Capacity development activities in support of National GHG Inventory by FAO

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Monitoring and Assessment of Greenhouse Gases Emissions and Mitigation Potential in Agriculture (MAGHG)

The 13th Workshop on GHG Inventories in Asia (WGIA13)
– Capacity building for measurability, reportability and verifiability –
Bali, 4th – 6th August, 2015

Outline

- FAO and climate change
- Build knowledge on agriculture emissions
- Capacity development activities
- Products for supporting countries
- Interagency collaboration
- Conclusions

FAO and climate change

Agriculture faces major challenges under climate change.

- ✓ Projected changes in environmental conditions will affect the growing conditions of crops, livestock, fish and trees and thereby the livelihood, the food security of people, often the poorest.
- ✓ At the same time, the agricultural sectors also contribute to the emissions of greenhouse gasses and offer opportunities to sequester carbon.

Climate-smart agriculture (CSA)

An approach to help guide actions to **transform** and re-orient agricultural systems to effectively and sustainably support **food security** under the new realities of **climate change**. It is based on three pillars:

1. Increase, in a **sustainable** manner, **productivity** and income growth in agriculture.
2. Support **adaptation** across the agricultural sectors to expected climatic changes and build **resilience**.
3. Reduce, **where possible**, the greenhouse gas **emission intensity** of production systems.

Activities

- Build knowledge on greenhouse gas emissions in the agriculture, forestry and other land use (AFOLU) sector
- Support countries in determining and refining these estimates in order to successfully address the reporting requirements of the UNFCCC
- Provide assistance to member countries to identify mitigation strategies that are compatible with food security, resilience and rural development objectives, plan effective climate change responses and access international funding

Build knowledge

FAOSTAT Emissions Database

Food and Agriculture Organization of the United Nations

FAOSTAT, FRA & geo-referenced data

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IPCC 2006 Guidelines

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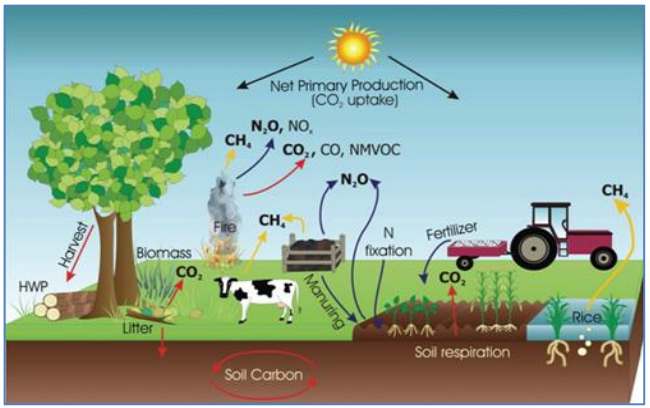
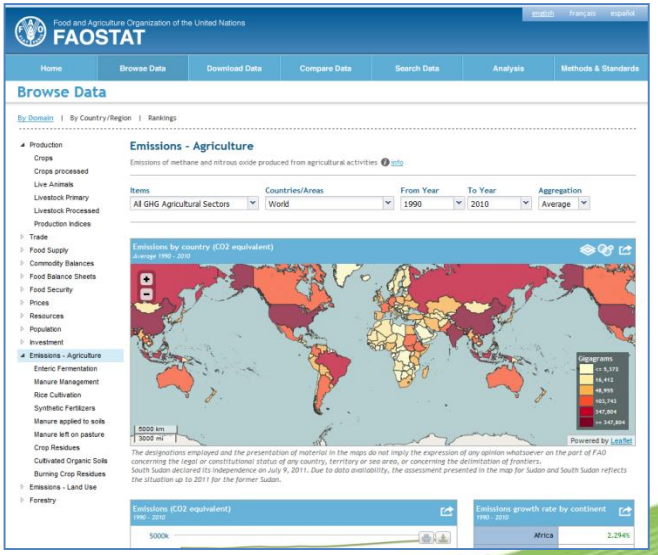




FAOSTAT Emissions Database

DOMAIN	CATEGORY		GAS	ACTIVITY DATA
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, GLW
	Burning - Savanna		CH_4, N_2O	GFED4, CZ, GEZ
	Burning – Crop residues		CH_4, N_2O	FAOSTAT

DOMAIN	CATEGORY	GAS	ACTIVITY DATA
Emissions - Land Use	Forest land	CO_2	FRA
	Cropland	CO_2	HWSD, GLC2000
	Grassland	CO_2	HWSD, GLC2000, GLW
	Burning Biomass	CH_4, N_2O, CO_2	GFED4, HWSD, CZ, GEZ

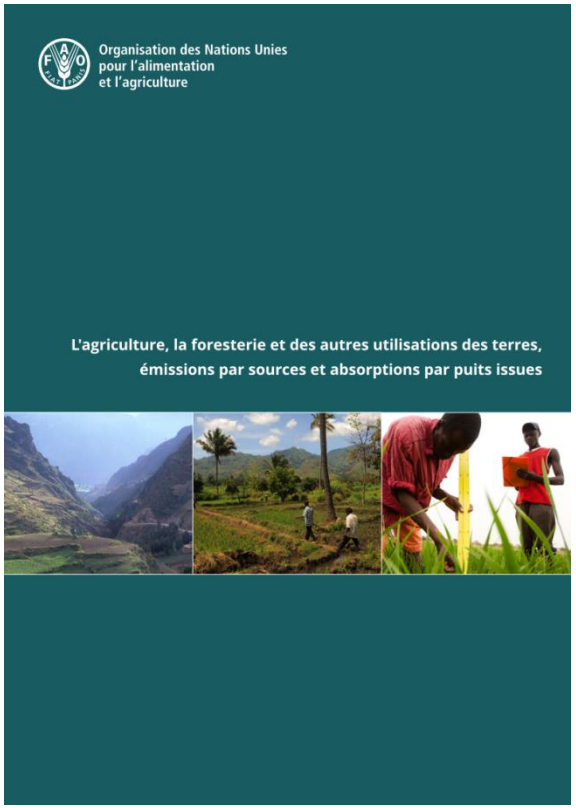
HWSD – FAO-IIASA-ISRIC Harmonized World Soil Database
GLC2000 – EU-JRC Global Land Cover 2000
GLW – FAO Gridded Livestock of the World
GFED4 – Global Fire Emissions Database v.4
CZ – JRC Climate Zone
GEZ – FAO Global Ecological Zones
FRA – FAO Forest Resources Assessment

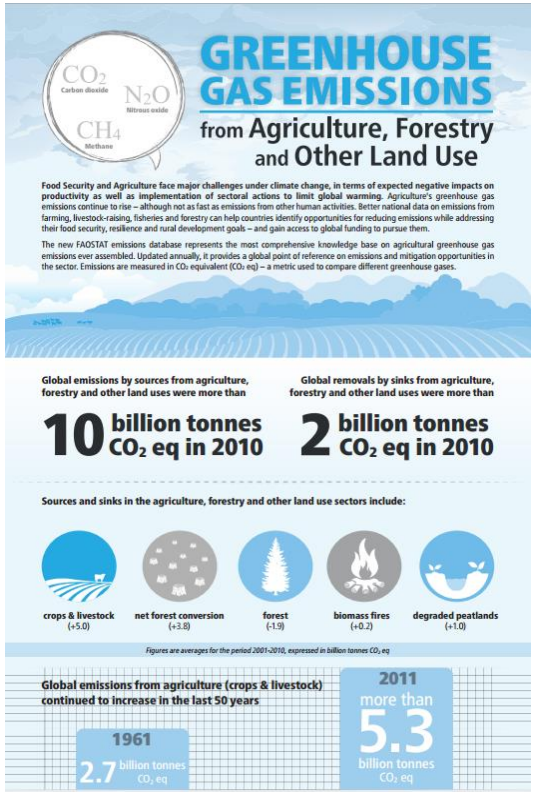
FAOSTAT Emissions Database on YouTube

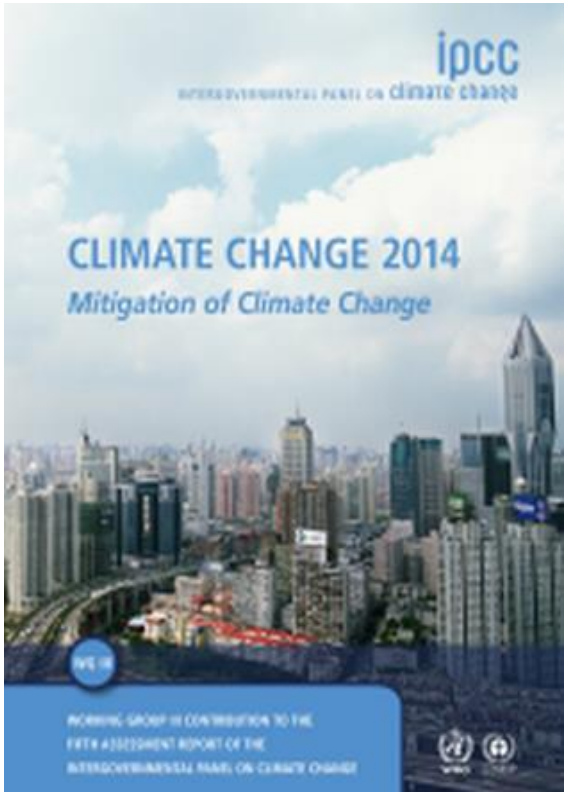
Available in 3 languages:

English: https://www.youtube.com/watch?v=QcxEpL7DnWA
Spanish: https://www.youtube.com/watch?v=MdLA0uHVs4M
French: https://www.youtube.com/watch?v=57aLZl4_aoU

Knowledge generation







www.fao.org/climatechange/micca/publications/en/

www.fao.org/resources/infographics/infographics-details/en/c/271720/

Capacity development

Functional:

- Strengthen institutional arrangements and coordination
- Encourage collaboration with relevant national/international agencies
- Facilitate the development of national data system

Technical:

- Enhance the assessment and the report of GHG emissions for AFOLU
- Reinforce the need of rural statistics data collection
- Assist the improvement of the reporting through QA /QC processes
- Help in identifying mitigation options for NAMAs and INDCs

..... For a robust and sustainable National GHG Inventory .....

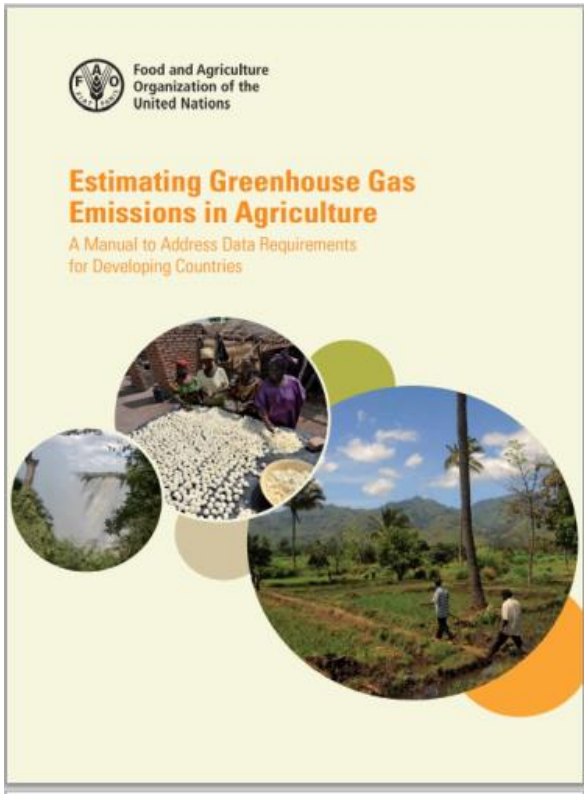
Regional Workshops

- Asia Pacific Workshop on Greenhouse Gas Emissions Statistics
- Latin America FAO Workshop on Statistics for Greenhouse Gases Emissions
- Africa FAO Regional Workshop on Statistics for Greenhouse Gas Emissions
- Mesoamerican Workshop on National Emissions Inventories and Mitigation Plans in Agriculture, Land use, Land use change and Forestry
- Workshop on Thematic Geospatial Information in Tropical Peatlands for Agriculture
- 4 workshops under the umbrella of the UNFCCC West Africa Project

Country level activities

- Mexico and Colombia (QA Agriculture and LULUCF)
- Ecuador and Paraguay (technical assistance)
- Uruguay (technical webinars)
- Costa Rica (facilitate institutional arrangements)
- Ghana, Senegal, Burkina Faso, Cabo Verd, Togo, Benin, Cote D'Ivoire (concept note under development)
- Indonesia (support on peatlands)

Manual to address data requirements for developing countries



The Manual provides member countries with a guidance to identify, build and access a minimum set of data to complete a National GHG Inventory for agriculture and land use, following the default Tier 1 methodology of the IPCC Guidelines for national Inventories

Available in 3 languages:

English: http://www.fao.org/3/a-i4260e.pdf

Spanish: http://www.fao.org/3/a-i4260s.pdf

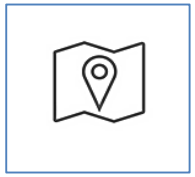
French: http://www.fao.org/3/a-i4260f.pdf

E-learning Course

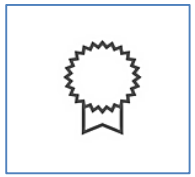
Building a national greenhouse gas inventory for agriculture and land use

- Guide the user through the preparation of a tier 1 approach 1 national GHG inventory for the Agriculture, Forestry and Other Land use sector following 2006 IPCC Guidelines
- Provide a general introduction to the national GHG inventory and on its context in the UNFCCC reporting framework
- Introduce some FAO products in support of national GHG inventories.

AFOLU Emissions Analysis Tools



Georeferenced data
Allows users to display and access global GIS datasets instrumental for estimating GHG emissions of specific agriculture and land use categories at Tier 1, helping countries to fill data gaps while compiling a GHG inventory.



QA/QC and Verification
Allows users to compare GHG AFOLU emissions and activity data reported by country to the UNFCCC with corresponding data from the FAOSTAT Emissions database, helping countries to improve the AFOLU component of the National GHG Inventory.

Emissions overview
Gives users an overview of emissions and trends in the AFOLU sector at country level, or country grouping, contextualizing the emissions within the region, the continent, and the world, supporting countries in the preparatory phase for NAMAs and INDCs.

Emissions intensities
Allows users to analyze the relationship between emissions intensities (carbon per unit of product) and productivity at country, for specific agriculture commodities, providing useful information for policy makers for planning NAMAs and INDCs and implement mitigation policies.

Learning tool on NAMAs in AFOLU sector

NAMAs are a fast-emerging vehicle for countries that want to voluntarily carry out actions to reduce GHG emissions in the context of national sustainable development

The tool is:

- Designed for who is working in the AFOLU sector and wants to understand more about the NAMA concept
- Increasing the capacity to contribute to national and global climate change mitigation goals
- Providing clear, easy to follow guidance on the identification, development and implementation of country specific climate change mitigation actions in the AFOLU sector

Interagency Collaboration

- UNREDD & UNDP GEF
  - Organization of joint events on the National GHG Inventory
- UNFCCC
  - Coordination with the Non-Annex I Support Sub-Programme
  - Technical Assistance for Sustainable National Greenhouse Gas Inventory Management Systems in West Africa
- IPCC
  - expert meeting to discuss progress made on data availability and methodological guidance for expected climate change processes

Conclusions

- Global GHG emissions database for AFOLU by country
  - Improved knowledge on agriculture affecting the climate
  - Support Member Countries to build a robust tier 1 for AFOLU
- Interactive products in support of national GHG compilers
- Dedicated country support in collaboration with other relevant programmes, aimed at increasing efficiency in country impacts

Thank you!


WORKSHOP ON THEMATIC
GEOSPATIAL INFORMATION


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

Project website : www.fao.org/climatechange/micca/ghg

FAOSTAT Emissions database:

Emissions – Agriculture http://faostat3.fao.org/browse/G1/*/E

Emissions – Land Use http://faostat3.fao.org/browse/G2/*/E

FAO GHG Manual: http://www.fao.org/3/a-i4260e.pdf

FAO GHG working paper: http://www.fao.org/docrep/019/i3671e/i3671e.pdf

FAO Global Infographics: http://www.fao.org/resources/infographics/infographics-details/en/c/271780/