GREENHOUSE GAS EMISSIONS
from Agriculture, Forestry and Other Land Use
At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal global climate agreement that sets out a global action plan to limit global warming to well below 2°C. A key outcome was the Enhanced Transparency Framework (ETF) to build trust and confidence in countries’ contributions and progress.

Food security and agriculture face major challenges under climate change, in terms of expected negative impacts on productivity as well as implementation of sectoral actions to limit global warming. Sustainable farming, livestock-raising, fisheries and forestry can help countries identify opportunities for reducing emissions while addressing their food security, resilience and rural development goals. Almost 90 percent of countries included these opportunities in their Intended Nationally Determined Contributions (INDCs).

FAO has developed tools, databases, guidance and learning material to enhance countries’ capacity in designing, implementing and reporting actions compliant with the Paris Agreement.
To avoid serious impacts of climate change, major reductions in greenhouse gas emissions are required.

Emissions from agriculture in the last 10 years:

GLOBALLY

Emissions increased annually by 8%

2005 4 853

2014 5 246

Unit: kilotonne of CO2-equivalent
Data source: FAOSTAT, 2016
Emissions from agriculture by continent

Figures are averages for the period 2005-2014.
Data source: FAOSTAT, 2016

- Latin America & the Caribbean: 17%
- Africa: 15%
- Europe: 11%
- North America: 9%
- Oceania: 4%
- Asia: 44%
Emissions from agriculture in the last 10 years in: AFRICA

- Emissions increased annually by 1.6%
- 2014: 8,344 kilotonne of CO2-equivalent
- 2005: 7,388 kilotonne of CO2-equivalent

Unit: kilotonne of CO2-equivalent
Data source: FAOSTAT, 2016
Figures are averages for the period 2005-2014.
Data source: FAOSTAT, 2016
Emissions from agriculture in the last 10 years in:

**ASIA**

Emissions increased annually by **1.1%**

**2014**

2,313

**2005**

2,081

Unit: kilotonne of CO2-equivalent

Data source: FAOSTAT, 2016
Figures are averages for the period 2005-2014.
Data source: FAOSTAT, 2016
Emissions from agriculture in the last 10 years in:

Latin America & the Caribbean

Emissions increased annually by 0.5%

2014: 9099
2005: 8677
Figures are averages for the period 2005-2014.
Data source: FAOSTAT, 2016
The largest emitters in agriculture

GLOBAL

40%  Enteric fermentation
16%  Manure left on pasture
12%  Synthetic fertilizers
10%  Paddy rice
  7%  Manure management
  5%  Burning of savannas

Livestock-related emissions from enteric fermentation and manure contributed to nearly two-thirds of the total.

Figures are averages for the period 2005-2014
Livestock-related emissions from enteric fermentation and manure contributed to nearly two-thirds of the total.

AFRICA

- Enteric fermentation: 39%
- Manure left on pasture: 28%
- Burning of savannahs: 21%
- Synthetic fertilizers: 3%
- Paddy rice: 3%
- Manure management: 2%

Livestock-related emissions from enteric fermentation and manure contributed to nearly 90% of the total.

ASIA

- Enteric fermentation: 34%
- Paddy rice: 22%
- Synthetic fertilizers: 15%
- Manure left on pasture: 11%
- Manure management: 7%
- Crop residues: 4%

Livestock-related emissions from enteric fermentation and manure contributed to over half of the total.

LATIN AMERICA & THE CARIBBEAN

- Enteric fermentation: 59%
- Manure left on pasture: 24%
- Synthetic fertilizers: 5%
- Manure management: 3%
- Manure applied to soils: 3%
- Crop residues: 2%

Livestock-related emissions from enteric fermentation and manure contributed to nearly 90% of the total.

Figures are averages for the period 2005-2014.
Nationally Appropriate Mitigation Action (NAMA) is the instrument to reduce GHG emissions.

Eighteen percent of NAMAs in the UNFCCC registry include AFOLU sector.

Categories of AFOLU NAMAs

- Agriculture
- Forestry
- Multi-sectorial

Stage of NAMAs seeking support

- Africa
- Asia
- Latin America & the Caribbean

* Multi-sectorial category includes NAMAs which targets AFOLU sector together with other sectors, such as energy.

Data source: UNFCCC NAMA registry 2016. As of July 2016, 153 NAMA entries were entered in the NAMA registry.
FAO’s support to countries

- ETF
- GHG Inventory
- NDCs
- MRV
- NAMAs
- Capacity Building

- FAOSTAT Emissions database
- Economics and Policy Innovations for Climate-Smart Agriculture (EPIC)
- AFOLU Emissions Analysis Tools
- Ex-Ante Carbon-balance Tool (EX-ACT)
- Learning tool on NAMAs in the AFOLU sector
- E-learning “Building a sustainable national greenhouse gas inventory for Agriculture, Forestry and Other Land Use”

- PARIS AGREEMENT
- Capacities
- Finance
- Data
- Knowledge
- Policies
- Coordination