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## Dataset Information:

| Title                        | Enteric fermentation  |
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| <b>Abstract</b>              | Greenhouse gas (GHG) emissions from enteric fermentation consist of methane gas produced in digestive systems of ruminants and to a lesser extent of non-ruminants. Computed at Tier 1 following the 2006 IPCC Guidelines for National GHG Inventories (IPCC, 2006); available by country, with global coverage and relative to the period 1990-2010, with annual updates.  |
| <b>Supplemental</b>          | This domain contains data on GHG emissions, associated emission factors and underlying activity data.<br>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. |
| <b>Creation Date</b>         | 2012  |
| <b>Last Update</b>           | 2012  |
| <b>Data Type</b>             | Climate Change - Greenhouse Gases   |
| <b>Category</b>              | Environment   |
| <b>Time Period</b>           | 1990 - 2010   |
| <b>Periodicity</b>           | Annual  |
| <b>Geographical Coverage</b> | World   |
| <b>Spatial Unit</b>          | Country   |
| <b>Language</b>              | Multilingual (EN, FR, ES)   |

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## Methodology and Quality Information:

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| <b>Methods and processing</b> | <p>GHG emissions from enteric fermentation consist of methane gas (CH<sub>4</sub>) produced in digestive systems of ruminants and to a lesser extent of non-ruminants. The FAOSTAT data are computed at Tier 1, following IPCC 2006 Vol. 4, Ch. 10.</p> <p>The emissions are estimated at country level, using the formula:</p> $Emission = A * EF$ <p>where:</p> $Emission = \text{GHG emissions, in kg CH}_4 \text{ yr}^{-1};$ <p>A = Activity data, representing number of livestock in heads (1);<br/>EF = Tier 1, default IPCC emission factors, expressed in units of kg CH<sub>4</sub> head<sup>-1</sup>yr<sup>-1</sup> (2).</p> <p>(1) data for Buffaloes, sheep, goats, camels, llamas, horses, mules, asses, pigs and dairy cattle* are taken directly from FAOSTAT (domain: Production), non-dairy cattle is derived from FAOSTAT categories, specifically as: cattle minus dairy cattle.<br/>*FAOSTAT livestock data include cattle and dairy cattle. Dairy cattle data are expressed as heads of cows producing milk, and can be found under the domain: Production/Livestock primary/producing animals cow milk, whole fresh.</p> <p>(2) The EF values are those specified by livestock category and regional grouping in IPCC, 2006, Vol. 4, Ch.10, Tabs. 10.10 and 10.11.</p> <p>Dimensionless conversion factors used are:<br/>10<sup>-6</sup>, to convert the emissions from kg CH<sub>4</sub> to Gg CH<sub>4</sub>; and<br/>GWP-CH<sub>4</sub> = 21 (100-year time horizon global warming potential), to convert Gg CH<sub>4</sub> to Gg CO<sub>2</sub>eq (IPCC, 1996: Technical Summary, Tab. 4, pg. 22 ).</p> <p>The enteric fermentation domain contains the following data available for download: country-level GHG emissions in both Gg CH<sub>4</sub> and Gg CO<sub>2</sub>eq, by livestock species and by</p> |
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species aggregates, as well as their total; implied emission factors; and activity data. Data are available for 220 individual countries and territories, as well as for standard FAOSTAT regional aggregations, plus Annex I and non-Annex I groups. The data period is 1990-2010, with annual updates.

Uncertainties in estimates of GHG emissions are due to uncertainties in emission factors and activity data. They may be related to, inter alia, natural variability, partitioning fractions, lack of spatial or temporal coverage, spatial aggregation. In the case of enteric fermentation, more detailed information are available in the guidelines (IPCC, 2006: Vol. 4, Ch. 10, Section 10.3.4).

#### *References*

IPCC. 1996. Climate Change 1995 - The Science of Climate Change: Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.

IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (Eds), IGES, Hayama, Japan.

**Data Collection Method** Computed

**Completeness** 100%

**Links** [www.fao.org/climatechange/micca/ghg/](http://www.fao.org/climatechange/micca/ghg/)  
[www.ipcc-nggip.iges.or.jp/public/](http://www.ipcc-nggip.iges.or.jp/public/)

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[www.faostat.fao.org](http://www.faostat.fao.org)

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