8. Swine								
9. Poultry								
10. Other livestock (<i>please specify</i>)								
deer, reindeer, rabbit, fur-bearing animals, ostrich								

⁽¹⁾ Climate regions are defined in terms of annual average temperature as follows: Cool = less than 15°C; Temperate = 15 - 25°C inclusive; and Warm = greater than 25°C (see table 4.2 of the IPCC Guidelines (Volume 3, Reference Manual, p. 4.8)).

⁽²⁾ VS = Volatile Solids; Bo = maximum methane producing capacity for manure IPCC Guidelines (Volume 3, Reference Manual, p.4.23 and p.4.15); dm = dry matter. Provide average values for VS and Bo where original calculations were made at a more disaggregated level of these livestock categories.

⁽³⁾ Including data on dairy heifers, if available.

⁽⁴⁾ The implied emission factors will not be calculated until the corresponding emission estimates are entered directly into table 4.

Additional information (for Tier 2) ^(a)

Animal category	Indicator	Climate region	Animal waste management system						
			Anaerobic lagoon	Liquid system	Daily spread	Solid storage	Dry lot	Pasture range paddock	Other
Dairy Cattle	Allocation (%)	Cool							
		Temperate							
		Warm							
	MCF ^(b)	Cool							
		Temperate							
		Warm							
Non-Dairy Cattle	Allocation (%)	Cool							
		Temperate							
		Warm							
	MCF ^(b)	Cool							
		Temperate							
		Warm							
Swine	Allocation (%)	Cool							
		Temperate							
		Warm							
	MCF ^(b)	Cool							
		Temperate							
		Warm							
Other livestock (please specify)	Allocation (%)	Cool							
		Temperate							
		Warm							
	MCF ^(b)	Cool							
		Temperate							
		Warm							

^(a) The information required in this table may not be directly applicable to country-specific methods developed for MCF calculations. In such cases, information on MCF derivation should be described in the NIR and references to the relevant sections of the NIR should be provided in the documentation box.

^(b) MCF = Methane Conversion Factor (IPCC Guidelines, (Volume 3, Reference Manual, p. 4.9)). If another climate region categorization is used, replace the entries in the cells with the climate regions for which the MCFs are specified.

Documentation box:

Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and further details are needed to understand the content of this table.

Indicate in this documentation box whether the activity data used are one-year estimates or three-year averages.

Provide a reference to the relevant section in the NIR, in particular with regard to:

(a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance), including information on whether these data are one-year estimates or three-year averages.

(b) parameters relevant to the application of IPCC good practice guidance;

(c) information on how the MCFs are derived, if relevant data could not be provided in the additional information box.

(Sheet 1 of 1)

Country

[illegible]

⁽³⁾ The emissions associated with the burning of dung are to be reported under fuel combustion, if used as fuel and under waste incineration, if burned without energy recovery.

• Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table. • Indicate in this documentation box whether the activity data used are one-year estimates or three-year averages. • Provide a reference to the relevant section in the NIR, in particular with regard to: (a) disaggregation of livestock population (e.g. according to the classification recommended in the IPCC good practice guidance), including information on whether these data are one-year estimates or three-year averages. (b) information on other AWMS, if reported.

(Sheet 1 of 1)

[illegible]

TABLE 3(I)C.7 SECTORAL BACKGROUND DATA FOR AGRICULTURE
Rice Cultivation
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTOR ⁽¹⁾ CH ₄ (g/m ²)	EMISSIONS CH ₄ (Gg)
		Harvested area ⁽²⁾ (10 ⁹ m ² /yr)	Organic amendments added ⁽³⁾			
			type	(t/ha)		
1. Irrigated						
Continuously Flooded						
Intermittently Flooded	Single Aeration					
	Multiple Aeration					
2. Rainfed						
Flood Prone						
Drought Prone						
3. Deep Water						
Water Depth 50-100 cm						
Water Depth > 100 cm						
4. Other <i>(please specify)</i>						
Upland Rice ⁽⁴⁾						
Total ⁽⁴⁾						

⁽¹⁾ The implied emission factor implicitly takes account of all relevant corrections for continuously flooded fields without organic amendment, the correction for the organic amendments and the effect of different soil characteristics, if considered in the calculation of methane emissions.

⁽²⁾ Harvested area is the cultivated area multiplied by the number of cropping seasons per year.

⁽³⁾ Specify dry weight or wet weight for organic amendments in the documentation box.

⁽⁴⁾ These rows are included to allow comparison with international statistics. Methane emissions from upland rice are assumed to be zero.

Documentation box:

- Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
- When disaggregating by more than one region within a country, and/or by growing season, provide additional information on disaggregation and related data in the NIR and provide a reference to the relevant section in the NIR.
- Where available, provide activity data and scaling factors by soil type and rice cultivar in the NIR.

TABLE 3(I)C.4-6 SECTORAL BACKGROUND DATA FOR AGRICULTURE
Agricultural Soils
 (Sheet 1 of 2)

Year
 Submission
 Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTORS kg N ₂ O-N/kg N ⁽²⁾	EMISSIONS N ₂ O (Gg)
	Description	Value kg N/yr		
1. Direct Soil Emissions	N input to soils			
1. Synthetic Fertilizers	Nitrogen input from application of synthetic fertilizers			
2. Animal Manure Applied to Soils	Nitrogen input from manure applied to soils			
3. N-fixing Crops	Nitrogen fixed by N-fixing crops			
4. Crop Residue	Nitrogen in crop residues returned to soils			
5. Cultivation of Histosols ⁽¹⁾	Area of cultivated organic soils (ha/yr)			
6. Other direct emissions (please specify)				
2. Pasture, Range and Paddock Manure	N excretion on pasture range and paddock			
3. Indirect Emissions				
1. Atmospheric Deposition	Volatilized N from fertilizers, animal manures and other			
2. Nitrogen Leaching and Run-off	N from fertilizers, animal manures and other that is lost through leaching and run-off			
4. Other (please specify)				

Additional information

Fraction ⁽³⁾	Description	Value
Frac _{GRAZ}	Fraction of crop residue burned	
Frac _{LIVEST}	Fraction of livestock N excretion in excrements burned for fuel	
Frac _{SOIL}	Fraction of synthetic fertilizer N applied to soils that volatilizes as NH ₃ and NOx	
Frac _{SOIL2}	Fraction of livestock N excretion that volatilizes as NH ₃ and NOx	
Frac _{SOIL3}	Fraction of livestock N excretion and excretion from soil nitrification	
Frac _{SOIL4}	Fraction of N input to soils that is lost through leaching and run-off	
Frac _{SOIL5}	Fraction of total above-ground biomass of N-fixing crop that is N	
Frac _{SOIL6}	Fraction of residue dry biomass that is N	
Frac _{SOIL7}	Fraction of total above-ground crop biomass that is removed from the field as a crop product	
Other fractions (please specify)		

⁽¹⁾ Use the definitions for fractions as specified in the IPCC Guidelines (Volume 3, Reference Manual, pp. 4.92-4.113) as elaborated by the IPCC good practice guidance (pp. 4.54-4.74).

⁽¹⁾ To convert from N₂O-N to N₂O emissions, multiply by 44/28. Note that for cultivation of Histosols the unit of the IEF is kg N₂O-N/ha.

Documentation box:

- Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
- Provide a reference to the relevant section in the NIR, in particular with regard to:
 - (a) Background information on CH₄ emissions from agricultural soils, if accounted for under the Agriculture sector;
 - (b) Disaggregated values for FracGRAZ according to animal type, and for FracBURN according to crop types;
 - (c) Full list of assumptions and fractions used.

TABLE 3(I)C.4-6 SECTORAL BACKGROUND DATA FOR AGRICULTURE
Direct and indirect N₂O emissions from Agricultural Soils and Manure Management
 (Sheet 1 of 2)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTORS kg N ₂ O-N/kg N ^(1,2)	EMISSIONS N ₂ O (Gg)
	Description	Value kg N/yr		
1. Direct N₂O Emissions from Managed Soils				
1. Inorganic N fertilizers(4)	N input from application of inorganic fertilizers to cropland and grassland			
2. Organic N fertilizers(4)	N input from organic N fertilizers to cropland and grassland			
a. Animal manure applied to soils	N input from manure applied to soils			
b. Sewage sludge applied to soils	N input from sewage sludge applied to soils			
c. Other organic fertilizers applied to soils	N input from application of other organic fertilizers			
3. Urine and dung deposited by Grazing Animals	N excretion on pasture, range and paddock			
4. Crop residues	N in crop residues returned to soils			
5. Cultivation of organic soils (i.e. Histosols) (2)	Area of cultivated organic soils (ha/yr)			
2. Indirect N₂O Emissions from Managed Soils				
1. Atmospheric Deposition(3)	Volatilized N from agricultural inputs of N			
2. Nitrogen Leaching and Run-off	N from fertilizers and other that is lost through leaching and run-off			
3. Indirect N₂O Emissions from Manure Management				
1. Atmospheric Deposition	Volatilized N from manures management systems			
2. Nitrogen Leaching and Run-off	N from manure management systems that is lost through leaching and run-off			

⁽¹⁾ To convert from N₂O-N to N₂O emissions, multiply by 44/28.

(2) Note that for cultivation of Histosols the unit of the IEF is kg N₂O-N/ha. The emissions from cultivation/management of croplands and grasslands are to be included. For definition of organic soils see footnote 4, page 11.6 of volume 4 of 2006 IPCC Guidelines

(3) Only atmospheric deposition of N volatilized from agricultural inputs of N are to be reported here (include NO_x associated with burning of savannas and crop residues).

(4) Include application of fertilizers on cropland and grassland. If application to other land categories cannot be separately identified, they should be included here.

Documentation box:

- Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
- Provide a reference to the relevant section in the NIR, in particular with regard to:
 - (a) Background information on CH₄ emissions from agricultural soils, if accounted for under the Agriculture sector;
 - (b) Disaggregated values for FracGRAZ according to animal type, and for FracBURN according to crop types;
 - (c) Full list of assumptions and fractions used.

TABLE 3(D)C.1(a) SECTORAL BACKGROUND DATA FOR AGRICULTURE
Prescribed Burning of Savannas
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION					IMPLIED EMISSION FACTORS		EMISSIONS	
	Area of savanna burned	Average above-ground biomass density	Fraction of savanna burned	Biomass burned	Nitrogen fraction in biomass	CH ₄	N ₂ O	CH ₄	N ₂ O
	(k ha/yr)	(t dm/ha)		(Gg dm)		(kg/t dm)		(Gg)	
Forest land <i>(specify ecological zone)</i> (1)									
Grassland <i>(specify ecological zone)</i> (1)									

(1) If possible, fires on forest land and grassland defined as savanna should be separately identified and reported here. If it is not possible to separate those fires from other forest and grassland fires reported under category 3(II)C.1 4.B.1–Biomass Burning, this should be clearly documented in the documentation box and in the NIR.

Additional information

	Living Biomass	Dead Biomass
Fraction of above-ground biomass		
Fraction oxidized		
Carbon fraction		

Documentation box:
Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(T)C.1(b) SECTORAL BACKGROUND DATA FOR AGRICULTURE
Field Burning of Agricultural Residues
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION								IMPLIED EMISSION FACTORS		EMISSIONS	
	Crop production	Residue/ Crop ratio	Dry matter (dm) fraction of residue	Fraction burned in fields	Fraction oxidized	Total biomass burned (Gg dm)	C fraction of residue	N-C ratio in biomass residues	CH ₄	N ₂ O	CH ₄	N ₂ O
	(t)								(kg/t dm)		(Gg)	
1. Cereals												
Wheat												
Barley												
Maize												
Oats												
Rye												
Rice												
Other (please specify)												
2. Pulses												
Dry bean												
Peas												
Soybeans												
Other (please specify)												
3 Tubers and Roots												
Potatoes												
Other (please specify)												
4 Sugar Cane												
5 Other (please specify)												

Documentation box:
Parties should provide detailed explanations on the Agriculture sector in Chapter 6: Agriculture (CRF sector 4) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II) SECTORAL REPORT FOR LAND USE, LAND-USE CHANGE AND FORESTRY
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Net CO ₂ emissions/removals ^{(1), (2)}	CH ₄ ⁽²⁾	N ₂ O ⁽²⁾	NO _x	CO	NM VOC
	(Gg)					
B. Land-Use Categories						
1. Forest Land						
1. Forest Land remaining Forest Land						
2. Land converted to Forest Land						
2. Cropland						
1. Cropland remaining Cropland						
2. Land converted to Cropland						
3. Grassland						
1. Grassland remaining Grassland						
2. Land converted to Grassland						
4. Wetlands						
1. Wetlands remaining Wetlands ⁽³⁾						
2. Land converted to Wetlands						
5. Settlements						
1. Settlements remaining Settlements ⁽³⁾						
2. Land converted to Settlements						
6. Other Land						
1. Other Land remaining Other Land ⁽⁴⁾						
2. Land converted to Other Land						
D. Other (please specify)⁽⁵⁾						
Harvested Wood Products ⁽⁶⁾						
C. Aggregated sources and non-CO₂ emissions sources on land						
1. Biomass burning						
2. Liming						
3. Urea application						
4. Direct N ₂ O emissions from managed soils						
5. Indirect N ₂ O emissions from managed soils						
8. Other						
Information item⁽⁷⁾:						
Forest Land converted to other Land-Use Categories						
Grassland converted to other Land-Use Categories						

⁽¹⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽²⁾ For each land-use category and sub-category, this table sums net CQ emissions and removals shown in tables 5.A to 5.F, and the CQ, CH₄ and N₂O emissions showing in tables 5(I) to 5(V).

⁽³⁾ Parties may decide not to prepare estimates for these categories contained in appendices 3a.3 and 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

⁽⁴⁾ This land-use category is to allow the total of identified land area to match the national area.

⁽⁵⁾ The total for category 5.G Other includes items specified only under category 5.G in this table as well as sources and sinks specified in category 5.G in tables 5(I) to 5(V).

⁽⁶⁾ Parties may decide not to prepare estimates for this category contained in appendix 3a.1 of the IPCC good practice guidance for LULUCF, although they may do so if they wish and report in this row.

⁽⁷⁾ These items are listed for information only and will not be added to the totals, because they are already included in subcategories 5.A.2 to 5.F.2.

⁽⁸⁾ The emissions listed here are already included in the subcategories under Land. However, the inclusion of the emission here allows viewing of those emissions at national level.

⁽⁹⁾ A footnote to specify if only category B or also category C is included.

Documentation box:
• Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
• If estimates are reported under 5.G Other, use this documentation box to provide information regarding activities covered under this category and to provide reference to the section in the NIR where background information can be found.

Table 3(II)B. LAND TRANSITION MATRIX
Areas and changes in areas between the previous and the current inventory year

FROM:\nTO:	Forest land (managed)	Forest land (unmanaged)	Cropland	Grassland	Wetlands	Settlements	Other land	Final area
Forest land (managed)								
Forest land (unmanaged)								
Cropland								
Grassland								
Wetlands								
Settlements								
Other land								
Initial area								
Net change								

TABLE 3(II)B.1 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY
Forest Land
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA		IMPLIED CARBON-STOCK-CHANGE FACTORS						CHANGES IN CARBON STOCK						Net CO ₂ emissions/ removals ^{(8) (9)}
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Area of organic soil ⁽²⁾ (kha)	Carbon stock change in living biomass per area ^{(3) (4)}			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾		Carbon stock change in living biomass ^{(3) (4)}			Net carbon stock change in dead organic matter ⁽⁴⁾	Net carbon stock change in soils ^{(4) (6)}		
				Gains	Losses	Net change		Mineral soils ⁽⁵⁾	Organic soils	Gains	Losses	Net change		Mineral soils	Organic soils ⁽⁷⁾	
				(Mg C/ha)						(Gg C)						
A. Total Forest Land																
1. Forest Land remaining Forest Land																
2. Land converted to Forest Land ⁽¹⁰⁾																
2.1 Cropland converted to Forest Land																
2.2 Grassland converted to Forest Land																
2.3 Wetlands converted to Forest Land																
2.4 Settlements converted to Forest Land																
2.5 Other Land converted to Forest Land																

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Forest Land report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ Implied carbon-stock-change factors for mineral soils are calculated by dividing the net C stock change estimate for mineral soil by the difference between the area and the area of organic soil.

⁽⁶⁾ When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.

⁽⁷⁾ The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.

⁽⁸⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to Gg by multiplying C by 44/12 and changing the sign for net CO2 removals to be negative (-) and for net CO2 emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽⁹⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽¹⁰⁾ A Party may report aggregate estimates for all conversions of land to forest land when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for grassland conversion should be provided in table 5 as an information item.

Documentation box:
Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)B.2 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Cropland
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA		IMPLIED CARBON-STOCK-CHANGE FACTORS						CHANGES IN CARBON STOCK						Net CO ₂ emissions/removals ^{(10) (11)}
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Area of organic soil ⁽²⁾ (kha)	Carbon stock change in living biomass per area ⁽³⁾ ⁽⁴⁾			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾		Carbon stock change in living biomass ^{(3), (4), (6)}			Net carbon stock change in dead organic matter ^{(4) (7)}	Net carbon stock change in soils ^{(4) (8)}		
				Gains	Losses	Net change		Mineral soils ⁽⁵⁾	Organic soils	Gains	Losses	Net change		Mineral soils	Organic soils ⁽⁹⁾	
				(Mg C/ha)						(Gg C)						
B. Total Cropland																
1. Cropland remaining Cropland																
2. Land converted to Cropland ⁽¹²⁾																
2.1 Forest Land converted to Cropland																
2.2 Grassland converted to Cropland																
2.3 Wetlands converted to Cropland																
2.4 Settlements converted to Cropland																
2.5 Other Land converted to Cropland																

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Cropland report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ Implied carbon-stock-change factors for mineral soils are calculated by dividing the net C stock change estimate for mineral soil by the difference between the area and the area of organic soil.

⁽⁶⁾ For category 5.B.1 Cropland remaining Cropland this column only includes changes in perennial woody biomass.

⁽⁷⁾ No reporting on dead organic matter pools is required for category 5.B.1. Cropland remaining Cropland.

⁽⁸⁾ When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.

⁽⁹⁾ The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.

⁽¹⁰⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to Gg C by multiplying C by 44/12 and changing the sign for net CQ removals to be negative (-) and for net CQ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽¹¹⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽¹²⁾ A Party may report aggregate estimates for all land conversions to cropland, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)B.3 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Grassland
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA		IMPLIED CARBON-STOCK-CHANGE FACTORS						CHANGES IN CARBON STOCK						Net CO ₂ emissions/ removals ^{(10) (11)}
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Area of organic soil ⁽²⁾ (kha)	Carbon stock change in living biomass per area ⁽³⁾ ⁽⁴⁾			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾		Carbon stock change in living biomass ^{(3), (4), (6)}			Net carbon stock change in dead organic matter ^{(4) (7)}	Net carbon stock change in soils ^{(4) (8)}		
				Gains	Losses	Net change		Mineral soils ⁽⁵⁾	Organic soils	Gains	Losses	Net change		Mineral soils	Organic soils ⁽⁹⁾	
								(Mg C/ha)						(Gg C)		
C. Total Grassland																
1. Grassland remaining Grassland																
2. Land converted to Grassland ⁽¹²⁾																
2.1 Forest Land converted to Grassland																
2.2 Cropland converted to Grassland																
2.3 Wetlands converted to Grassland																
2.4 Settlements converted to Grassland																
2.5 Other Land converted to Grassland																

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Grassland report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ Implied carbon-stock-change factors for mineral soils are calculated by dividing the net C stock change estimate for mineral soil by the difference between the area and the area of organic soil.

⁽⁶⁾ For category 5.C.1 Grassland remaining Grassland this column only includes changes in perennial woody biomass.

⁽⁷⁾ No reporting on dead organic matter pools is required for category 5.C.1 Grassland remaining Grassland.

⁽⁸⁾ When Parties are estimating fluxes for organic soils but cannot separate these fluxes from mineral soils, these fluxes should be reported under mineral soils.

⁽⁹⁾ The value reported for organic soils is estimated as a flux. For consistency with other entries in this column, these fluxes should be expressed in the unit required in this column, i.e. in Gg C.

⁽¹⁰⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to Gg C by multiplying C by 44/12 and changing the sign for net CQ removals to be negative (-) and for net CQ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽¹¹⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽¹²⁾ A Party may report aggregate estimates for all land conversions to grassland, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land conversion should be provided in table 5 as an information item.

Documentation box:
Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)B.4 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY
Wetlands
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED CARBON-STOCK-CHANGE FACTORS				CHANGES IN CARBON STOCK				Net CO ₂ emissions/removals ^{(5) (6)}		
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Carbon stock change in living biomass per area ^{(3) (4)}			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾	Carbon stock change in living biomass ^{(3) (4)}				Net carbon stock change in dead organic matter ⁽⁴⁾	Net carbon stock change in soils ⁽⁴⁾
			Gains	Losses	Net change			Gains	Losses	Net change			
			(Mg C/ha)					(Gg C)					
D. Total Wetlands													
1. Wetlands remaining Wetlands ⁽⁵⁾													
2. Land converted to Wetlands ⁽⁶⁾													
2.1 Forest Land converted to Wetlands													
2.2 Cropland converted to Wetlands													
2.3 Grassland converted to Wetlands													
2.4 Settlements converted to Wetlands													
2.5 Other Land converted to Wetlands													

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Wetlands report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to CO₂ by multiplying C by 44/12 and changing the sign for net CO₂ removals to be negative (-) and for net CO₂ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽⁶⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽⁷⁾ Parties may decide not to prepare estimates for this category contained in appendix 3a.3 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

⁽⁸⁾ A Party may report aggregate estimates for all land conversions to wetlands, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)B.4 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY
Wetlands
(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED EMISSION FACTOR			EMISSIONS ⁽⁵⁾		
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (ha)	CO ₂	CH ₄ (kg/ha)	N ₂ O	CO ₂ ⁽³⁾	CH ₄ ⁽⁴⁾ (Gg)	N ₂ O ⁽⁵⁾
D. Total Wetlands								
1. Wetlands remaining Wetlands ⁽⁷⁾								
1.1 Peatland remaining Peatlands								
1.2 Flooded Land remaining Flooded Land								
2. Land converted to Wetlands ⁽⁸⁾								
2.1 Land converted to Peat Extraction								
2.1 Forest Land converted to Peatlands								
2.2 Cropland converted to Peatlands								
2.3 Grassland converted to Peatlands								
2.4 Settlements converted to Peatlands								
2.5 Other Land converted to Peatlands								
2.2 Land converted to Flooded Land								
2.1 Forest Land converted to Flooded Land								
2.2 Cropland converted to Flooded Land								
2.3 Grassland converted to Flooded Land								
2.4 Settlements converted to Flooded Land								
2.5 Other Land converted to Flooded Land								
2.3 Land converted to Other Wetlands								
2.1 Forest Land converted to Other Wetlands								
2.2 Cropland converted to Other Wetlands								
2.3 Grassland converted to Other Wetlands								
2.4 Settlements converted to Other Wetlands								
2.5 Other Land converted to Other Wetlands								

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Wetlands report the cumulative area remaining in the category in the reporting year.

⁽³⁾ There is no default methodology for estimating CO₂ emissions from Flooded land remaining Flooded land.

⁽⁴⁾ There is no default methodology for estimating CH₄ emissions and information for the methods is provided in appendix 3, volume 4 of the 2006 IPCC Guidelines.

⁽⁵⁾ The N₂O emissions from Flooded Land are included in the estimates of indirect N₂O from agricultural or other run-off, and waste water.

TABLE 3(II)B.5 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Settlements

(Sheet 1 of 1)

Year

Submission

Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED CARBON-STOCK-CHANGE FACTORS					CHANGES IN CARBON STOCK					Net CO ₂ emissions/removals ^{(6) (7)}
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Carbon stock change in living biomass per area ^{(3) (4)}			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾	Carbon stock change in living biomass ^{(3), (4), (5)}			Net carbon stock change in dead organic matter ⁽⁴⁾	Net carbon stock change in soils ⁽⁴⁾	
			Gains	Losses	Net change			Gains	Losses	Net change			
			(Mg C/ha)							(Gg C)			
E. Total Settlements													
1. Settlements remaining Settlements ⁽⁸⁾													
2. Land converted to Settlements ⁽⁹⁾													
2.1 Forest Land converted to Settlements													
2.2 Cropland converted to Settlements													
2.3 Grassland converted to Settlements													
2.4 Wetlands converted to Settlements													
2.5 Other Land converted to Settlements													

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Settlements report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ For category 5.E.1 Settlements remaining Settlements this column only includes changes in perennial woody biomass.

⁽⁶⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to CO₂ by multiplying C by 44/12 and changing the sign for net CO₂ removals to be negative (-) and for net CO₂ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽⁷⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽⁸⁾ Parties may decide not to prepare estimates for this category contained in appendix 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

⁽⁹⁾ A Party may report aggregate estimates for all land conversions to settlements, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)B.6 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Other land
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED CARBON-STOCK-CHANGE FACTORS					CHANGES IN CARBON STOCK					Net CO ₂ emissions/ removals ^{(5) (6)}
Land-Use Category	Sub-division ⁽¹⁾	Area ⁽²⁾ (kha)	Carbon stock change in living biomass per area ^{(3) (4)}			Net carbon stock change in dead organic matter per area ⁽⁴⁾	Net carbon stock change in soils per area ⁽⁴⁾	Carbon stock change in living biomass ^{(3) (4)}			Net carbon stock change in dead organic matter ⁽⁴⁾	Net carbon stock change in soils ⁽⁴⁾	
			Gains	Losses	Net change			Gains	Losses	Net change			
			(Mg C/ha)							(Gg C)			
F. Total Other Land													
1. Other Land remaining Other Land ⁽⁷⁾													
2. Land converted to Other Land ⁽⁸⁾													
2.1 Forest Land converted to Other Land													
2.2 Cropland converted to Other Land													
2.3 Grassland converted to Other Land													
2.4 Wetlands converted to Other Land													
2.5 Settlements converted to Other Land													

⁽¹⁾ Land categories may be further divided according to climate zone, management system, soil type, vegetation type, tree species, ecological zone or national land classification.

⁽²⁾ The total area of the subcategories, in accordance with the sub-division used, should be entered here. For lands converted to Other Land report the cumulative area remaining in the category in the reporting year.

⁽³⁾ Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

⁽⁴⁾ The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

⁽⁵⁾ According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks are converted to CO₂ by multiplying C by 44/12 and changing the sign for net CO₂ removals to be negative (-) and for net CO₂ emissions to be positive (+). Note that carbon stock changes in a single pool are not necessarily equal to emissions or removals, because some carbon stock changes result from carbon transfers among pools rather than exchanges with the atmosphere.

⁽⁶⁾ Where Parties directly estimate emissions and removals rather than carbon stock changes, they may report emissions/removals directly in this column and use notation keys in the stock change columns.

⁽⁷⁾ This land-use category is to allow the total of identified land area to match the national area.

⁽⁸⁾ A Party may report aggregate estimates for all land conversions to other land, when data are not available to report them separately. A Party should specify in the documentation box which types of land conversion are included. Separate estimates for forest land and grassland conversion should be provided in table 5 as an information item.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)C.2-8 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Aggregate sources and non-CO2 emissions sources on land

(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Sub-division(1)	ACTIVITY DATA			IMPLIED EMISSION FACTORS		EMISSIONS ⁽³⁾	
					CO ₂ -C per unit ⁽²⁾	N ₂ O-N emissions per unit	CO ₂	N ₂ O
		Description	Unit	Value	(Mg CO ₂ -C /Mg)	(kg N ₂ O-N/kg N) ⁽³⁾	(Gg)	(Gg)
C. Aggregate sources and non-CO2 emissions sources on land								
2. Liming								
		Limestone CaCO ₃	Mg/yr					
		Dolomite CaMg(CO ₃) ₂	Mg/yr					
3. Urea application		Urea application	Mg/yr					
4. Direct N ₂ O Emissions from managed soils (3)								
Inorganic N fertilizers		N input from application of organic fertilizers (applied to all lands excluding applications to cropland and grassland)	kg N/yr					
Organic N fertilizers		N input from organic N fertilizers to (applied to all lands excluding applications to cropland and grassland)	kg N/yr					
N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils (2)		Area	ha/yr					
Drainage/management of organic soils (i.e., Histosols)(3)		Area	ha/yr					
5. Indirect N ₂ O Emissions from managed soils								
Atmospheric deposition		N volatilized from managed soils from inputs of N (synthetic N fertilizers; organic N applied as fertilizer; and N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils)	kg N/yr					
Nitrogen Leaching and Run-off		N leaching/runoff from managed soils (i.e. from synthetic N fertilizers; organic N applied as fertilizer; and N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils)	kg N/yr					
8. Other (please specify)								

(1) The table is developed to accommodate the reporting at national level. If the Party selects to report 3.C categories at the level of land categories, the relevant land categories should be specified. **The table allows flexibility for each individual activity.**

(2) The category (soil disturbance) also includes changes to cropland and grassland.

(3) The category includes emissions associated with loss/gain in soil organic matter resulting from land use change in all land categories. Grasslands and croplands are excluded for other sources of N input.

Documentation box:

TABLE 5 (I) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Direct N₂O emissions from N fertilization⁽¹⁾ of Forest Land and Other
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS ⁽⁴⁾
Land-Use Category ⁽²⁾	Total amount of fertilizer applied	N ₂ O-N emissions per unit of fertilizer	N ₂ O
	(Gg N/yr)	(kg N ₂ O-N/kg N) ⁽³⁾	(Gg)
Total for all Land Use Categories			
A. Forest Land ^{(5) (6)}			
1. Forest Land remaining Forest Land			
2. Land converted to Forest Land			
G. Other (please specify)			

⁽¹⁾ Direct N₂O emissions from fertilization are estimated using equations 3.2.17 and 3.2.18 of the IPCC good practice guidance for LULUCF based on the cumulative fertilizers applied to forest land.

⁽²⁾ N₂O emissions from N fertilization of cropland and grassland are reported in the Agriculture sector; therefore only Forest Land is included in this table.

⁽³⁾ In the calculation of the implied emission factor, N₂O emissions are converted to N₂O-N by multiplying by 28/44.

⁽⁴⁾ Emissions are reported with a positive sign.

⁽⁵⁾ If a Party is not able to separate the fertilizer applied to forest land from that applied to agriculture, it may report all N₂O emissions from fertilization in the Agriculture sector. This should be explicitly indicated in the documentation box.

⁽⁶⁾ A Party may report aggregate estimates for all N fertilization on forest land in the category Forest Land remaining Forest Land when data are not available to report Forest Land remaining Forest Land and Land converted to Forest Land separately.

Documentation box:
Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 5 (II) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Non-CO₂ emissions from drainage of soils and wetlands⁽¹⁾

(Sheet 1 of 1)

Year

Submission

Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED EMISSION FACTORS		EMISSIONS ⁽⁵⁾	
Land-Use Category ⁽²⁾	Sub-division ⁽³⁾	Area (kha)	N ₂ O-N per area ⁽⁴⁾ (kg N ₂ O-N/ha)	CH ₄ per area (kg CH ₄ /ha)	N ₂ O	CH ₄
					(Gg)	
Total all Land-Use Categories						
A. Forest Land ⁽⁶⁾						
Organic Soil						
Mineral Soil						
D. Wetlands						
Peatland ⁽⁷⁾						
Flooded Lands ⁽⁷⁾						
G. Other (please specify)						

⁽¹⁾ Parties may decide not to prepare estimates for these categories contained in appendices 3a.2 and 3a.3 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

⁽²⁾ N₂O emissions from drained cropland and grassland soils are covered in the Agriculture tables of the CRF under Cultivation of Histosols.

⁽³⁾ A Party should report further disaggregations of drained soils corresponding to the methods used. Tier 1 disaggregates soils into "nutrient rich" and "nutrient poor" areas, whereas higher-tier methods can further disaggregate into different peatland types, soil f

⁽⁴⁾ In the calculation of the implied emission factor, N₂O emissions are converted to N₂O-N by multiplying by 28/44.

⁽⁵⁾ Emissions are reported with a positive sign.

⁽⁶⁾ In table 5, these emissions will be added to 5.A.1 Forest Land remaining Forest Land.

⁽⁷⁾ In table 5, these emissions will be added to 5.D.2 Land converted to Wetlands.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 5 (III) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

N₂O emissions from disturbance associated with land-use conversion to cropland ⁽¹⁾

(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS ⁽⁴⁾
Land-Use Category ⁽²⁾	Land area converted	N ₂ O-N emissions per area converted ⁽³⁾	N ₂ O
	(kha)	(kg N ₂ O-N/ha)	(Gg)
Total all Land-Use Categories ⁽⁵⁾			
B. Cropland			
2. Lands converted to Cropland ⁽⁶⁾			
Organic Soils			
Mineral Soils			
2.1 Forest Land converted to Cropland			
Organic Soils			
Mineral Soils			
2.2 Grassland converted to Cropland			
Organic Soils			
Mineral Soils			
2.3 Wetlands converted to Cropland ⁽⁷⁾			
Organic Soils			
Mineral Soils			
2.5 Other Land converted to Cropland			
Organic Soils			
Mineral Soils			
G. Other (please specify)			

⁽¹⁾ Methodologies for N₂O emissions from disturbance associated with land-use conversion are based on equations 3.3.14 and 3.3.15 of the IPCC good practice guidance for LULUCF. N₂O emissions from fertilization in the preceding land use and new land use should not be reported.

⁽²⁾ According to the IPCC good practice guidance for LULUCF, N₂O emissions from disturbance of soils are only relevant for land conversions to cropland. N₂O emissions from Cropland remaining Cropland are included in the Agriculture sector of the good practice guidance. The good practice guidance provides methodologies only for mineral soils.

⁽³⁾ In the calculation of the implied emission factor, N₂O emissions are converted to N₂O-N by multiplying by 28/44.

⁽⁴⁾ Emissions are reported with a positive sign.

⁽⁵⁾ Parties can separate between organic and mineral soils, if they have data available.

⁽⁶⁾ If activity data cannot be disaggregated to all initial land uses, Parties may report some initial land uses aggregated under Other Land converted to Cropland (indicate in the documentation box what this category includes).

⁽⁷⁾ Parties should avoid double counting with N₂O emissions from drainage and from cultivation of organic soils reported in Agriculture under Cultivation of Histosols.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF Sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 5 (IV) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CH

CO₂ emissions from agricultural lime and urea application ⁽¹⁾

(Sheet 1 of 1)

Year

Submission

Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	EMISSIONS ⁽³⁾
Land-Use Category	Total amount applied (Mg/yr)	CO ₂ -C per unit of lime ⁽²⁾ (Mg CO ₂ -C /Mg)	CO ₂ (Gg)
Total all Land-Use Categories ^{(4), (5), (6)}			
B. Cropland ^{(6) (7)}			
Limestone CaCO ₃			
Dolomite CaMg(CO ₃) ₂			
C. Grassland ^{(6) (8)}			
Limestone CaCO ₃			
Dolomite CaMg(CO ₃) ₂			
G. Other (please specify) ^{(6) (9)}			

⁽¹⁾ CO₂ emissions from agricultural lime application are addressed in equations 3.3.6 and 3.4.11 of the IPCC good practice guidance for LULUCF.

⁽²⁾ The implied emission factor is expressed in unit of carbon to facilitate comparison with published emission factors.

⁽³⁾ Emissions are reported with a positive sign.

⁽⁴⁾ If Parties are not able to separate liming application for different land-use categories, they should include liming for all land-use categories in the category 5.G Other.

⁽⁵⁾ Parties that are able to provide data for lime application to forest land should provide this information under 5.G Other and specify in the documentation box that forest land application is included in this category.

⁽⁶⁾ A Party may report aggregate estimates for total lime applications when data are not available for limestone and dolomite.

⁽⁷⁾ In table 5, these CO₂ emissions will be added to 5.B.1 Cropland remaining Cropland.

⁽⁸⁾ In table 5, these CO₂ emissions will be added to 5.C.1 Grassland remaining Grassland.

⁽⁹⁾ If a Party has data broken down to limestone and dolomite at national level, it can report these data under 5.G Other.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table

TABLE 3(II).C.1 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Biomass Burning ⁽¹⁾

(Sheet 1 of 1)

Year

Submission

Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA			IMPLIED EMISSION FACTOR			EMISSIONS ⁽⁵⁾		
	Description ⁽³⁾	Unit	Values	CO ₂	CH ₄	N ₂ O	CO ₂ ⁽⁴⁾	CH ₄	N ₂ O
Land-Use Category ⁽²⁾		(ha or kg dm)		(Mg/activity data unit)			(Gg)		
Total for Land-Use Categories									
A. Forest Land									
1. Forest land remaining Forest Land									
Controlled Burning									
Wildfires									
2. Land converted to Forest Land									
Controlled Burning									
Wildfires									
B. Cropland									
1. Cropland remaining Cropland ⁽⁶⁾									
Controlled Burning									
Wildfires									
2. Land converted to Cropland									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Cropland									
Controlled Burning									
Wildfires									
C. Grassland									
1. Grassland remaining grassland ⁽⁷⁾									
Controlled Burning									
Wildfires									
2. Land converted to Grassland									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Grassland									
Controlled Burning									
Wildfires									
D. Wetlands									
1. Wetlands remaining Wetlands ⁽⁸⁾									
Controlled Burning									
Wildfires									
2. Land converted to Wetlands									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Wetlands									
Controlled Burning									
Wildfires									
E. Settlements ⁽⁸⁾									
F. Other Land ⁽⁹⁾									
G. Other (please specify)									

⁽¹⁾ Methodological guidance on burning can be found in sections 3.2.1.4 and 3.4.1.3 of the IPCC good practice guidance for LULUCF.⁽²⁾ Parties should report both controlled/prescribed burning and wildfires emissions, where appropriate, in a separate manner.⁽³⁾ For each category activity data should be selected between area burned or biomass burned. Units for area will be ha and for biomass burned kg dm. The implied emission factor will refer to the selected activity data with an automatic change in the units.⁽⁴⁾ If CO₂ emissions from biomass burning are not already included in tables 5.A - 5.F, they should be reported here. This should be clearly documented in the documentation box and in the NIR. Double counting should be avoided. Parties that include all carbon stock changes in the carbon stock tables (5.A, 5.B, 5.C, 5.D, 5.E and 5.F), should report IE (included elsewhere) in this column.⁽⁵⁾ Emissions are reported with a positive sign.⁽⁶⁾ In-situ above-ground woody biomass burning is reported here. Agricultural residue burning is reported in the Agriculture sector.⁽⁷⁾ Includes only emissions from controlled biomass burning on grasslands outside the tropics (prescribed savanna burning is reported under the Agriculture sector) (forest land and grassland defined as savanna should be reported under the Agriculture sector).⁽⁸⁾ Parties may decide not to prepare estimates for these categories contained in appendices 3a.2, 3a.3 and 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.⁽⁹⁾ This land-use category is to allow the total of identified land area to match the national area.**Documentation box:**

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3(II)D SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY
Harvested wood products
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA							EMISSIONS
	Annual Change in stock of HWP in use from consumption	Annual Change in stock of HWP in SWDS from consumption	Annual Change in stock of HWP in use produced from domestic harvest	Annual Change in stock of HWP in SWDS produced from domestic harvest	Annual Imports of wood, and paper products + wood fuel, pulp, recovered paper, roundwood/chips	Annual Exports of wood, and paper products + wood fuel, pulp, recovered paper, roundwood/chips	Annual Domestic Harvest	CO2
	ΔC HWP IU DC	ΔC HWP SWDS DC	ΔC HWP IU DH	ΔC HWP SWDS DH	Pim	Pex	H	
	(Gg C/yr)							(Gg)
1990								
.....								

TABLE 3 SECTORAL REPORT FOR AGRICULTURE, FORESTRY, AND OTHER LAND USE
(Sheet 1 of 2)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC
	(Gg)					
3. Total Agriculture, Forestry, and Other Land Use						
A. Livestock (4. Agriculture)						
1. Enteric Fermentation						
2. Manure Management ⁽¹⁾						
B. Land (5. LULUCF)						
1. Forest land						
2. Cropland						
3. Grassland						
4. Wetlands						
5. Settlements						
6. Other Land						
C. Aggregate sources and non-CO₂ emissions sources on land (2) (3.Agriculture/LULUCF)						
1. Biomass burning (Agriculture/LULUCF)						
2. Liming (LULUCF)						
3. Urea application (LULUCF)						
4. Direct N ₂ O Emissions from managed soils (Agriculture/LULUCF)						
5. Indirect N ₂ O Emissions from managed soils (Agriculture/LULUCF)						
6. Indirect N ₂ O Emissions from manure management (Agriculture)						
7. Rice cultivations (Agriculture)						
8. Other (please specify)						
D. Other (4.Agriculture/5. LULUCF)						
1. Harvested Wood Products						
2. Other (please specify)						

(1) Indirect N₂O emissions are not included here but under category 3.C.6.

(2) Combined data reported both for agriculture and LULUCF sector are included as sector 3. Sectoral tables 4 and 5 provide the split of the category between agriculture and LULUCF.

TABLE 3.C.1 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY
Biomass Burning ⁽¹⁾
(Sheet 1 of 1)

Year
Submission
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA			IMPLIED EMISSION FACTOR			EMISSIONS ⁽⁵⁾		
	Description ⁽²⁾	Unit	Values	CO ₂	CH ₄	N ₂ O	CO ₂ ⁽⁴⁾	CH ₄	N ₂ O
		(ha or kg dm)		(Mg/activity data unit)			(Gg)		
Total Agriculture									
Prescribed Burning of Savannas									
Forest land									
Grassland									
Field Burning of Agricultural Residues									
.....									
Total for Land-Use Categories									
A. Forest Land									
1. Forest land remaining Forest Land									
Controlled Burning									
Wildfires									
2. Land converted to Forest Land									
Controlled Burning									
Wildfires									
B. Cropland									
1. Cropland remaining Cropland ⁽³⁾									
Controlled Burning									
Wildfires									
2. Land converted to Cropland									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Cropland									
Controlled Burning									
Wildfires									
C. Grassland									
1. Grassland remaining grassland ⁽³⁾									
Controlled Burning									
Wildfires									
2. Land converted to Grassland									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Grassland									
Controlled Burning									
Wildfires									
D. Wetlands									
1. Wetlands remaining Wetlands ⁽³⁾									
Controlled Burning									
Wildfires									
2. Land converted to Wetlands									
Controlled Burning									
Wildfires									
2.1. Forest Land converted to Wetlands									
Controlled Burning									
Wildfires									
E. Settlements ⁽⁶⁾									
F. Other Land ⁽⁶⁾									
G. Other (please specify)									

⁽¹⁾ Methodological guidance on burning can be found in sections 3.2.1.4 and 3.4.1.3 of the IPCC good practice guidance for LULUCF.

⁽²⁾ Parties should report both controlled/prescribed burning and wildfires emissions, where appropriate, in a separate manner.

⁽³⁾ For each category activity data should be selected between area burned or biomass burned. Units for area will be ha and for biomass burned kg dm. The implied emission factor will refer to the selected activity data with an automatic change in the units.

⁽⁴⁾ If CO₂ emissions from biomass burning are not already included in tables 5.A - 5.F, they should be reported here. This should be clearly documented in the documentation box and in the NIR. Double counting should be avoided. Parties that include all carbon stock changes in the carbon stock tables (5.A, 5.B, 5.C, 5.D, 5.E and 5.F), should report IE (included elsewhere) in this column.

⁽⁵⁾ Emissions are reported with a positive sign.

⁽⁶⁾ In-situ above-ground woody biomass burning is reported here. Agricultural residue burning is reported in the Agriculture sector.

⁽⁷⁾ Includes only emissions from controlled biomass burning on grasslands outside the tropics ~~prescribed savanna burning is reported under the Agriculture sector~~ **forest land and grassland defined as savanna should be reported under the Agriculture sector**

⁽⁸⁾ Parties may decide not to prepare estimates for these categories contained in appendices 3a.2, 3a.3 and 3a.4 of the IPCC good practice guidance for LULUCF, although they may do so if they wish.

⁽⁹⁾ This land-use category is to allow the total of identified land area to match the national area.

Documentation box:

Parties should provide detailed explanations on the Land Use, Land-Use Change and Forestry sector in Chapter 7: Land Use, Land-Use Change and Forestry (CRF sector 5) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.

TABLE 3.C.2-8 SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

Aggregate sources and non-CO2 emissions sources on land

(Sheet 1 of 2)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA			IMPLIED EMISSION		EMISSIONS ⁽³⁾	
				CH4	N ₂ O-N emissions per unit	CH4	N2O
	Description	Unit	Value		(kg N ₂ O-N/kg N) ⁽³⁾	(Gg)	(Gg)
Total Agriculture							
4. Direct N2O Emissions from Managed Soils							
1. Inorganic N fertilizers(4)	N input from application of organic fertilizers to cropland and grassland	kg N/yr					
2. Organic N fertilizers(4)	N input from organic N fertilizers to cropland and grassland	kg N/yr					
a. Animal manure applied to soils	N input from manure applied to soils	kg N/yr					
b. Swage sludge applied to soils	N input from swage sludge applied to soils	kg N/yr					
c. Other organic fertilizers applied to soils	N input from application of other fertilizers	kg N/yr					
3. Urine and dung deposited by Grazing Animals	N excretion on pasture, range and paddock	kg N/yr					
4. Crop residues	N in crop residues returned to soils	kg N/yr					
5. Cultivation of organic soils (i.e. Histosols) (2)	Area of cultivated organic soils	ha/yr					
5. Indirect N2O Emissions from Managed Soils							
1. Atmospheric Deposition(3)	Volatized N from agricultural inputs of N	kg N/yr					
2. Nitrogen Leaching and Run-off	N from fertilizers and other that is lost through leaching and run-off	kg N/yr					
6. Indirect N2O Emissions from Manure Management							
1. Atmospheric Deposition	Volatized N from manures management systems	kg N/yr					
2. Nitrogen Leaching and Run-off	N from manure management systems that is lost through leaching and run-off	kg N/yr					
7. Rice cultivation							
a. Irrigated	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Continuously Flooded	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Intermittently Single Aeration	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Multiple Aeration	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
b. Rainfed	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Flood Prone	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Drought Prone	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
Deep water	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
c. Upland	Harvested area ⁽²⁾	(10 ⁹ m ² /yr)					
8. Other							

Aggregate sources and non-CO2 emissions sources on land
(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Sub-division(1)	ACTIVITY DATA			IMPLIED EMISSION FACTORS		EMISSIONS ⁽³⁾	
					CO ₂ -C per unit ⁽²⁾	N ₂ O-N emissions per unit	CO ₂	N ₂ O
		Description	Unit	Value	(Mg CO ₂ -C /Mg)	(kg N ₂ O-N/kg N) ⁽³⁾	(Gg)	(Gg)
Total LULUCF								
2. Liming								
		Limestone CaCO ₃	Mg/yr					
		Dolomite CaMg(CO ₃) ₂	Mg/yr					
3. Urea application		Urea application	Mg/yr					
4. Direct N ₂ O Emissions from managed soils (3)								
Inorganic N fertilizers		N input from application of organic fertilizers to forest and all other land	kg N/yr					
Organic N fertilizers		N input from organic N fertilizers to forest and all other land	kg N/yr					
N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils		Area	ha/yr					
Drainage/management of organic soils (i.e., Histosols)		Area	ha/yr					
5. Indirect N ₂ O Emissions from managed soils								
Atmospheric deposition		N volatilized from managed soils from agricultural inputs of N (synthetic N fertilizers; organic N applied as fertilizer; and N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils)	kg N/yr					
Nitrogen Leaching and Run-off		N leaching/runoff from managed soils (i.e. from synthetic N fertilizers; organic N applied as fertilizer; and N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils)	kg N/yr					
8. Other (please specify)								

(1) The table is developed to accommodate the reporting at national level. If the Party selects to report 3.C categories at the level of land categories, the relevant land categories should be specified.