FAO Support to Member Countries: QA/QC activities and tools in FAOSTAT

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Monitoring and Assessment of GHG in Agriculture

The 12th Workshop on GHG Inventories in Asia (WGIA12)
Capacity building for measurability, reportability and verifiability
Bangkok, Aug 4-6 2014

FAO Objectives

- Identify mitigation strategies that are consistent with food security, resilience and rural development goals

- Support member countries to improve rural statistics and report their GHG emissions from agriculture, forestry and the land use sector –NCs, BURs, NAMAs

- Coordinate with relevant international programmes towards coherent frameworks, focusing national statistical processes –UNDP; UNREDD; Global Strategy

FAO Activities

- Global data: FAOSTAT Emissions database for AFOLU, 1961-present, with country detail
- Knowledge generation: IPCC AR5 and IPCC Guidelines, GHG Reports
- Capacity Development: Support member countries identify and report GHG data for AFOLU –Manuals, Infografix

FAOSTAT Emissions Database

Food and Agriculture Organization of the United Nations
FAOSTAT

& geo-reference data

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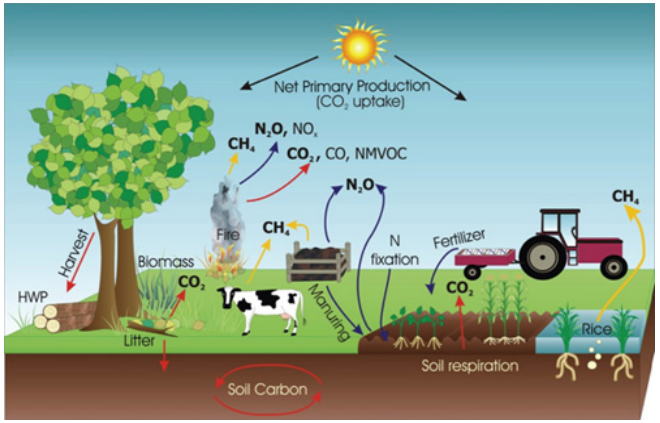

IPCC 2006 Guidelines

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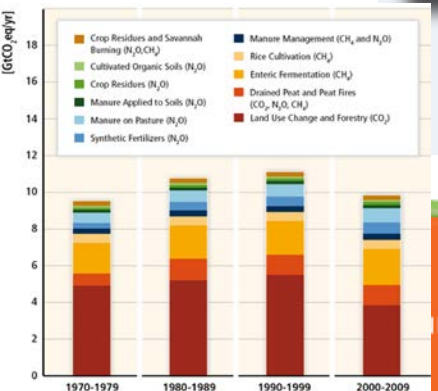
IPCC AR WGIII



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GHG Emissions Statistics: Categories

DOMAIN	CATEGORY		GAS reported	Data source
Agriculture	Enteric Fermentation		CH_4	FAOSTAT
	Manure Management		CH_4, N_2O	FAOSTAT
	Rice Cultivation		CH_4	FAOSTAT
	Agricultural soils	Synthetic Fertilizers	N_2O	FAOSTAT
		Manure applied to soils	N_2O	FAOSTAT
		Manure left on pasture	N_2O	FAOSTAT
		Crop residues	N_2O	FAOSTAT
		Cultivated organic soils	N_2O	HWSD, GLC2000
	Burning - Savanna		CH_4, N_2O	GFED4, JRC, FRA-GEZ
	Burning – Crop residues		CH_4, N_2O	FAOSTAT

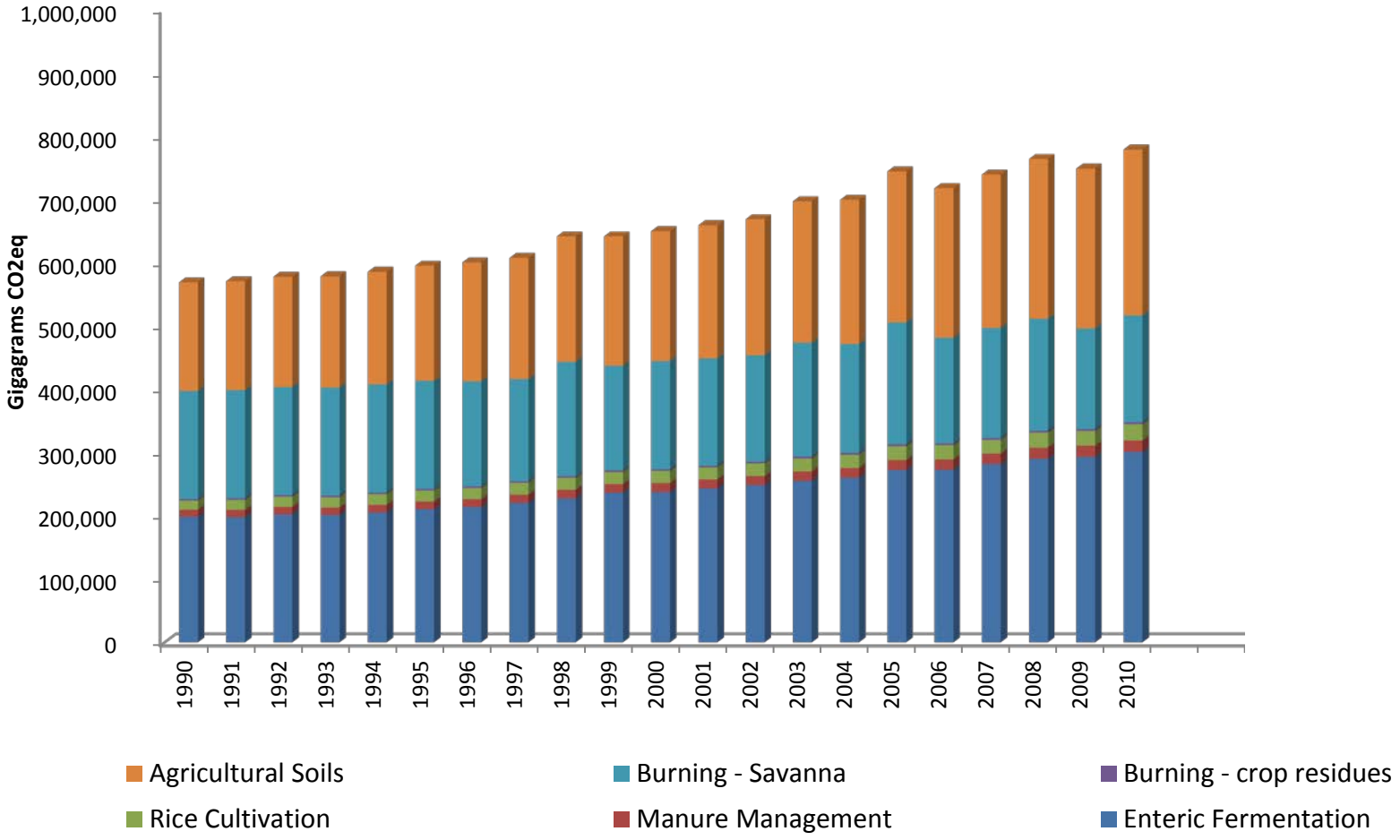
DOMAIN	CATEGORY	GAS reported	Data source
LULUCF	Forest land	CO_2	FRA
	Cropland	CO_2	FAOSTAT, HWSD, GLC2000
	Grassland	CO_2	FAOSTAT, HWSD, GLC2000
	Burning Biomass	CH_4, N_2O, CO_2	FRA, HWSD
	Wetlands	CO_2	
	Settlements	CO_2	
	Other land	CO_2	

Addressing different data analysis needs:

1. National, Regional and Global Assessments: Facilitate regional comparisons and trend analysis for AFOLU –IPCC AR5
2. Fill data gaps and QA/QC procedures: Provide a reference, Tier 1 data framework for analysis of AFOLU GHG trends for all countries–EU 28 QA/QC in 2014 using FAOSTAT Emissions data
3. Develop Indicators: Derive complex GHG indexes useful for analysis and policy support
4. Access geo-referenced data: Move beyond nationally aggregated statistics for the land use sector

Available Analysis Tools in FAOSTAT Emissions Database

1b. Global and Regional Analysis



Source: FAOSTAT

2. Fill data gaps and QA/QC

World Top non-Annex I Emitters for Enteric Fermentation

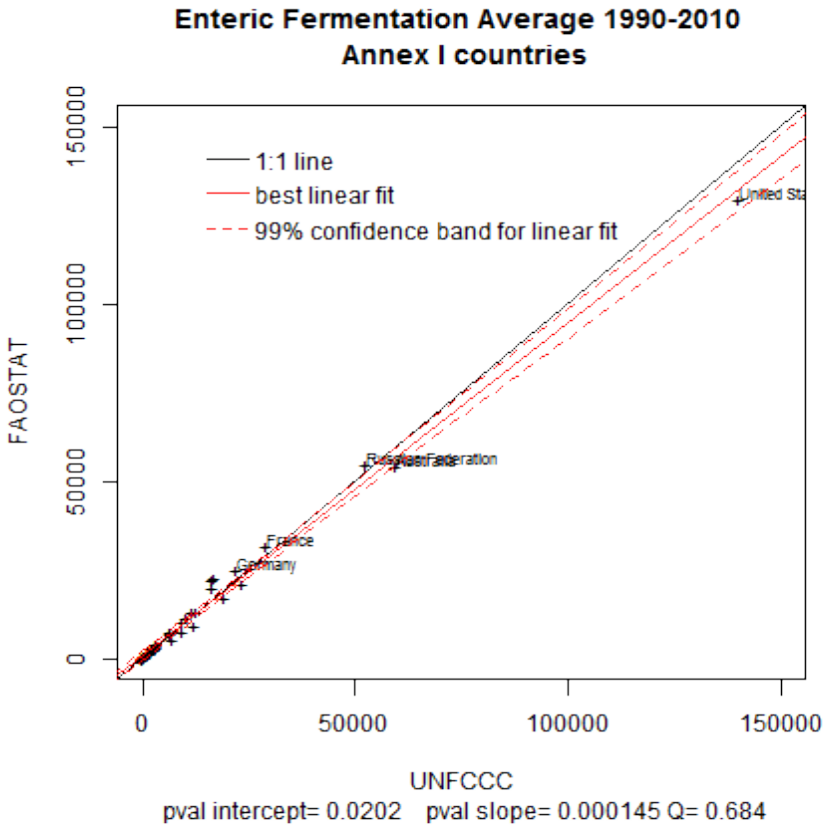
UNFCC National Communications

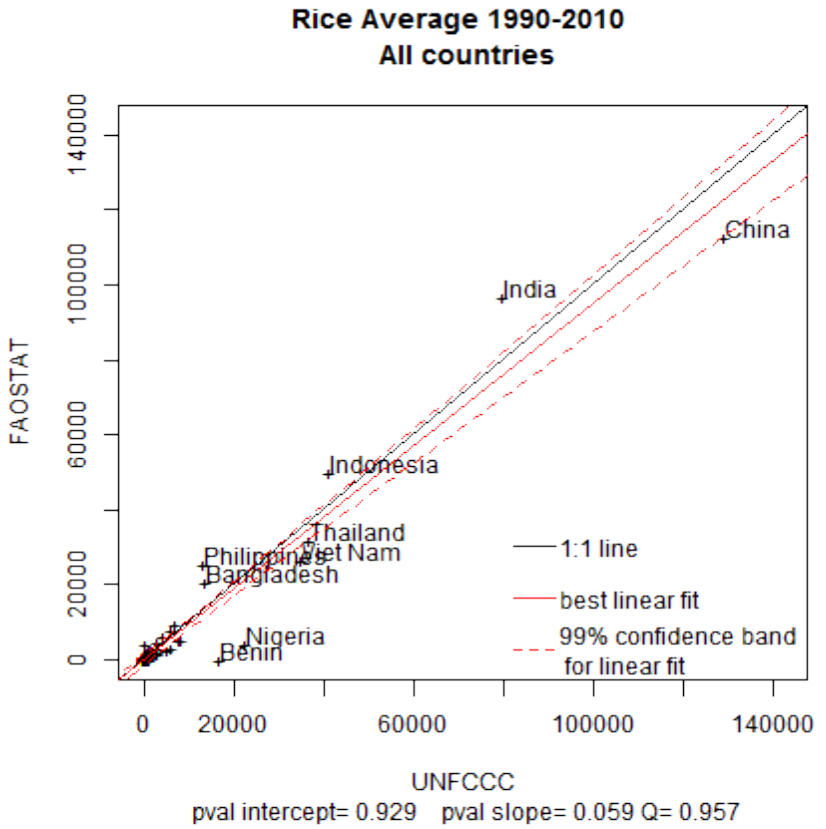
	A	B	C	D	E	F	G	H	E
1990		176,799			57,376		38,803		25,946
1991		1							
1992		1							
1993		1							
1994	188,412	1							
1995		1							
1996		1							
1997		1							
1998		1							
1999		1							
2000		2							
2001		2							
2002		2							
2003		2							
2004		2							
2005		2							
2006									
2007									
2008									
2009									
2010									

FAOSTAT GHG Emissions

	A	B	C	D	E	F	G	H	E
1990	246,450	188,093	141,675	41,106	67,689	21,742	44,041	28,071	31,523
1991	249,275	194,457	143,960	41,928	66,986	22,782	43,359	28,229	31,552
1992	253,058	197,107	145,539	42,770	67,470	25,916	41,902	28,987	32,091
1993	254,170	197,699	149,119	43,637	66,362	28,651	42,500	23,944	32,791
1994	255,644	201,563	155,786	44,530	66,852	30,949	42,476	24,232	33,257
1995	256,993	205,399	168,819	45,448	66,046	31,949	41,866	24,160	33,270
1996	258,404	198,450	171,884	47,596	63,773	33,110	40,736	25,261	34,045
1997	258,921	202,406	155,716	48,710	62,792	34,494	42,423	26,306	33,560
1998	259,181	204,584	168,031	49,865	60,497	35,907	42,740	28,533	33,695
1999	259,415	206,482	172,516	51,196	61,782	37,527	41,774	28,148	32,103
2000	259,328	213,002	176,259	52,314	61,310	39,132	42,213	26,460	32,255
2001	260,434	220,798	172,511	53,612	61,500	40,653	42,397	28,431	32,484
2002	261,129	231,523	166,840	54,960	65,067	41,128	43,336	32,675	32,828
2003	262,269	243,718	165,427	56,414	69,603	43,059	43,453	31,742	32,933
2004	267,000	254,599	165,799	57,804	70,851	43,627	43,230	32,235	33,116
2005	272,048	258,066	165,890	59,324	71,220	44,698	42,887	33,854	34,087
2006	276,763	256,721	163,496	64,387	72,879	45,526	43,122	36,330	34,099
2007	282,726	249,409	156,475	66,385	73,368	45,807	43,443	40,194	34,404
2008	287,997	252,600	157,501	68,470	72,060	45,847	43,922	42,008	34,535
2009	292,914	256,324	157,724	70,624	68,426	46,168	44,649	42,871	35,562
2010	300,981	261,675	159,814	72,931	61,953	46,557	45,070	43,052	35,846

2. Fill data gaps and QA/QC





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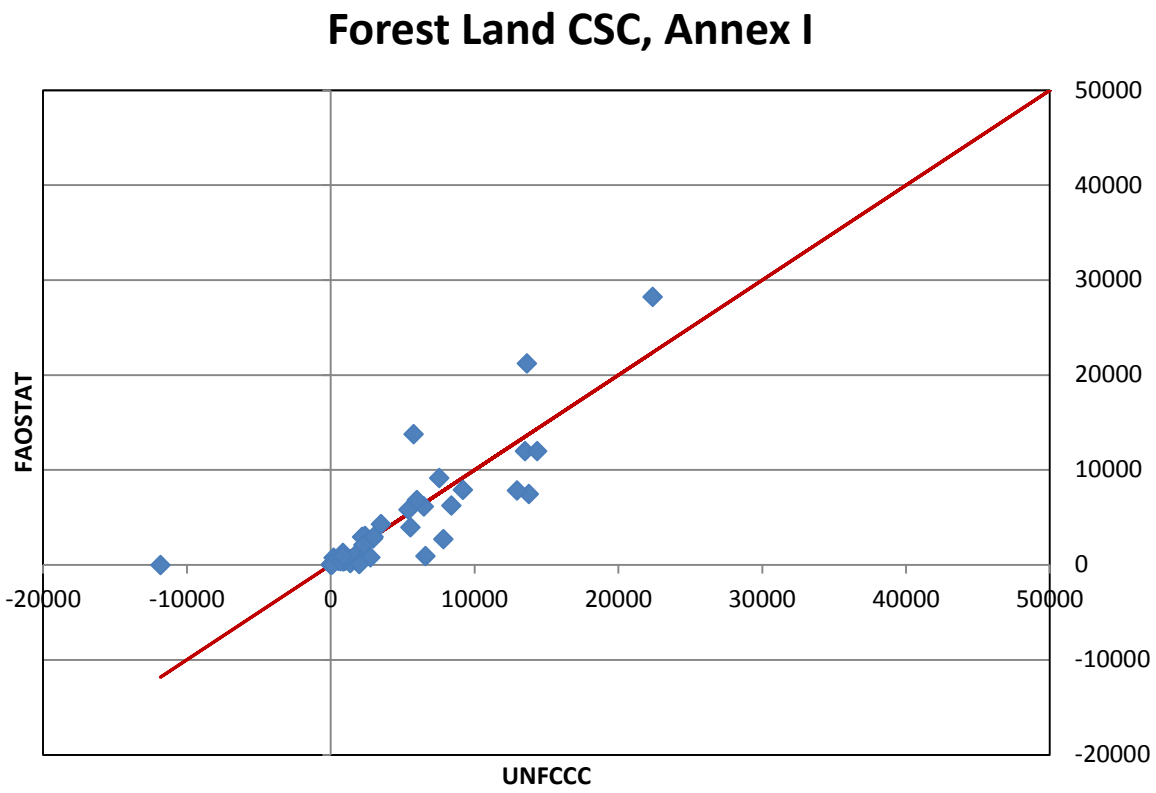
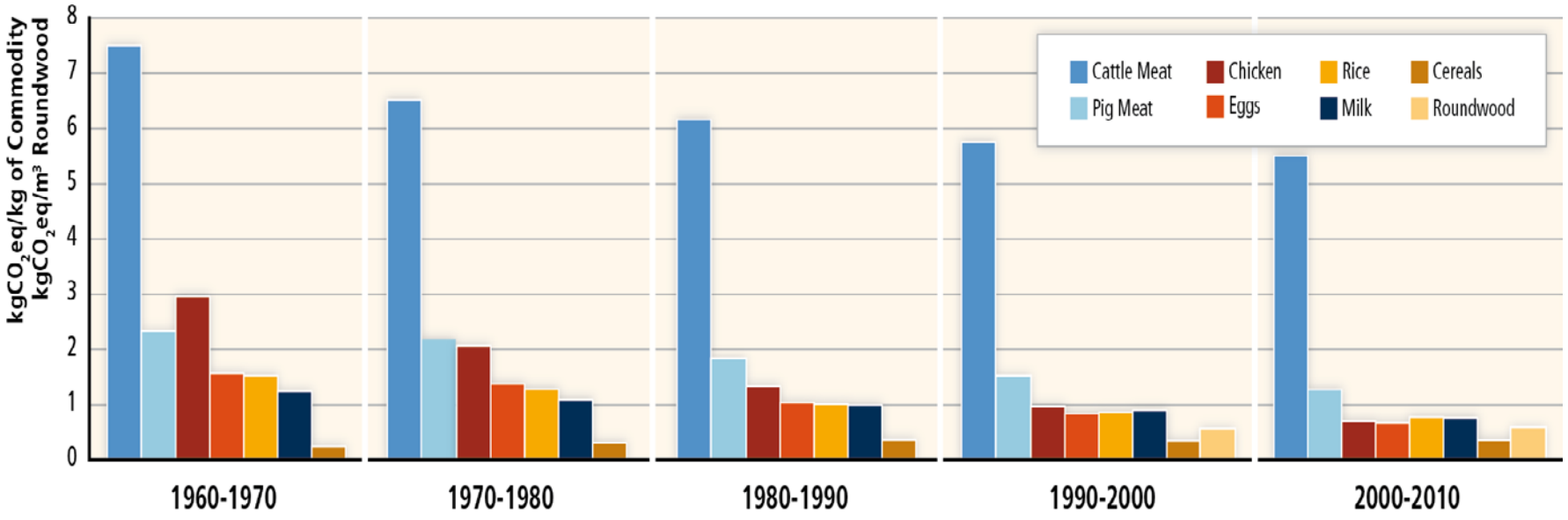


3. Develop indicators



Activities on capacity development

- **Technical capacities, in support of Member Countries to**:
  - assess and report GHG emissions from agriculture, including land use activities (Biennial Update Report, BUR)
  - identify mitigation options, including Nationally appropriate mitigation actions (NAMAs)
- **Functional capacities, to strengthen institutions coordination and cooperation:**
  - capacities to access, generate, manage and exchange information and knowledge towards robust national data systems
  - capacities to engage with relevant national and international agencies and institutions for efficient support to countries
- **Three levels:** Regional; Sub-regional; National

Regional level – CD activities

- **Inception Workshop on Greenhouse Gas Emissions Statistics**

  Da Lat, Viet Nam, 5 - 6 October 2012

  33 participants; 18 countries (Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, LAO PDR, Korea ROK, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam)

- **Second FAO workshop on Statistics for Greenhouse Gases Emissions**

  Port of Spain, Trinidad and Tobago, 3 - 4 June 2013

  29 participants; 18 countries (Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Dominican Republic, Peru, Uruguay, and Trinidad and Tobago)

- **Third FAO Regional workshop on Statistics for Greenhouse Gas Emissions**

  Casablanca, Morocco, 2 - 3 December 2013

  37 participants; 23 countries (Algeria, Cameroon, Central African Republic, Congo Dem. Rep., Cote d'Ivoire, Egypt, Ethiopia, Gabon, Ghana, Kenya, Madagascar, Mali, Mauritania, Morocco, Namibia, Nigeria, Rwanda, Senegal, South Africa, Sudan, United Republic of Tanzania, Uganda, and Zambia).

Sub-Regional Level

- **Workshop on Thematic Geospatial Information in Tropical Peatlands for Agriculture**

  Bogor, Indonesia, 7- 8 November 2013

  70 participants; 3 countries (Indonesia, Papua New Guinea, Malaysia)

- **Meso-American working group to support Biennial Update Report (BUR) preparation**

  San José, Indonesia, 21-23 July 2014

  80 participants; 15 countries --al Mesoamerica plus Colombia, Ecuador, Argentina, Uruguay, Mexico

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National level– CD activities

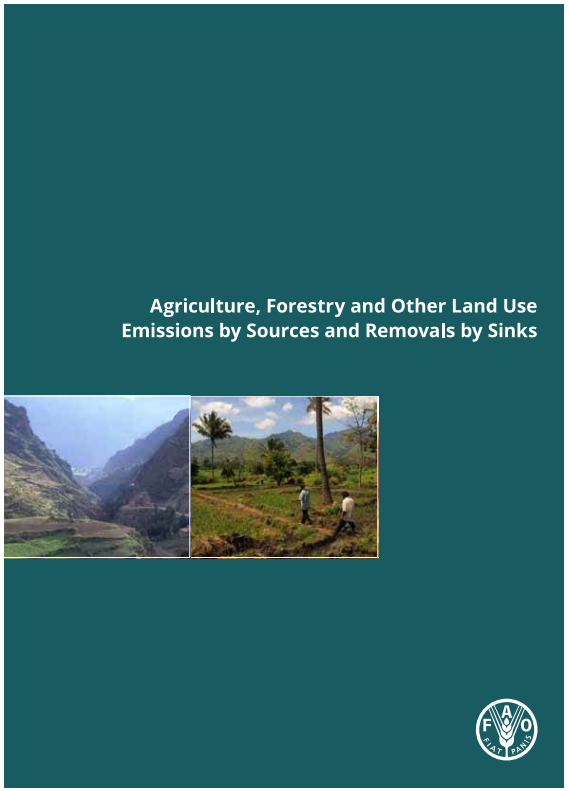
- **Ecuador, Mexico, Uruguay, Costa Rica**
  - AFOLU GHG emission inventory (BURs, TNC)
  - Coordinated process: FAO, UNDP and UN-REDD

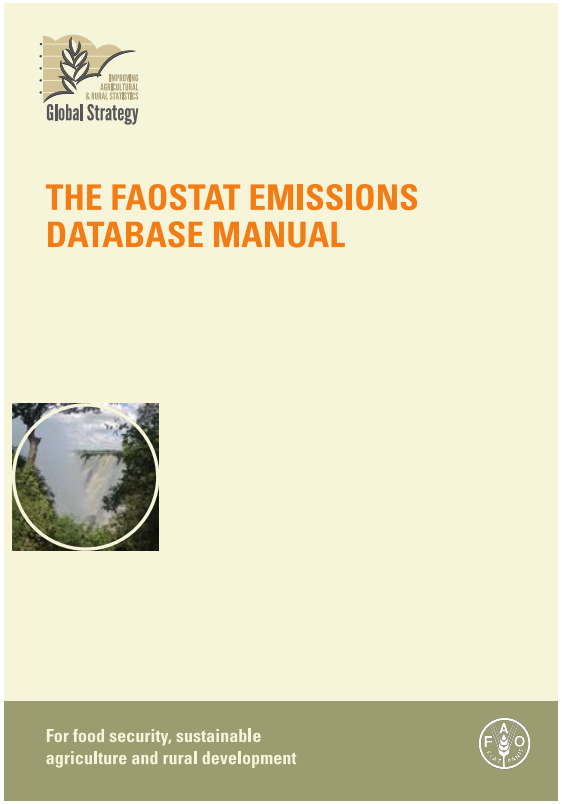
- **Indonesia:**
  - GHG mitigation: peatlands management (NAMA)
  - Facilitate a coordinated national data system for peatlands

Conclusions

- Availability of a global greenhouse gas emission database by country, as tool to support member countries perform QA/QC analyses on activity data and GHG emissions
- Implementation of Robust Regional Capacity Development Program with Country activities
- Focus on building coherency among relevant programmes, aimed at increasing efficiency of country impacts and donor resources

Thank you for Your Attention!





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