

Annex 8.1. Sample based estimates of area (ha) of deforestation and forest degradation for each pair of land cover maps

Land cover maps exist for the years 2006, 2009, 2011, 2012, 2013, 2014, 2015, and 2016. The tables below show the transition for deforestation (forest condition to non-forest condition) and for forest degradation (primary forest condition to secondary forest condition) for each adjacent pair of map years. These estimates reflect the final sample-based estimates of area developed following application of the accuracy assessment of the 2006-2016 change (see Annex 12.1, Estimation of Uncertainty of Activity Data) for details. The data in these tables represent the detailed Activity Data which were combined with the respective Emission Factors to derive estimates of emissions for deforestation and forest degradation.

The row and column heads in each table correspond to the 24 classes of land cover/land use mapping:

Forest Classes	Forest Class Code	Non Forest Classes	Non Forest Class Code
Primary dry land forest	2001	Plantation forest	2006
Secondary dry land forest / logged forest	2002	Dry shrub	2007
Primary swamp forest	2005	Wet shrub ^[L] _[SEP]	20071
Secondary swamp forest / logged forest	20051	Savanna and Grasses ^[L] _[SEP]	3000
Primary mangrove forest	2004	Pure dry agriculture ^[L] _[SEP]	20091
Secondary mangrove forest / logged forest	20041	Mixed dry agriculture ^[L] _[SEP]	20092
		Estate crop	2010
		Paddy field	20093
		Transmigration areas	20122
		Fish pond/aquaculture	20094
		Bare ground	2014
		Mining areas	20141
		Settlement areas	2012
		Port and harbor	20121
		Open water	5001
		Open swamps	50011

DEFORESTATION

Note, the rows and columns in each table are limited to those cover classes where deforestation or degradation occurred in each specific time interval, thus the specific combination of (rows, columns) varies for each table.

Deforestation (Forest to Non-Forest) Transition Matrix for 2006-2009 (ha)										
2006 Forest Class	2009 Non-Forest Class									
	2006	2007	2010	2012	2014	20071	20092	20094	20141	2006 Total
2001	-	2,939	-	-	-	-	-	-	-	2,939
2002	969	171,933	76,570	164	35,671	-	7,291	-	7,839	300,436
2004	-	-	3	-	-	150	-	22	-	174
2005	-	-	78	-	-	-	-	-	-	78
20041	-	-	194	13	287	5,411	440	1,302	19	7,667
20051	-	-	290	-	-	1,542	64	-	65	1,961
2009 Total	969	174,871	77,134	177	35,958	7,102	7,795	1,324	7,924	313,255

Deforestation (Forest to Non-Forest) Transition Matrix for 2009-2011 (ha)										
2009 Forest Class	2011 Non-Forest Class									
	2007	2010	2012	2014	20071	20092	20094	20141	2009 Total	
2002	38,619	16,740	-	26,062	-	1,873	-	9,830	93,123	
2004	-	-	-	36	-	-	-	-	36	
20041	-	-	19	103	404	-	87	-	613	
20051	-	-	-	1,525	79	458	-	-	2,062	
2011 Total	38,619	16,740	19	27,727	483	2,331	87	9,830	95,835	

Deforestation (Forest to Non-Forest) Transition Matrix for 2011-2012 (ha)										
2011 Forest Class	2012 Non-Forest Class									
	2006	2007	2010	2012	2014	20071	20092	20094	20141	2011 Total
2001	-	3,593	1,623	-	165	-	36	-	-	5,777
2002	1,662	58,653	50,803	2	31,730	-	11,188	-	3,515	157,553
2004	-	-	41	-	66	-	-	14	-	121
2005	-	-	672	-	-	-	-	-	-	672
20041	-	-	121	-	306	97	-	646	-	1,169
20051	-	-	-	502	-	-	-	-	-	502
2012 Total	1,662	62,606	53,260	504	32,266	97	11,224	660	3,515	165,794

Deforestation (Forest to Non-Forest) Transition Matrix for 2012-2013 (ha)										
2012 Forest Class	2013 Non-Forest Class									
	2006	2007	2010	2014	20071	20092	20094	20141	2012 Total	
2001	-	80	-	-	-	-	-	-	-	80
2002	88	65,794	17,485	15,350	26	4,558	-	2,712	-	106,014
2004	-	-	-	-	185	-	-	4	-	189
20041	-	38	-	89	1,488	-	1,130	67	-	2,812
20051	-	118	509	3,066	4,167	-	2,410	-	-	10,270
2013 Total	88	66,030	17,995	18,505	5,865	4,558	3,540	2,784	-	119,365

Deforestation (Forest to Non-Forest) Transition Matrix for 2013-2014 (ha)										
2013 Forest Class	2014 Non-Forest Class									
	2006	2007	2010	2012	2014	20071	20091	20092	20141	2013 Total
2001	-	5	-	-	34	-	-	161	-	200
2002	24,224	16,671	300	14	8,862	16	588	913	1,130	52,718
20041	5	-	-	-	237	298	-	33	-	572
20051	-	-	1,855	-	214	18	56	-	-	2,142
2014 Total	24,229	16,677	2,154	14	9,346	331	644	1,107	1,130	55,633

Deforestation (Forest to Non-Forest) Transition Matrix for 2014-2015 (ha)								
2014 Forest Class	2015 Non-Forest Class							
	2006	2007	2010	2014	20092	20094	20141	2014 Total
2001	-	11	-	1,700	-	-	-	1,711
2002	174	19,849	9,232	49,965	5,355	-	2,661	87,236
2004	-	-	-	193	-	-	-	193
2005	-	-	-	200	-	-	-	200
20041	-	-	2,421	1,114	-	2,746	110	6,390
20051	-	-	-	4,891	-	1,157	-	6,048
2015 Total	174	19,861	11,653	58,063	5,355	3,902	2,770	101,778

Deforestation (Forest to Non-Forest) Transition Matrix for 2015-2016 (ha)														
2015 Forest Class	2016 Non-Forest Class													
	2006	2007	2010	2012	2014	5001	20071	20092	20094	20121	20122	20141	50011	2015 Total
2001	-	315	-	-	1,216	2	-	421	-	-	-	-	-	1,954
2002	41,470	125,070	24,051	107	67,695	45	1,392	48,047	-	-	-	6,663	2	314,542
2004	-	85	30	-	27	39	67	12	179	-	-	-	-	440
20041	-	17	876	37	1,625	96	135	928	1,218	31	4	168	-	5,135
20051	-	-	536	82	2,034	-	5,346	128	147	-	-	-	-	8,274
2016 Total	41,470	125,487	25,493	226	72,596	182	6,941	49,538	1,545	31	4	6,832	2	330,346

FOREST DEGRADATION

Degradation (Primary to Secondary Forest) Transition Matrix for 2006-2009 (ha)				
2006 Primary Forest Class	2009 Secondary Forest Class			
	2002	20041	20051	2006 Total
2001	39,801	-	-	39,801
2004	-	1,563	-	1,563
2005	-	-	-	-
2009 Total	39,801	1,563	-	41,363

Degradation (Primary to Secondary Forest) Transition Matrix for 2009-2011 (ha)				
2009 Primary Forest Class	2011 Secondary Forest Class			
	2002	20041	20051	2009 Total
2001	1,852	-	-	1,852
2004	-	-	-	-
2005	-	-	-	-
2011 Total	1,852	-	-	1,852

Degradation (Primary to Secondary Forest) Transition Matrix for 2011-2012 (ha)				
2011 Primary Forest Class	2012 Secondary Forest Class			
	2002	20041	20051	2011 Total
2001	402	-	-	402
2004	-	-	-	-
2005	-	-	-	-
2012 Total	402	-	-	402

Degradation (Primary to Secondary Forest) Transition Matrix for 2012-2013 (ha)				
2012 Primary Forest Class	2013 Secondary Forest Class			
	2002	20041	20051	2012 Total
2001	-	-	-	-
2004	-	9	-	9
2005	-	-	2,252	2,252
2013 Total	-	9	2,252	2,262

Degradation (Primary to Secondary Forest) Transition Matrix for 2012-2013 (ha)				
2013 Primary Forest Class	2014 Secondary Forest Class			
	2002	20041	20051	2013 Total
2001	2,353	-	-	2,353
2004	-	-	-	-
2005	-	-	245	245
2014 Total	2,353	-	245	2,598

Degradation (Primary to Secondary Forest) Transition Matrix for 2012-2013 (ha)				
2014 Primary Forest Class	2015 Secondary Forest Class			
	2002	20041	20051	2014 Total
2001	23,827.07	-	-	23827
2004	-	79.26	-	79
2005	-	-	2,090.21	2090
2015 Total	23827	79	2090	25997

Degradation (Primary to Secondary Forest) Transition Matrix for 2015-2016 (ha)				
2015 Primary Forest Class	2016 Secondary Forest Class			
	2002	20041	20051	2015 Total
2001	8,709	-	-	8,709
2004	-	9	-	9
2005	-	-	-	-
2016 Total	8,709	9	-	8,718