FAOSTAT emissions database and Capacity Development for supporting GHG inventories and mitigation actions

FAO Monitoring and Assessment of Greenhouse Gas emissions in Agriculture

FAO - MAGHG

Federal Ministry of Food, Agriculture and Consumer Protection

NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

NAME OF THE WORKSHOP

Outline

- Background
- FAOSTAT emissions database
- Capacity development
- Conclusions

FAO Objectives

- Identify mitigation strategies that are consistent with food security, resilience and rural development goals.
- Improve data and support Member Countries assess and report their GHG emissions from, agriculture, forestry and the land use sector –BURs, NAMAs.
- Collaborate with relevant international programmes towards coherent frameworks, focusing on improved rural statistical data.

FAO Activities

- Development of a global GHG emissions database within FAOSTAT, with country detail, in collaboration with FAO departments, academia and international organizations.
- Direct contribution to IPCC AR5, IPCC Revised GHG Guidelines, UNFCCC COP/MOP and SBSTA events.
- Regional Capacity Development workshops with Member Countries to build capacity to report and identify mitigation strategies.
- Build synergies with UNDP, UNREDD, Global Strategy.

FAOSTAT Emissions Database

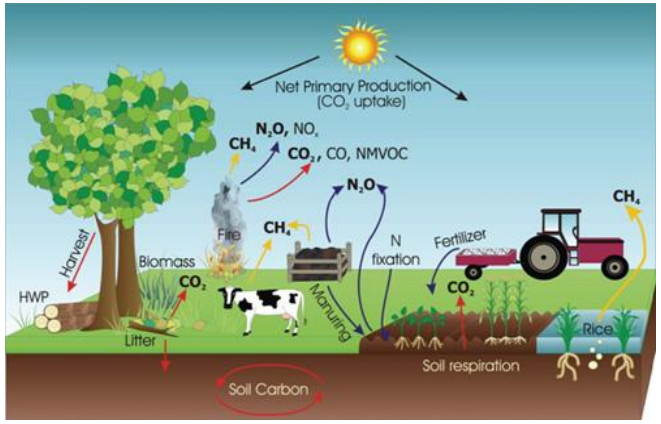
Food and Agriculture Organization of the United Nations
FAOSTAT

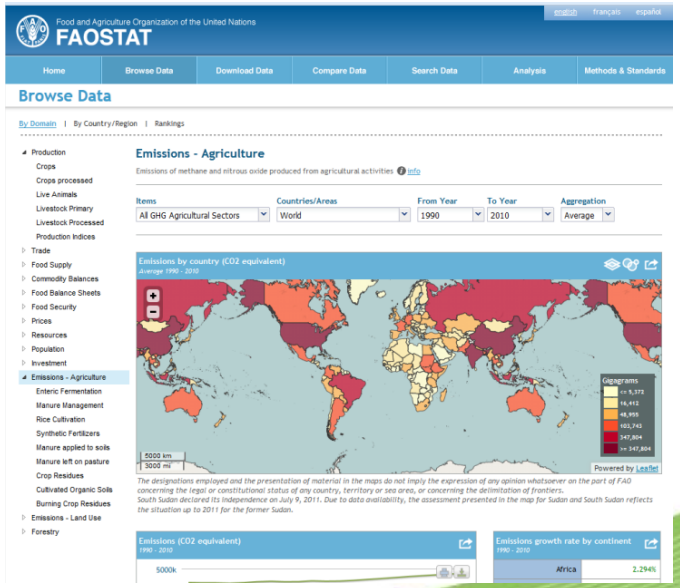
& geo-reference data

+

IPCC 2006 Guidelines

=





GHG emissions : categories

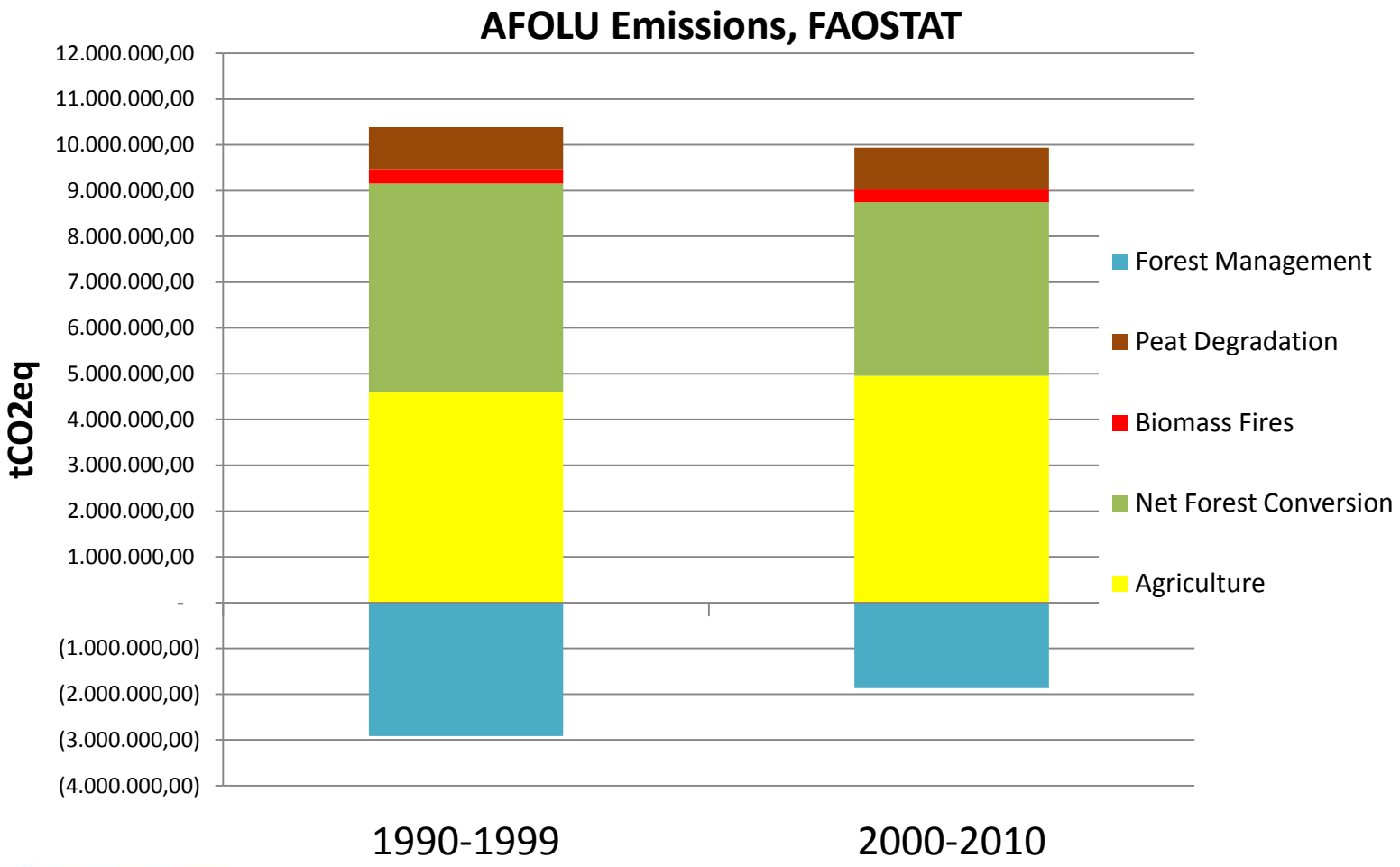
DOMAIN	CATEGORY		GAS	Data source
Emissions- Agriculture	Enteric Fermentation		CH_4	FAOSTAT
	Manure Management		CH_4, N_2O	FAOSTAT
	Rice Cultivation		CH_4	FAOSTAT
	Agricultural soils	Synthetic Fertilizers	N_2O	FAOSTAT
		Manure applied to soils	N_2O	FAOSTAT
		Manure left on pasture	N_2O	FAOSTAT
		Crop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

DOMAIN	CATEGORY	GAS	Data source
Emissions- Land Use	Forest land	CO_2	FRA
	Cropland	CO_2	HWSD, GLC2000
	Grassland	CO_2	HWSD, GLC2000
	Burning Biomass	CH_4, N_2O, CO_2	GFED4, FRA-GEZ, HWSD
	Wetlands	CO_2	
	Settlements	CO_2	
	Other land	CO_2	

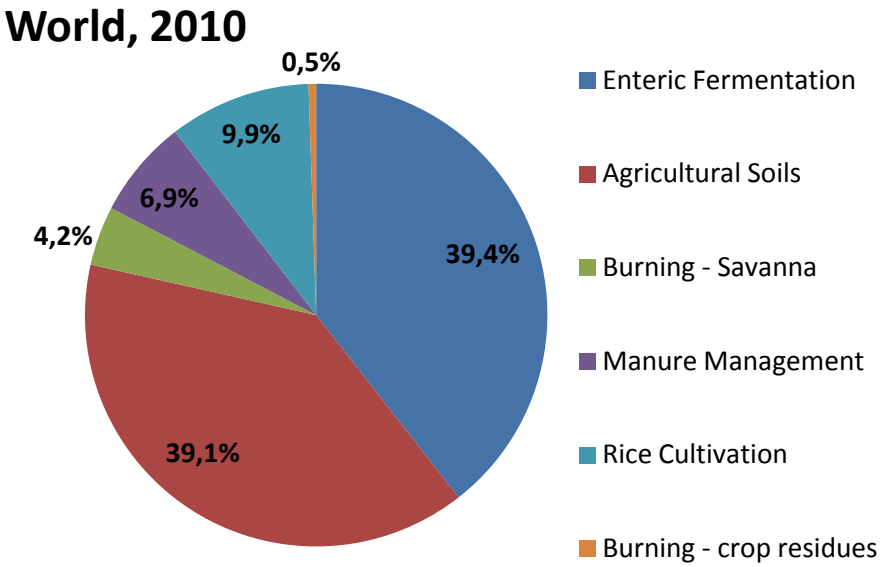
Addressing different needs

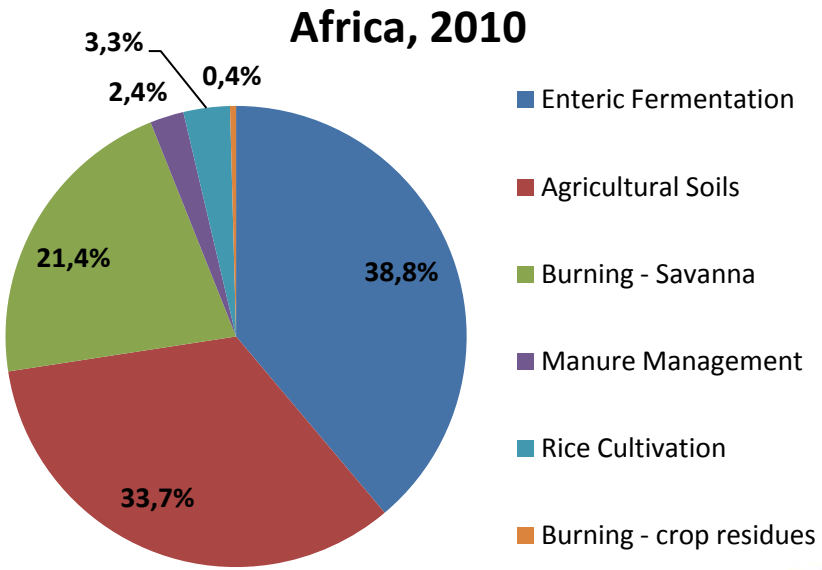
1. Global and regional assessments: Unlike for energy, no international agency regularly reports for GHG from agriculture.
2. Fill data gaps and build capacity: a bridging tool for many non-Annex I parties.
3. QA/QC procedures and data analysis: provide an internationally accepted and neutral data platform in support of national reporting.
4. Develop indicators for further analysis: derive complex indexes useful for analysis and policy support.

1. IPCC AR5 AFOLU GHG Data



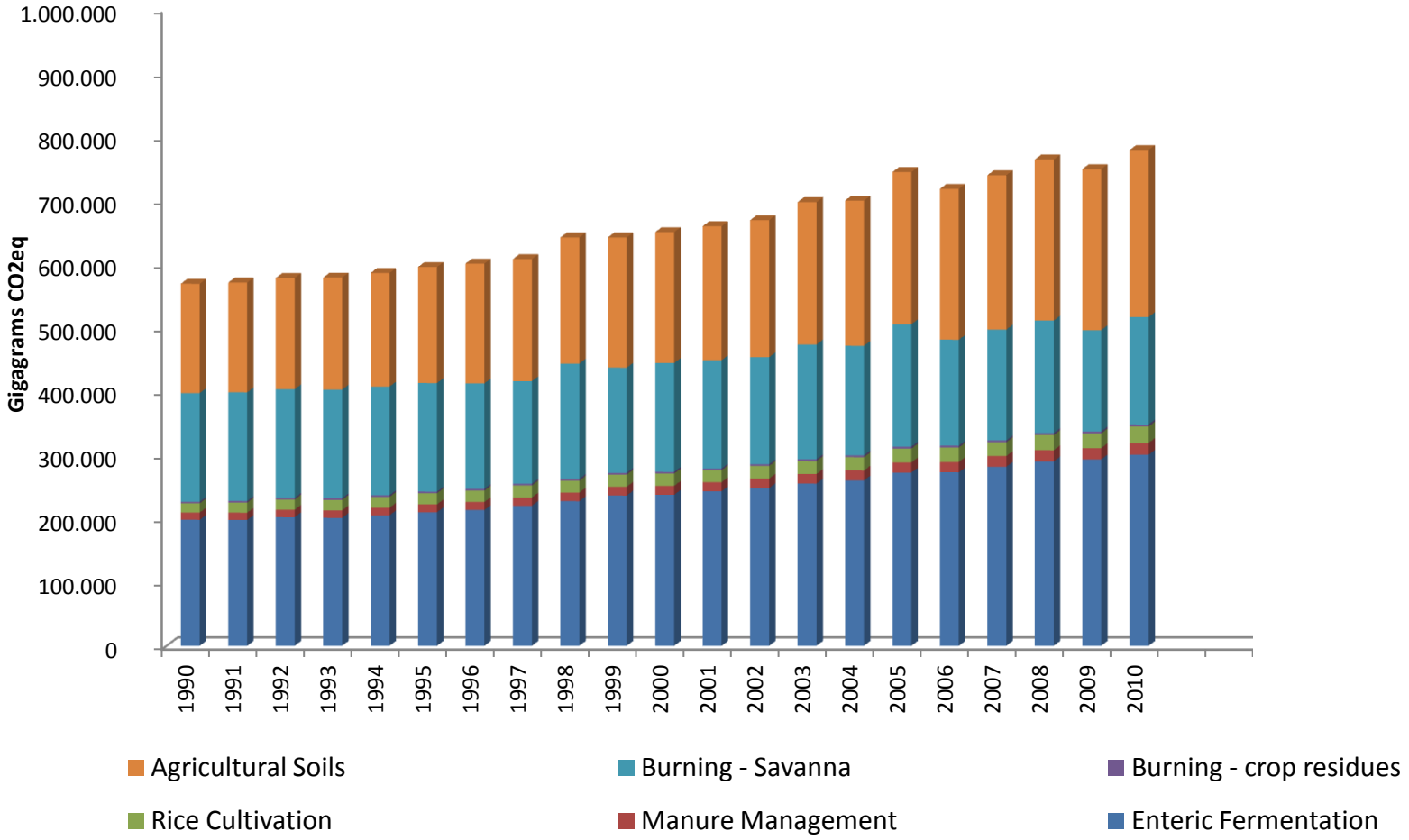
1a. Global and Regional Analysis





Source: FAOSTAT

1b. Global and Regional Analysis



Source: FAOSTAT

2. Fill data gaps and build capacity

World non-Annex I, GHG for Enteric Fermentation

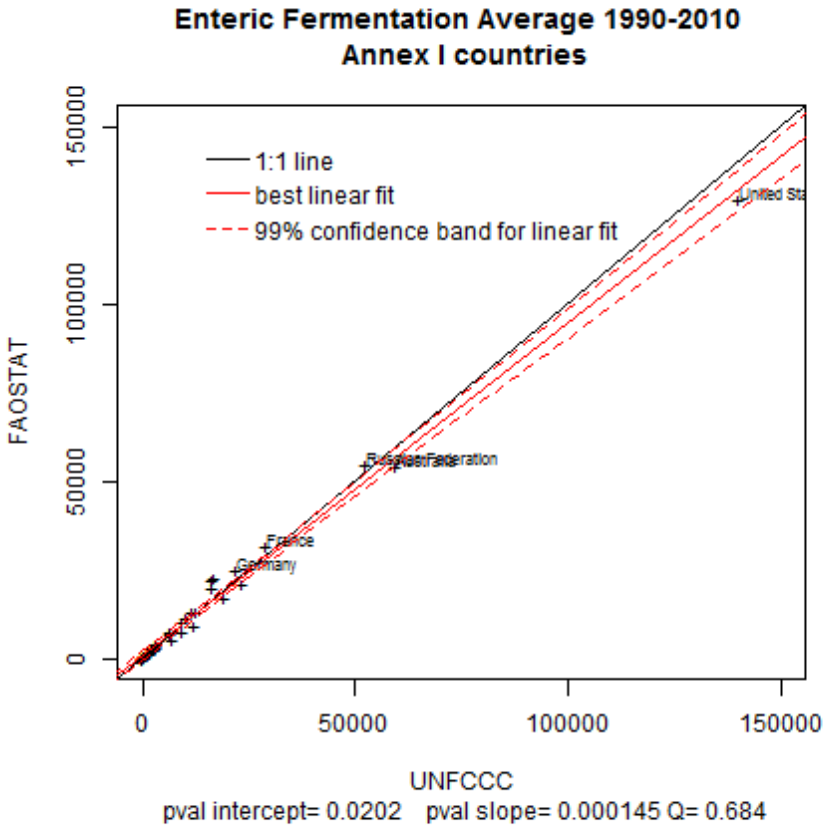
UNFCCC National Communications

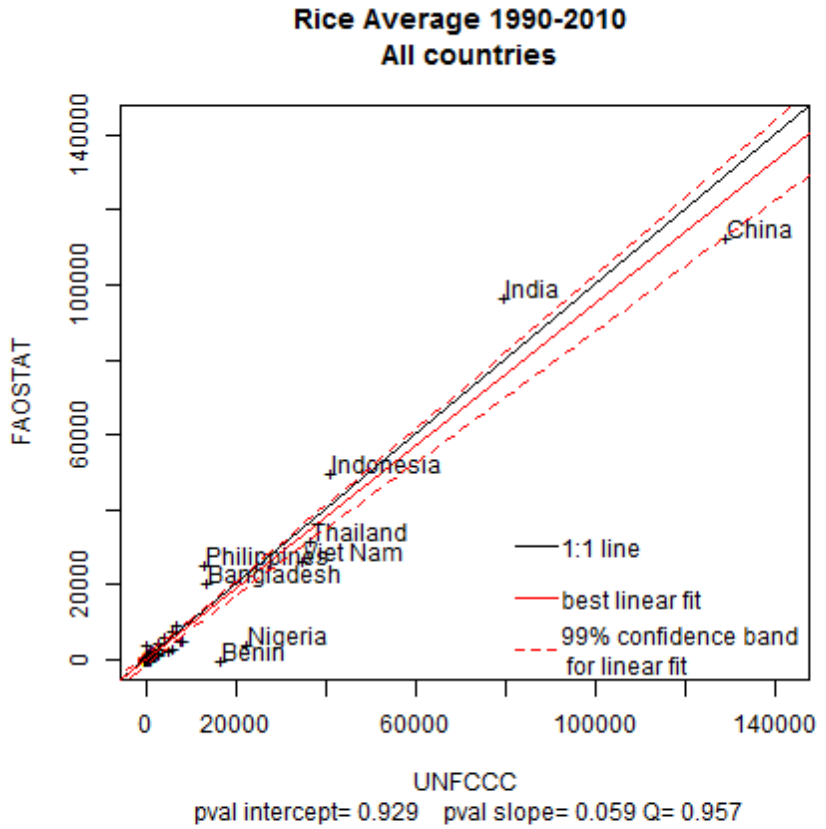
	A	B	C	D	E	F	G	H	E
1990		176,799			57,376		38,803		25,946
1991		1							
1992		1							
1993		1							
1994	188,412	1							
1995		1							
1996		1							
1997		1							
1998		1							
1999		1							
2000		2							
2001		2							
2002		2							
2003		2							
2004		2							
2005		2							
2006							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

FAOSTAT GHG Emissions

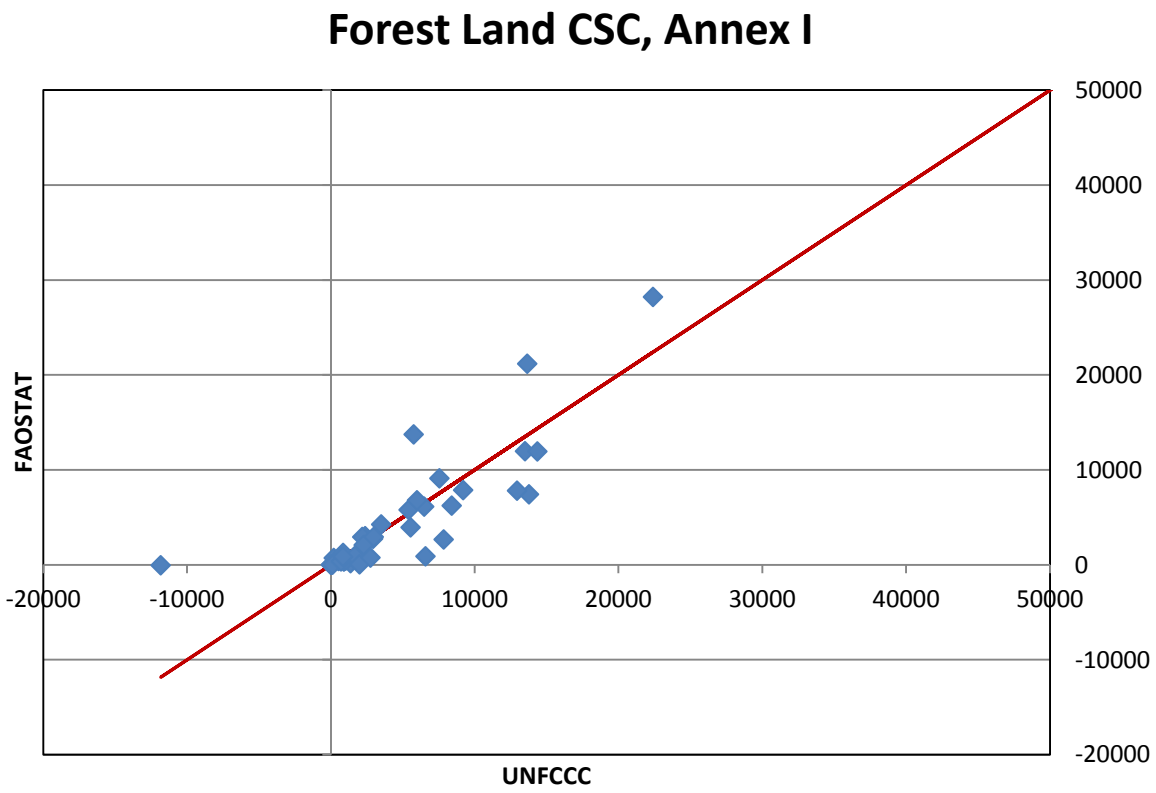
	A	B	C	D	E	F	G	H	E
1990	246,450	188,093	141,675	41,106	67,689	21,742	44,041	28,071	31,523
1991	249,275	194,457	143,960	41,928	66,986	22,782	43,359	28,229	31,552
1992	253,058	197,107	145,539	42,770	67,470	25,916	41,902	28,987	32,091
1993	254,170	197,699	149,119	43,637	66,362	28,651	42,500	23,944	32,791
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

3. QA/QC Analysis

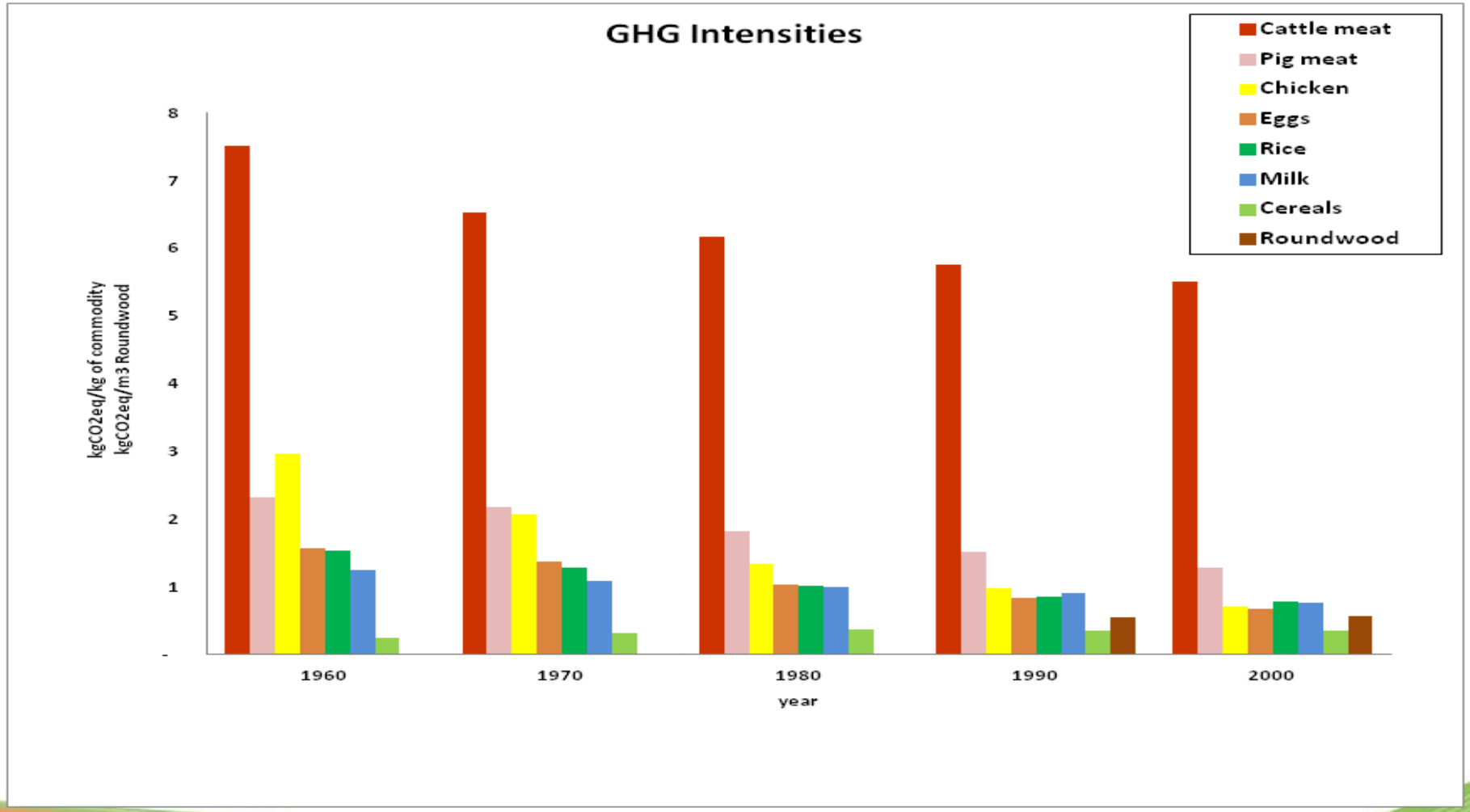




3. QA/QC Analysis



4. 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 GHG inventory, BURs, NAMAs (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 capacity development activities

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

  Da Lat, Viet Nam, 5 - 6 October 2012

  33 delegates; 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 delegates; 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

  33 delegates; 21 countries (Algeria, Central African Republic, DR Congo, Cote d'Ivoire, Egypt, Ethiopia, Gabon, Ghana, Kenya, Madagascar, Mali, Mauritania, Morocco, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia and Lesotho).

Sub-regional capacity development activities

- **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 on agricultural and forestry statistics to support Biennial Update Report (BUR) preparation**

  Costa Rica, end of July 2014.

- **Workshop for the English speaking countries of the Caribbean Region, with IPCC and the Caribbean Community Climate Change Center**

  Under discussion - location to be determined, 2014.

National capacity development activities

- **Ecuador, Colombia [UNREDD]**
  - AFOLU GHG emission inventory (BURs, NC).
  - Coordinated process: FAO, UNDP and other initiatives/agencies (CD REDD/EPA).

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

International partnering

Agencies:

- UNDP/LECB
- UNDP/UN-REDD
- UNFCCC
- IPCC (AR5, TFI)
- UNEP
- UNESCAP
- UNECLAC

Global initiatives:

- UN-REDD
- NAMA partnership
- LEDS Global Partnership
- CD REDD
- National agencies

Conclusions

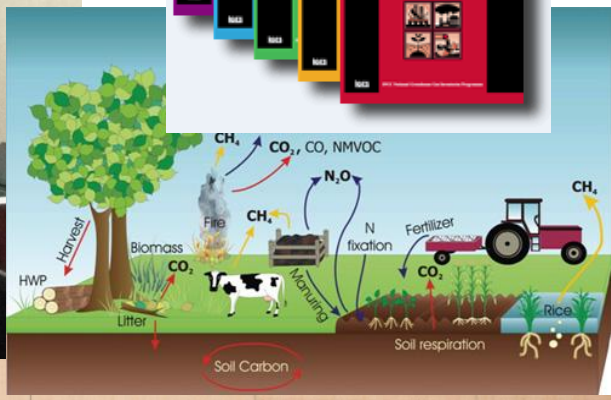
- Availability of a global greenhouse gas emission database by country, as tool to support Member Countries to identify and report GHG emissions and mitigation actions in AFOLU sector.

- Implementation of Robust Regional Capacity Development Program on Rural Statistics.

- Focus on building coherency among relevant programmes, aimed at increasing efficiency of country impacts and in use of donor resources

Thank you!


WORKSHOP ON THEMATIC
GEOSPATIAL INFORMATION


CH4
CO2, CO, NMVOC
N2O
CH4
Fire
CH4
N fixation
Fertilizer
CH4
Harvest
Biomass
CO2
HWP
Manuring
CO2
Litter
Rice
Soil respiration
Soil Carbon


THIRD FAO REGIONAL WORKSHOP ON STATISTICS FOR GREENHOUSE GAS EMISSIONS
TROISIÈME ATELIER RÉGIONAL FAO SUR LES STATISTIQUES POUR LES ÉMISSIONS DE GAZ À EFFET DE SERRE
2 - 3 December, 2013 - Casablanca
2 et 3 Décembre 2013 - Casablanca

For more information

FAO -Monitoring and Assessment of Greenhouse Gas Emissions and Mitigation Potential in Agriculture (MAGHG): maghg@fao.org

FAO/MAGHG web site:
http://www.fao.org/climatechange/micca/ghg/en/
http://www.fao.org/climatechange/micca/ghg/fr/
http://www.fao.org/climatechange/micca/ghg/es/

FAOSTAT web site: http://faostat.fao.org
FAOSTAT emission database (English, French and Spanish):
Emissions – Agriculture http://faostat3.fao.org/faostat-gateway/go/to/download/G1/*/E
Emissions – Land Use http://faostat3.fao.org/faostat-gateway/go/to/download/G2/*/E

Financed by:

Federal Ministry of Food, Agriculture and Consumer Protection

NORWEGIAN MINISTRY OF FOREIGN AFFAIRS