

Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture

The FAO Emissions Database

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JRC
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The Science and Policy context

1. Climate Change International Agreements require that countries report their GHG emissions regularly (UNFCCC)
2. Annex I Parties use GHG reporting to demonstrate their emission reduction commitments (e.g. Kyoto Protocol)
3. Non-Annex I Parties use GHG reporting as a key to receive climate funding and to inform negotiations (COP/MOP; etc.)



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Need for action

- Agriculture sectors are key emitters in developing countries, and a basis for climate mitigation that is relevant to food security and sustainable development goals
- Only 2-3 reports per country over the past 20 years. Starting in 2014, need to report bi-annually to UNFCCC
- Need to improve capacity to collect and analyze activity data and compile GHG statistics, prepare for BURs, NAMAs



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FAO Objectives

- Improve data and support member countries assess and report their GHG emissions from agriculture
- Identify mitigation strategies that are consistent with food security, resilience and rural development goals
- Collaborate with IPCC and UNFCCC towards improved guidelines in support of negotiations



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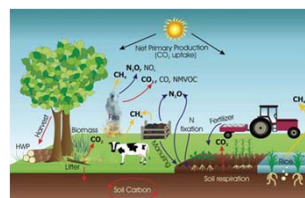
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FAOSTAT Emissions Database



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IPCC 2006 Guidelines



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[Database](#)



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Addressing different needs

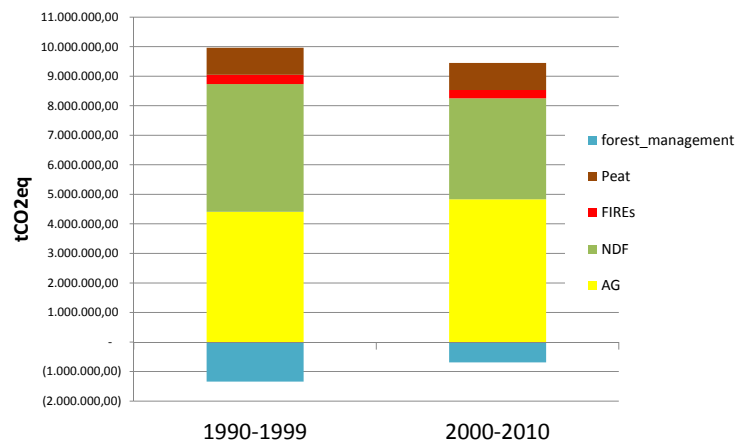
1. Global and regional assessments: Unlike for energy, no international agency regularly reports for GHG agriculture
2. Fill data gaps and build capacity: a bridging tool for many non-Annex I parties
3. Benchmarking and QA/QC analysis: provide an internationally accepted and neutral data platform for evaluation of national reporting
4. Develop indicators for further analysis: coherency of GHG and activity data may be used as a starting point for national level discourse on needed steps to improve reporting



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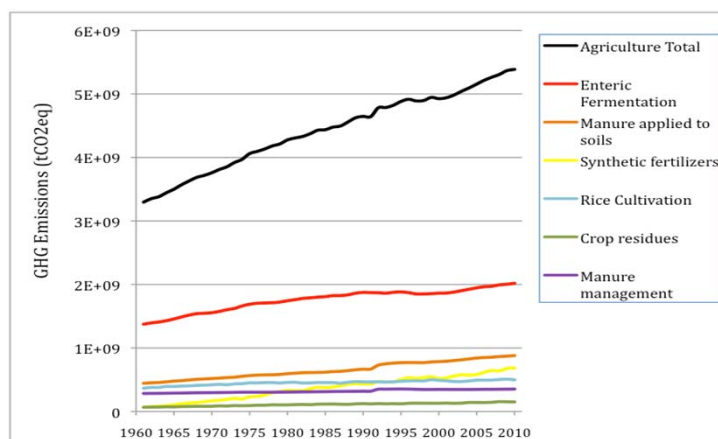
Global IPCC AR5 Analyses



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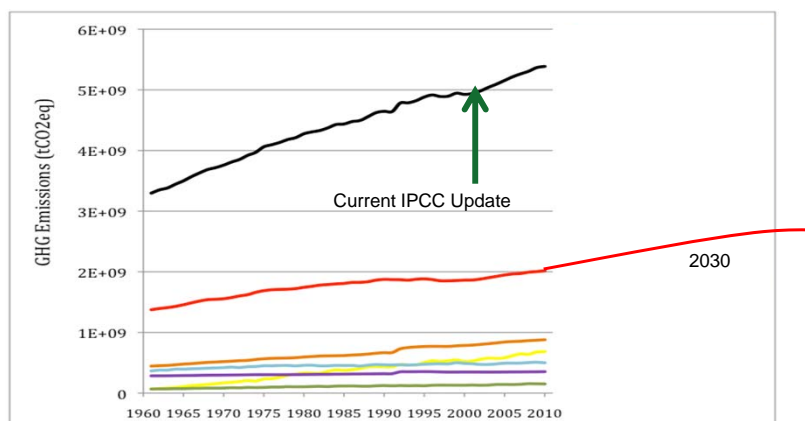
Global IPCC AR5 Analyses



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Projections



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Fill data gaps and build capacity

World Top non-Annex I Emitters for Enteric Fermentation

UNFCCC National Communications

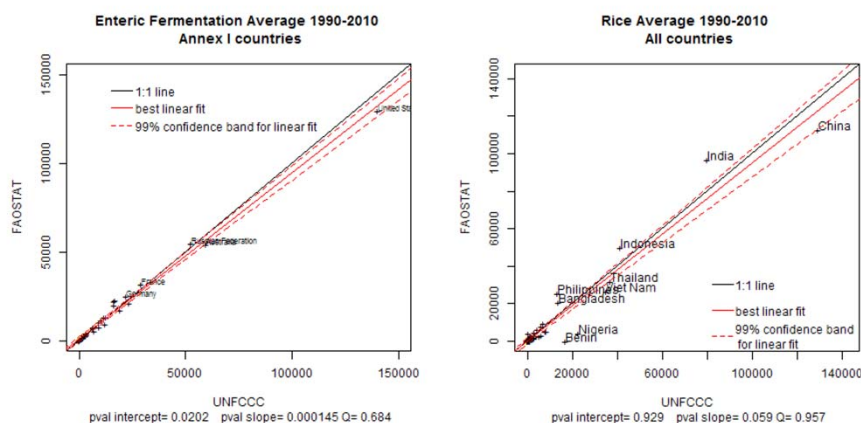
	A	B	C	D	E	F	G	H	E	FAOSTAT GHG		
1990		176,799			57,376		38,803		25,946			
1991	1											
1992	1											
1993	1		A	B	C	D	E	F	G	H	E	
1994	188,412	1	1990	246,450	188,093	141,675	41,106	67,689	21,742	44,041	28,071	31,523
1995	1	1	1991	249,275	194,457	143,960	41,928	66,986	22,782	43,359	28,229	31,552
1996	1	1	1992	253,058	197,107	145,539	42,770	67,470	25,916	41,902	28,987	32,091
1997	1	1	1993	254,170	197,699	149,119	43,637	66,362	28,651	42,500	23,944	32,791
1998	1	1	1994	255,644	201,563	155,786	44,530	66,852	30,949	42,476	24,232	33,257
1999	1	1	1995	256,993	205,399	168,819	45,448	66,046	31,949	41,866	24,160	33,270
2000	2	1	1996	258,404	198,450	171,884	47,596	63,773	33,110	40,736	25,261	34,045
2001	2	1	1997	258,921	202,406	155,716	48,710	62,792	34,494	42,423	26,306	33,560
2002	2	1	1998	259,181	204,584	168,031	49,865	60,497	35,907	42,740	28,533	33,695
2003	2	1	1999	259,415	206,482	172,516	51,196	61,782	37,527	41,774	28,148	32,103
2004	2	1	2000	259,328	213,002	176,259	52,314	61,310	39,132	42,213	26,460	32,255
2005	2	1	2001	260,434	220,798	172,511	53,612	61,500	40,653	42,397	28,431	32,484
2006	2	1	2002	261,129	231,523	166,840	54,960	65,067	41,128	43,336	32,675	32,828
2007	2	1	2003	262,269	243,718	165,427	56,414	69,603	43,059	43,453	31,742	32,933
2008		1	2004	267,000	254,599	165,799	57,804	70,851	43,627	43,230	32,235	33,116
2009		1	2005	272,048	258,066	165,890	59,324	71,220	44,698	42,887	33,854	34,087
2010		1	2006	276,763	256,721	163,496	64,387	72,879	45,526	43,122	36,330	34,099
		1	2007	282,726	249,409	156,475	66,385	73,368	45,807	43,443	40,194	34,404
		1	2008	287,997	252,600	157,501	68,470	72,060	45,847	43,922	42,008	34,535
		1	2009	292,914	256,324	157,724	70,624	68,426	46,168	44,649	42,871	35,562
		1	2010	300,981	261,675	159,814	72,931	61,953	46,557	45,070	43,052	35,846



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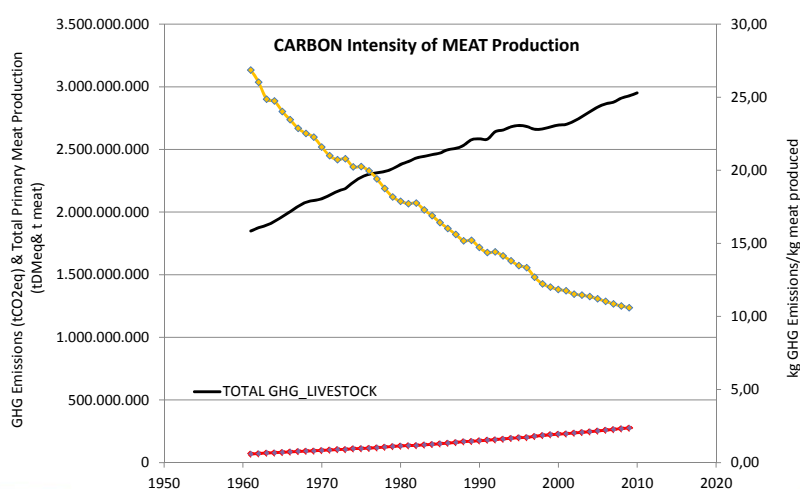
QA/QC processes examples



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Deriving Indicators



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Ongoing Activities

- **Capacity Development**

- June 2013: Second Workshop on GHG Statistics, Latin American Committee on Agricultural Statistics, Trinidad and Tobago
- October 2013: Mini Regional Workshop Peatlands. Indonesia Malaysia PNG
- December 2013: African Committee on Agricultural Statistics, Morocco



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Ongoing Technical Work

- Focus on national processes aimed at improving technical and institutional gaps, together with IPCC, UNDP, UN-REDD, UNFCCC, other relevant agencies
- Work with countries directly on improving GHG database and extend its use for benchmarking, BURs, NAMAs
- Develop agriculture management and cost of production database—mitigation options with links to key dimensions of food security resilience and capacity development.



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Thank you!



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