

The FAO Emissions Database

Statistics and Indicators for Agriculture, Forestry and Other Land Use (ISIC A 01-03)

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UNEGES

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Outline

- ***FAOSTAT AND FDES: CLIMATE CHANGE RELEVANT STATISTICS***
- ***EMISSIONS ESTIMATES and INDICATORS***
- ***Climate Change Statistics beyond Emissions***



FAOSTAT Climate Change Relevant Statistics

- Data products in support of National analysis and International Reporting (Climate Convention, SDGs);
- Estimates and Indicators are based on FAO core statistics and aligned with International Standards

Framework for the Development of Environment Statistics (FDES 2013)
Final official edited version
Derived in the United Nations Statistics Division

1. Environmental Conditions and Quality
2. Environmental Resources and their Use
3. Residuals
4. Extreme Events and Disasters
5. Human Settlements and Environmental Health
6. Environmental Protection, Management and Engagement

Intergovernmental Panel on Climate Change
2006 IPCC Guidelines for National Greenhouse Gas Inventories
Volume 4
Agriculture, Forestry and Other Land Use
Edited by Simon Eggleston, Leandro Buendia, Kyoto Miwa, Todd Nigam and Kiyoto Tanabe
IPCC National Greenhouse Gas Inventories Programme
IGES

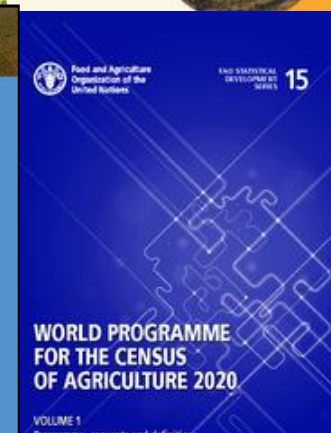
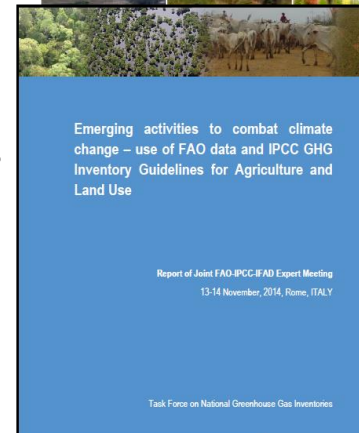
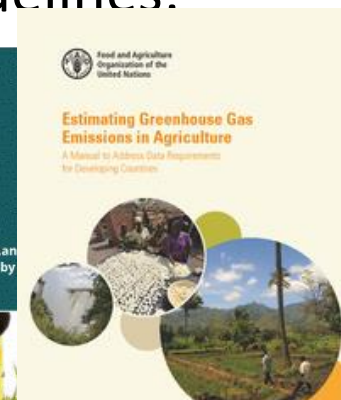
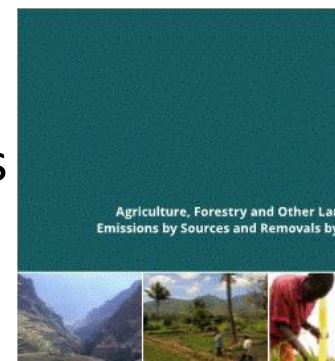
System of Environmental-Economic Accounting 2012 Central Framework

SEEA AFF Agriculture Forestry Fisheries
Food and Agriculture Organization of the United Nations
System of Environmental Economic Accounting

FAO
Food and Agriculture Organization of the United Nations
FIAT PANIS

FAOSTAT Emissions Database

- ❑ FAO database with estimates and updates of GHG Emissions from Agriculture and related Land Use;
- ❑ 1961-2014 (Agriculture); 1990-2015 (Land Use): ~185 Countries
- ❑ Reference **Tier 1** GHG Inventory using 2006 IPCC Guidelines:
 - ❖ Facilitate national, regional and global analysis, including IPCC Assessment Reports
 - ❖ Support member countries report under UNFCCC, addressing data gaps and QA/QC needs
 - ❖ Explore policy-relevant emission indicators in support of analyses linked to resilience, food security, including SDGs processes



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FAOSTAT Emissions Database



& geo-reference data

+

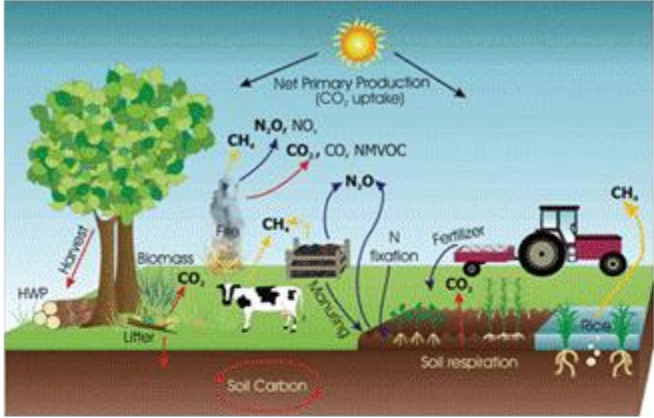
IPCC 2006 Guidelines



Tier 1

=

Tier 3



<http://www.fao.org/faostat/en/#data>

Indicators: Emissions by Sector

FAOSTAT www.fao.org/faostat/en/#data/EM Search

Food and Agriculture Organization of the United Nations

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FAOSTAT

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Emissions by sector

Back to domains

DOWNLOAD DATA VISUALIZE DATA METADATA

COUNTRIES REGIONS SPECIAL GROUPS

Filter results e.g. afghanistan

- Afghanistan
- Albania
- Algeria
- American Samoa
- Angola
- Anguilla

Select All Clear All

ELEMENTS

Filter results e.g. emissions (co2eq)

- Share of sector in total emissions
- Share of sector in total CO2 emissions
- Share of sector in total CH4 emissions
- Share of sector in total N2O emissions
- Share of sector in total F-gases emissions
- Share of CO2 in sector emissions

Select All Clear All

ITEMS ITEMS AGGREGATED

Filter results e.g. energy (ener., man., cons & fugitive)

- Energy (ener., man., cons & fugitive)
- Transport
- Resid., comm., institutional and AFF
- Industrial processes and product use
- Waste

YEARS

Filter results e.g. 2010

- 2010
- 2009
- 2008
- 2007
- 2006

Emissions by sector

The Emissions by sector domain of the FAOSTAT Agri-Environmental Indicators section contains data on emissions of greenhouse gases (GHG) by gas... [Show More](#)

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Bulk Downloads

All Data	2.79 MB
All Data Normalized	6.8 MB
All Area Groups	398 KB
Africa	612 KB
Americas	515 KB
Asia	547 KB
Europe	456 KB
Oceania	160 KB

Last Update
September 6, 2016

Indicators: Emission Intensities



Emissions intensities

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< [COUNTRIES](#) [REGIONS](#) [SPECIAL](#) >



Filter results

- Afghanistan
- Albania
- Algeria
- American Samoa
- Andorra
- Angola

Select All

Clear All

[ELEMENTS](#)

Filter results e.g. emission intensity

- Emission intensity
- Emissions (CO2eq)
- Production Quantity

Select All

Clear All

[ITEMS](#)

Filter results e.g. cereals excluding rice

- Cereals excluding rice
- Rice, paddy
- Meat, cattle
- Milk, whole fresh cow
- Meat, goat
- Milk, whole fresh goat

[YEARS](#)

Filter results e.g. 2014

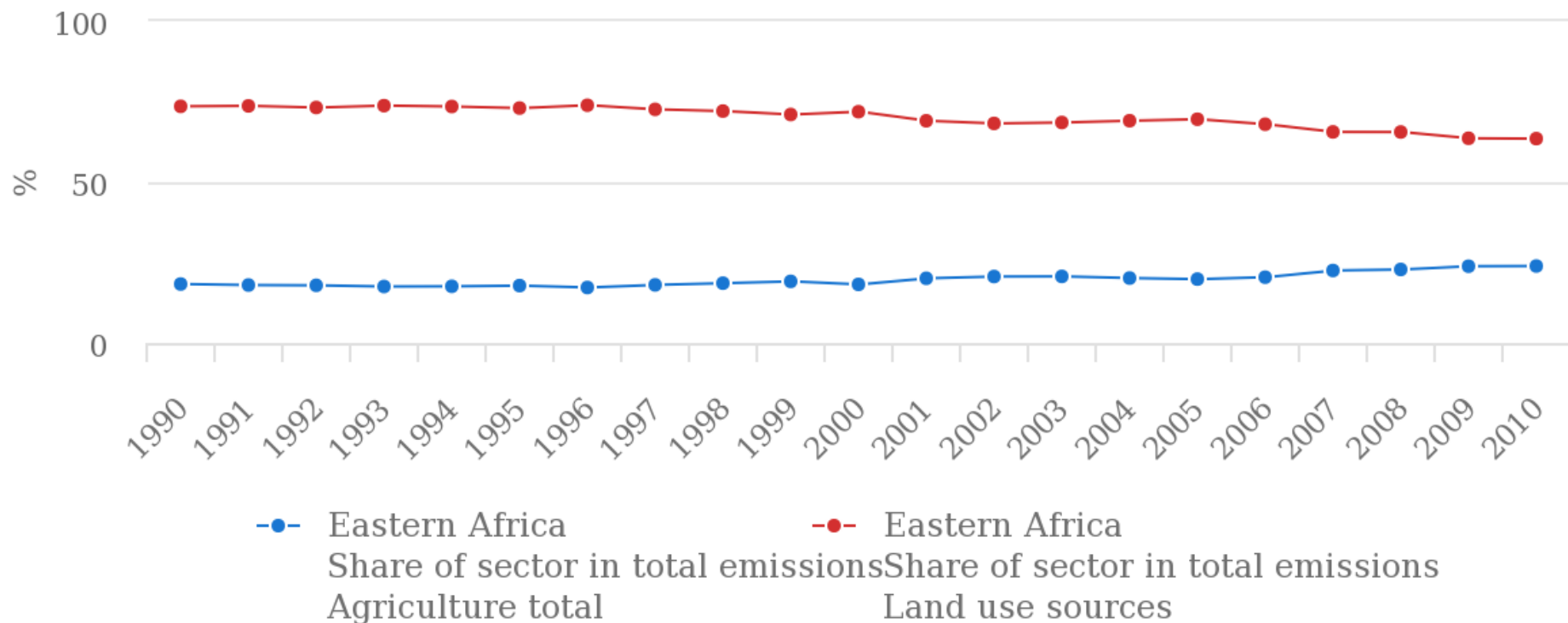
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009

Examples of Data Analysis

Global and Regional Trends

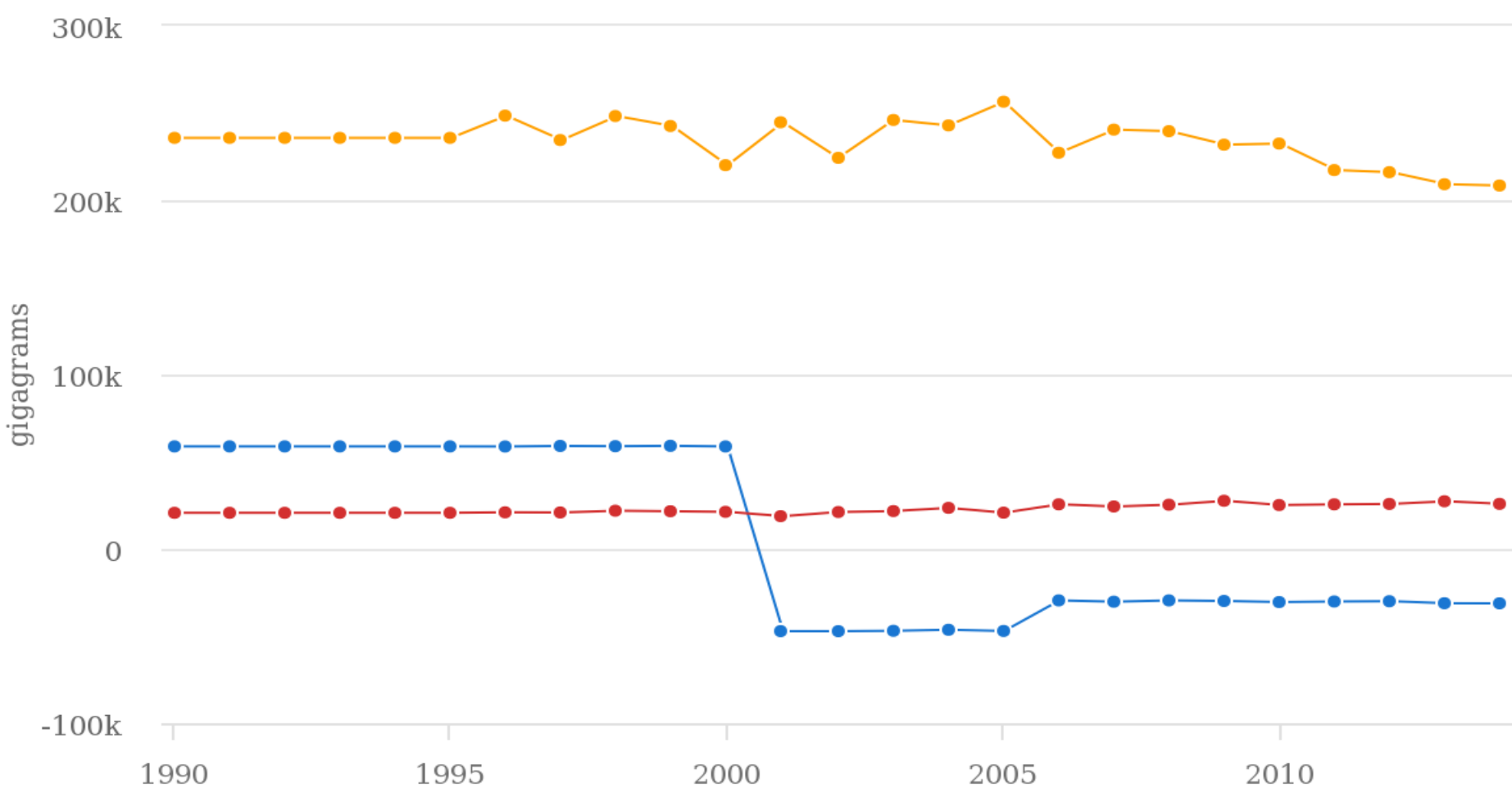
Shares of agricultural sectors in total GHG emissions

-- Eastern Africa + (Total), 1990 - 2010



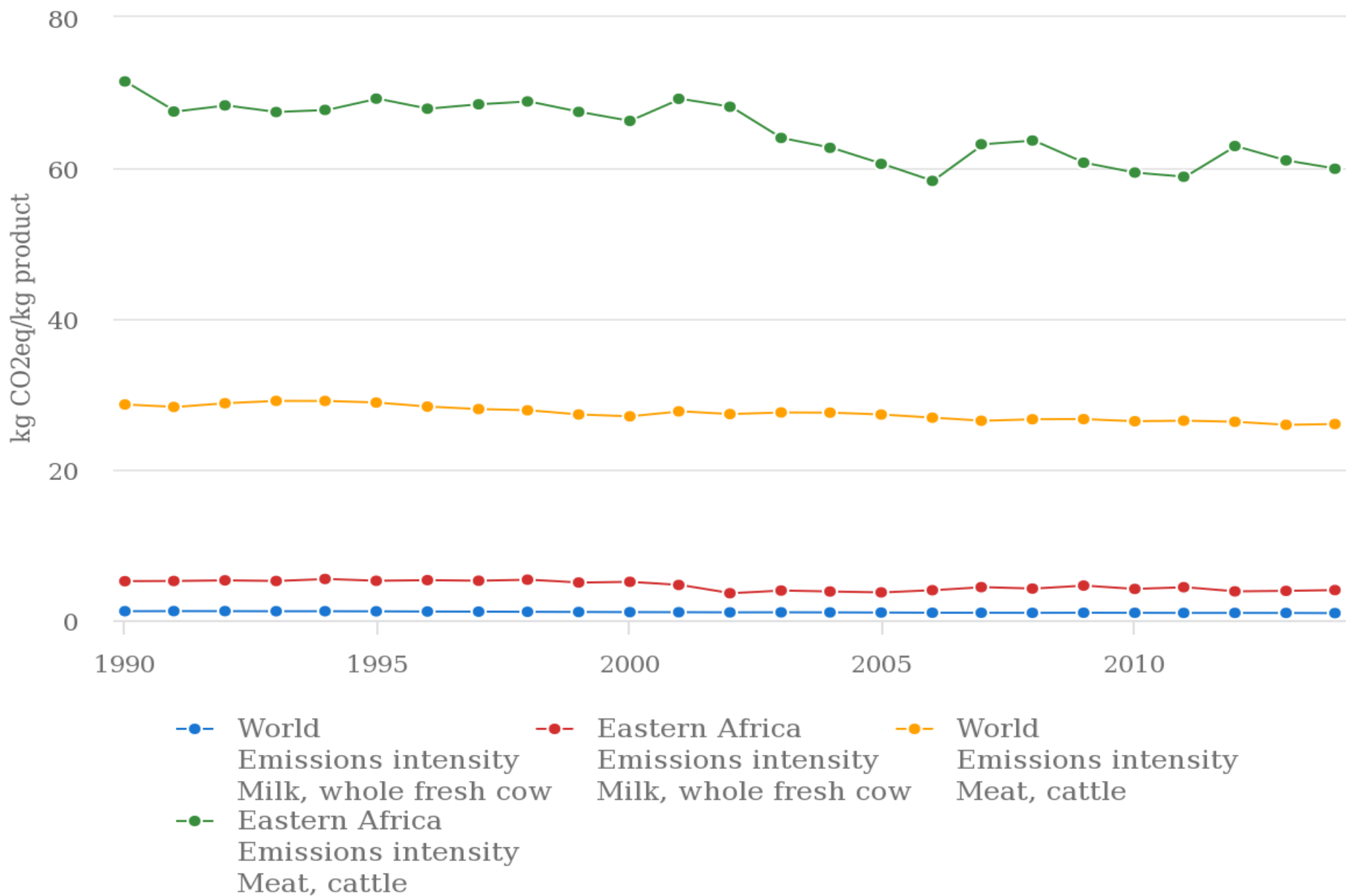
Source: FAOSTAT (Mar 30, 2017)

National Trends: Land Use Emissions



- Kenya
 - Uganda
 - United Republic of Tanzania
- Net emissions/removals (CO2eq)
—●— Land Use total
- Net emissions/removals (CO2eq)
—●— Land Use total
- Net emissions/removals (CO2eq)
—●— Land Use total

Regional Trends: Emissions by Product



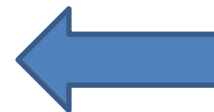
Metadata for the Emissions database (2)

Metadata available for download as pdf

Dataset Information:

Title	Agriculture Total
Abstract	<p>Agriculture Total contains all the emissions produced in the different agricultural emissions sub-domains, providing a picture of the contribution to the total amount of GHG emissions from agriculture. GHG emissions from agriculture consist of non-CO₂ gases, namely methane (CH₄) and nitrous oxide (N₂O), produced by crop and livestock production and management activities. Computed at Tier 1 following IPCC Guidelines for National GHG Inventories; available by country, with global coverage and annual updates. The time period of available estimates is 1961-2014, except for "cultivation of organic soils" and "burning – savanna" that start in 1990. Accordingly, the composition of the items aggregated "Agriculture total" and "Agriculture soils" depends on the items available for each year. Projections are also available, for 2030 and 2050, based on a baseline defined as the 2005-2007 average of the corresponding FAOSTAT activity data and on the percentage growth rates from FAO perspective studies (Alexandratos and Bruinsma, 2012) (with the exception of "cultivation of organic soils" and "burning – savanna", for which projections are set as a constant, estimated as the average of the period 1996-2014).</p>
Supplemental	<p>This domain contains data on GHG emissions and shares on the total GHG emissions from the different agricultural sub-domains.</p> <p>The FAOSTAT Emissions data are estimates by FAO and do not coincide with GHG data reported by member countries to UNFCCC. The database is intended primarily as a service to help member countries assess and report their emissions, as well as a useful international benchmark. The FAOSTAT Emissions data are disseminated publicly to facilitate continuous feedback from member countries.</p>
International Standards	<p>The FAOSTAT Agriculture Total domain is compliant with the System of Environmental-Economic Accounting Central Framework (SEEA CF) in terms of:</p> <ol style="list-style-type: none">Definitions: air emissions as defined in the SEEA CF: "<i>Emissions to air are gaseous and particulate substances released to the atmosphere by establishments and households as a result of production, consumption and accumulation processes</i>" (Chapter 3.6 Physical flow accounts for materials, Paragraph 3.6.3, Accounting for air emissions), are compliant with those computed and reported by FAO;Classifications: it follows the International Standard Industrial Classification of All Economic Activities (ISIC); andApplicability: data can be used to compile the SEEA CF Table 3.7, "<i>Air emissions account</i>" and the SEEA AFF Table 4.5 "<i>Physical flow account for air emissions</i>". <p>The FAOSTAT Agriculture Total domain is compliant with the Framework for the Development of Environmental Statistics (FDES 2013) as Emissions to Air of Carbon dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O) are included in FDES Component 3, <i>Residuals</i>. Furthermore air emissions data are defined by FDES as Core set/ Tier 1 statistics. (FDES, Table 4.2, "<i>The Core Set of Environmental Statistics</i>").</p>

Data and associated metadata are yearly updated based on the release calendar

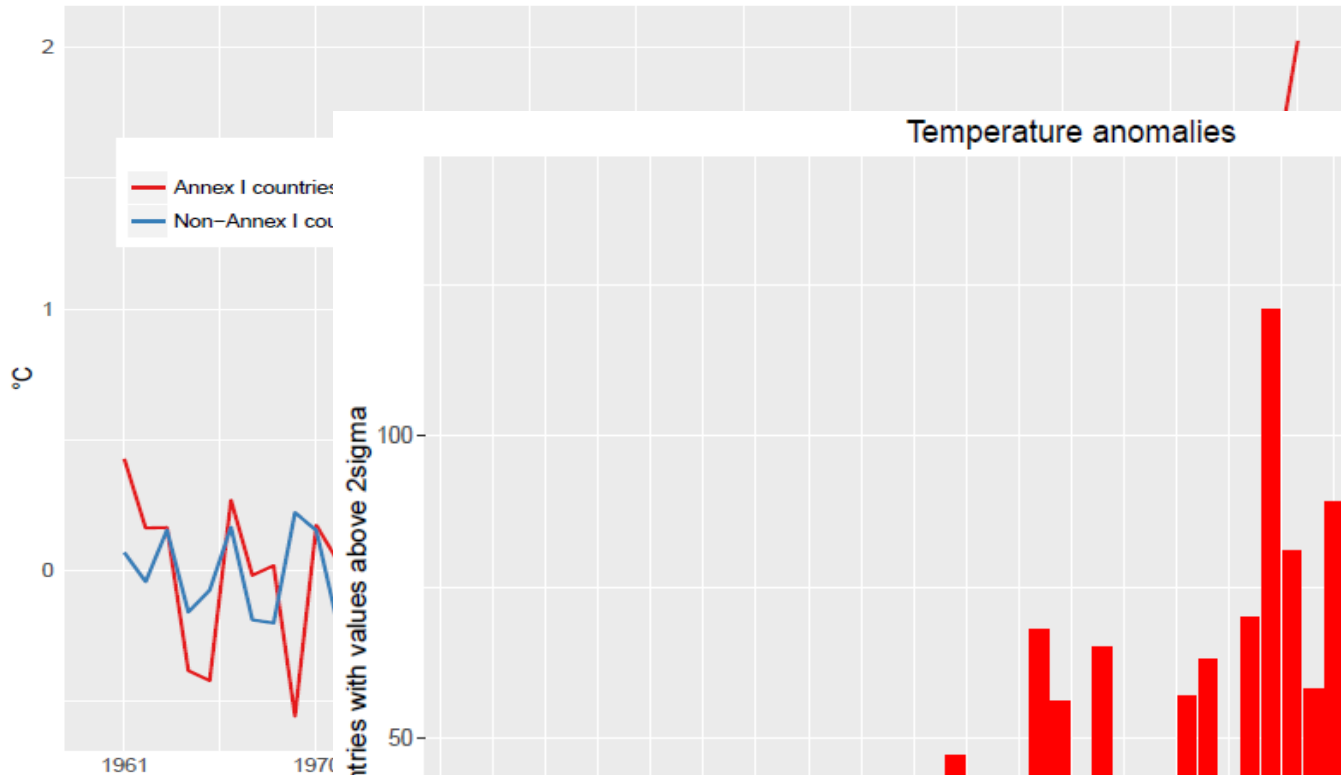


New FAO Products in CC-relevant Statistics

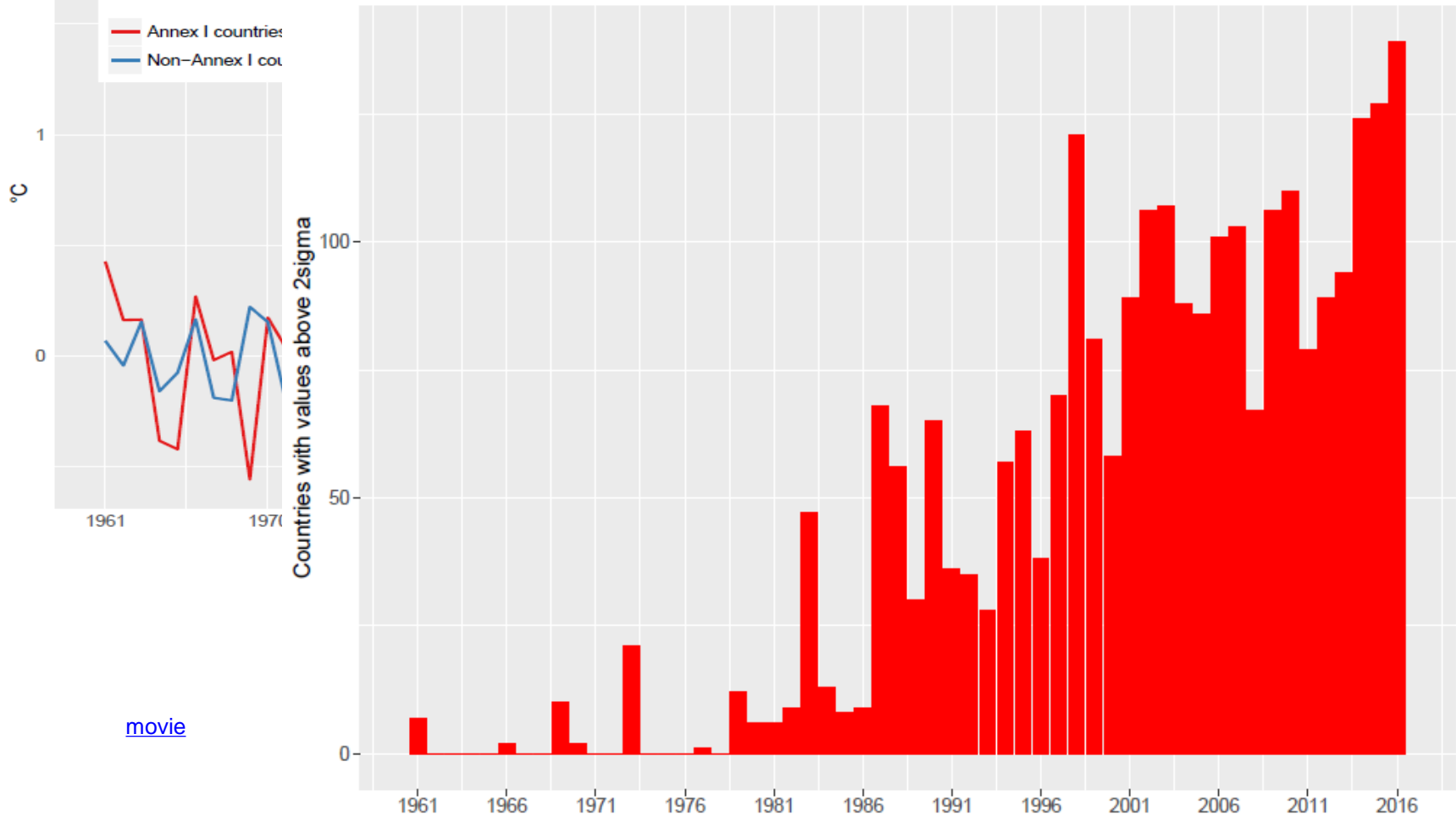
- FAO contributes to UNECE Task Force on CC Relevant Statistics
- Recent work on Climate Change Indicators: Temperature Change Anomaly, jointly with NASA
- FAOSTAT Test site ready, 1961-2016; Anomalies with respect to 1950-1980 Climatology, about 185 countries and territories
- Focus on communication to non-specialized users

New FAO Products in CC-relevant Statistics

Annual mean temperature changes



Temperature anomalies



[movie](#)

Conclusions

- Availability of a global greenhouse gas emission database by country, in line with international standards (FDES, IPCC, SEEA)
- A tool for national, regional, global analysis and in support member countries GHG Inventory needs
- Possibility of direct work with member countries and regional agencies via trainings, workshops, assistance
- Opportunity to build CC-Relevant statistics beyond emissions, of relevance to both Climate Convention and SDG process





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THANK YOU !

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