



NATIONAL GREENHOUSE GAS INVENTORY SYSTEM



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GREEN INVESTMENT OPPORTUNITIES FOR MALAWI'S LIVESTOCK SECTOR

Livestock plays a major role in Malawi's economy, with around two thirds of rural households keeping cattle, swine, sheep, goats, and chicken for food and income. The agriculture sector contributes 28% to Malawi's total gross domestic product (GDP) of which 37.4% comes from livestock.

Yet livestock produce greenhouse gas emissions that contribute to climate change. In 2017, livestock alone contributed 27% of country's total estimated greenhouse gas emissions. In the coming years, livestock numbers are expected to rise to meet the demand of Malawi's growing population. This will increase greenhouse gas emissions from this source, unless actions are taken.

In 2017, livestock accounted for 27% of Malawi's total greenhouse gas emissions.

In 2019, the Government of Malawi through the Environmental Affairs Department (EAD), launched the **Greenhouse Gas Inventory System (GHG-IS)** to monitor and report national emissions across economic sectors. This comprehensive system establishes a process through which the EAD engages public and private sector partners to

collect critical information needed to produce reliable estimates of greenhouse gas emissions.

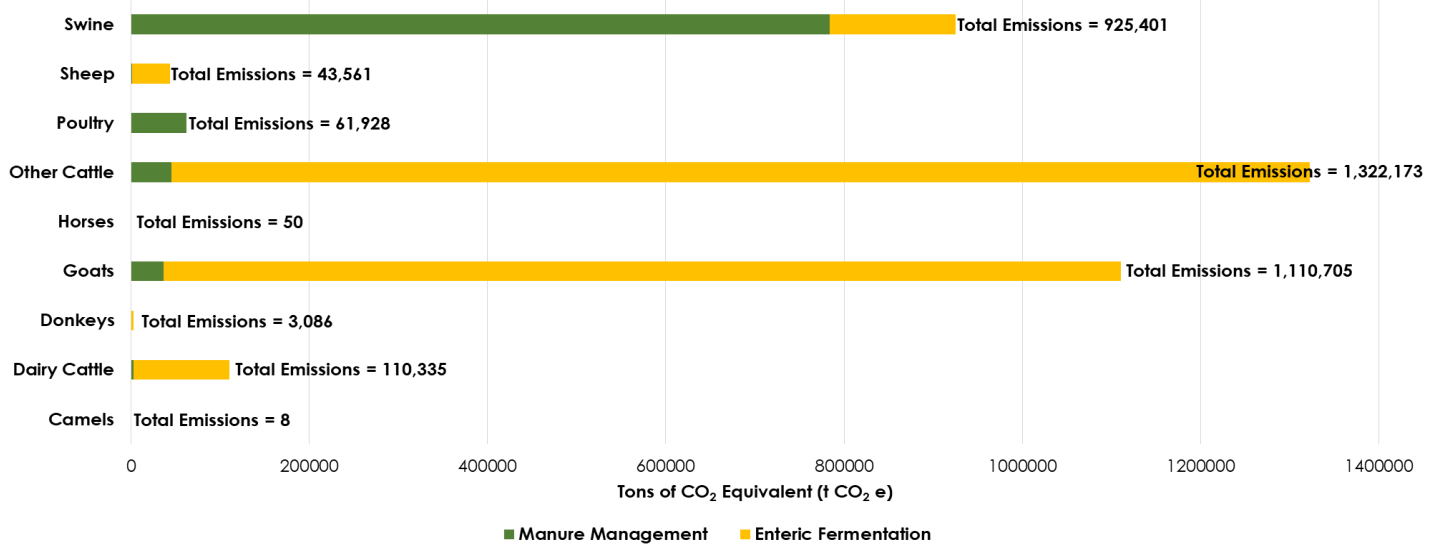
Emissions estimates produced by the GHG-IS help the government, investors, and donors develop effective, practical, and measurable progress toward green growth. By understanding what the greatest sources of emissions are, investments can be targeted to produce the greatest benefits.

The GHG-IS provides the most complete, detailed and up-to-date information on national livestock emissions that has ever been available in Malawi. This information allows government and businesses to identify what improved practices can produce greatest environmental outcomes and lower greenhouse gas emissions from the livestock sector.

LIVESTOCK AND CLIMATE CHANGE

Greenhouse gases are emitted as livestock digest food or from animals' manure as it decomposes. Livestock emissions are estimated by physical characteristics of animal breeds, animal populations, and management practices. Factors like breed, exercise, feed quality, type, and manure management systems all impact emissions. The GHG-IS is designed to comprehensively collect this information to improve estimates over time.

2017 TOTAL LIVESTOCK EMISSIONS BY TYPE IN MALAWI



Cattle, goats, and swine were the largest livestock emitters in 2017. As they digest feed, cattle and goats emit methane, a potent greenhouse gas, through a process called 'enteric fermentation'.

Methane and nitrous oxide (an especially potent greenhouse gas) are also emitted from livestock manure. In Malawi, swine contributes the largest proportion of emissions from manure management.



LIVESTOCK OPPORTUNITIES FOR GREEN GROWTH

Understanding emissions sources presents opportunities to lower the climate impact of livestock. Emission reduction activities may also increase productivity and resilience since interventions like improving feed quality and managing manure better have the potential to offer economic benefits.

Beneficial actions could include:

- Changing the breed, feed supplements, and improving pasture to make food more digestible for cattle and other livestock to lower emissions. Food that is harder to digest or lower in nutrition results in higher methane emissions.
- Transitioning to manure management systems with better aerobic conditions to limit methane generation and lower emissions, as concentrated manure (pits, piles, etc.) result in higher nitrous oxide emissions.
- Adopting technologies that capture and use manure methane emissions as a source of energy.
- Incentivising switching to livestock that produce less emissions such as poultry and small ruminants to reduce livestock emissions.

SOURCES

- https://www.scotland-malawipartnership.org/files/7715/0237/4094/Agriculture_and_Food_Security_in_Malawi_SMP_3.8.2017.pdf
- <http://www.fao.org/3/a-i3724e.pdf>

For more information about the GHG-IS and its uses, contact the EAD representative listed below.

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