Issues in livestock activity data
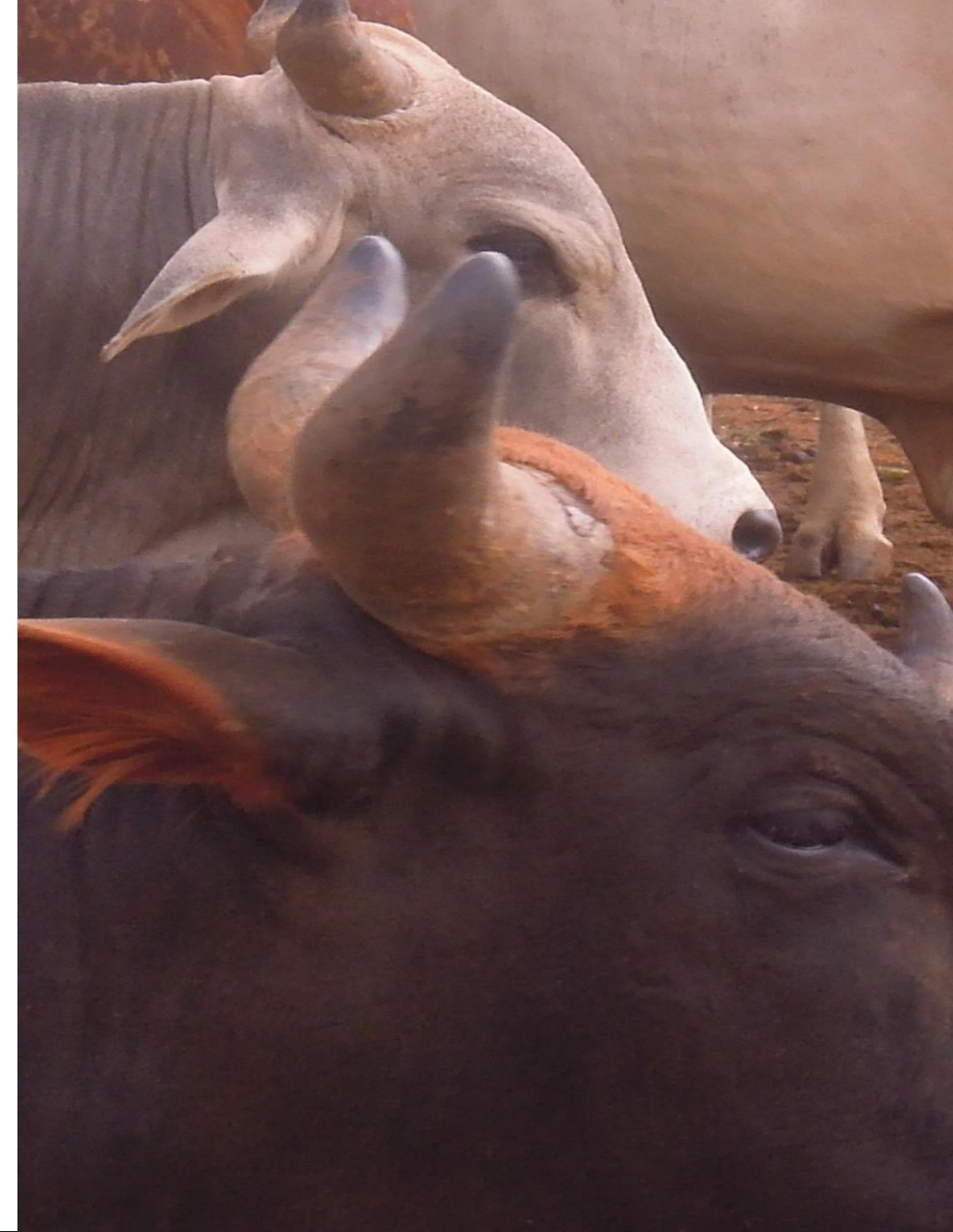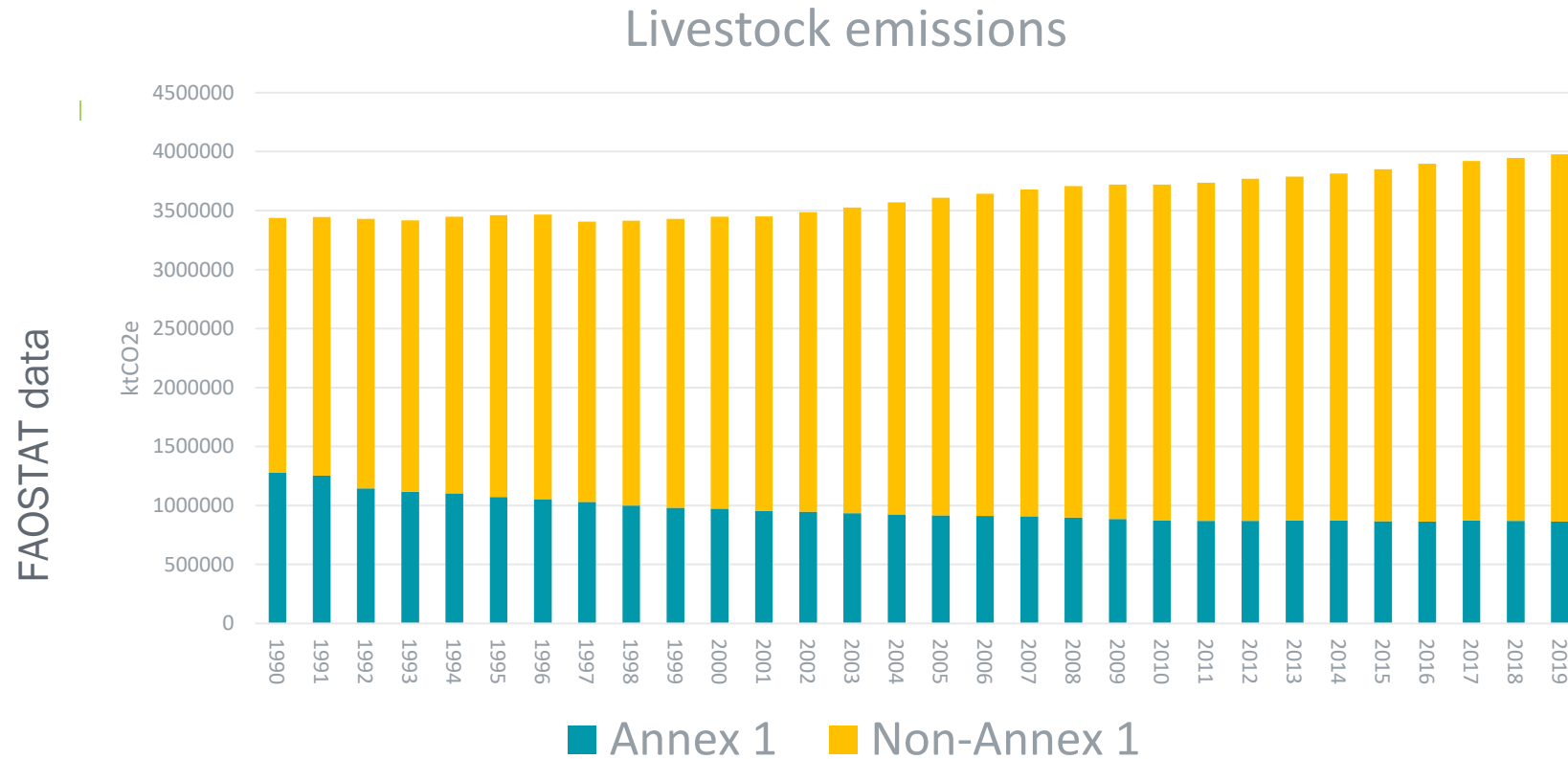
Andreas Wilkes (NZAGRC)

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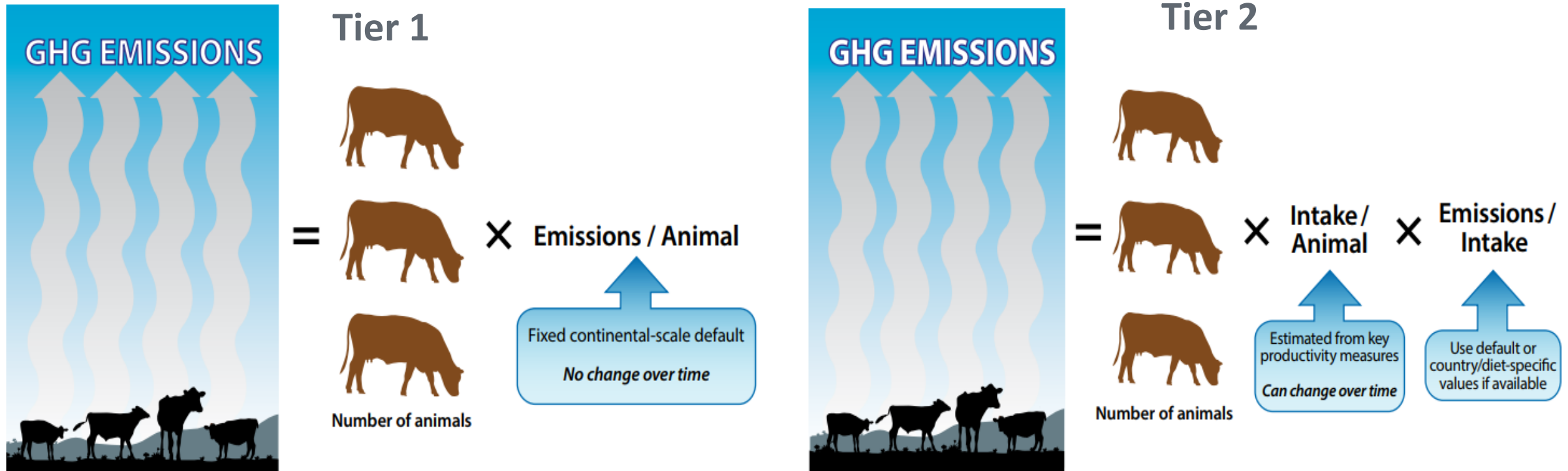- Resources for support and future needs

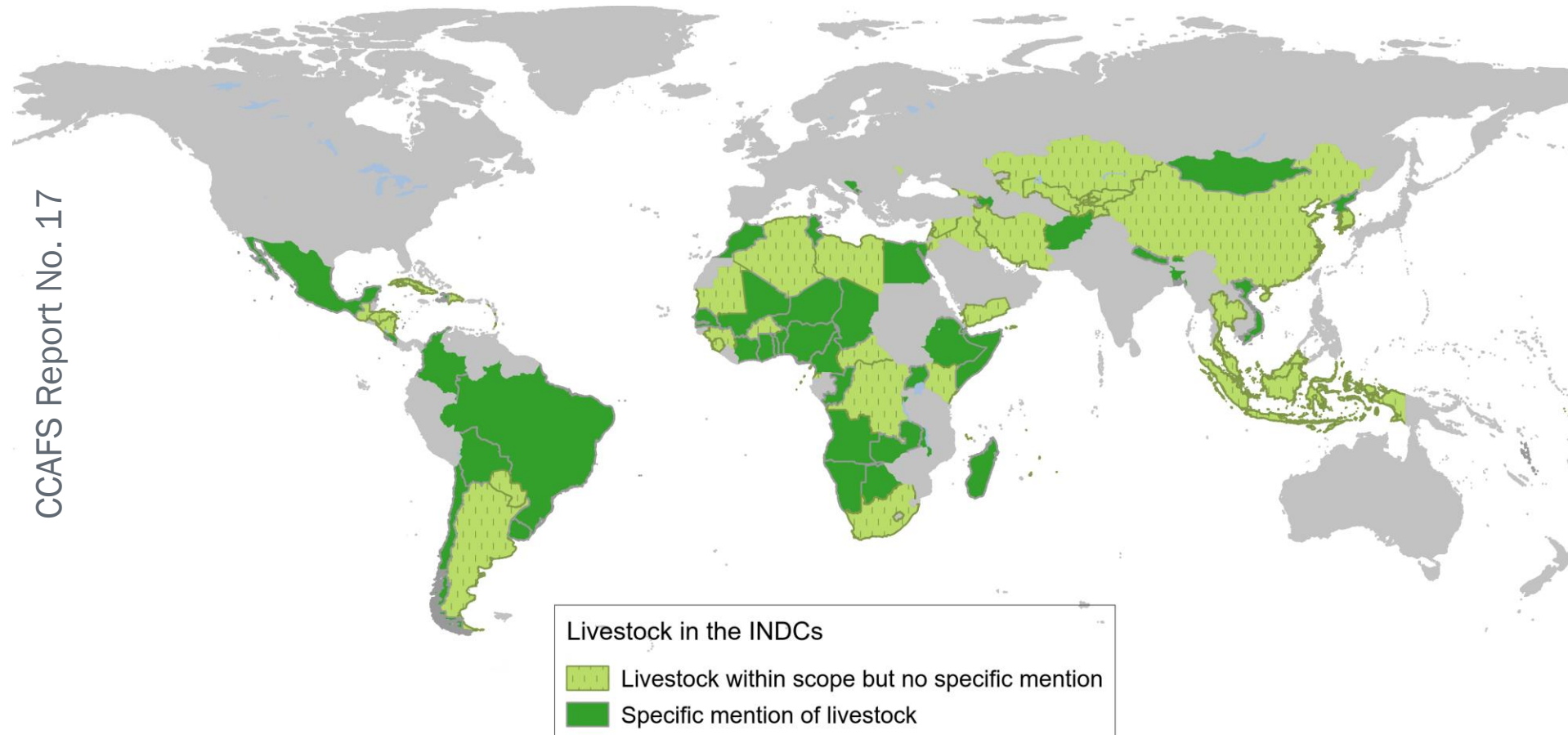# 1. Relevance of livestock activity data

Livestock emissions

- Livestock emissions account for about 66% of Agriculture emissions
- A major emission source in many developing countries in particular

1. Relevance of livestock activity data

- Tier 2 is much more useful for tracking effects of policies and measures

Tier 1

GHG EMISSIONS = (Number of animals) × Emissions / Animal

Fixed continental-scale default

No change over time

Tier 2

GHG EMISSIONS = (Number of animals) × Intake / Animal × Emissions / Intake

Estimated from key productivity measures

Can change over time

Use default or country/diet-specific values if available

1. Relevance of livestock activity data

Livestock in the INDCs

- Livestock within scope but no specific mention
- Specific mention of livestock

~ 100 developing countries include livestock emissions in their INDCs, but <30 use a Tier 2 approach. Activity data is perceived to be a major challenge

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Population data

Data availability

- Total populations in many developing countries
  - census infrequent
  - annual stats only for some production systems
- Sub-category populations in many countries
- Incomplete time series

Methods challenges

- Data collection in mobile livestock systems
- Populations in commercial sub-sectors (e.g. feedlots)
- Defining dairy cattle consistent with IPCC Guidelines and country circumstances

2. Common challenges

Animal performance data

Average Weight (kg)	Live weight for each animal type
Av. daily weight gain (kg)	Daily weight gain for growing animals
Milk yield (kg)	Annual average daily milk yield
Fat content (%)	Fat content of milk
% giving birth	% of cows giving birth
Hours of work	Annual average daily work hours
%DE	Feed digestibility
	- Diet composition
	- Chemical composition of feed
Ym	% of gross energy lost as methane

Data challenges

- Availability (esp. diet composition, DE%)
- Representativeness
- Cost-effective data collection methods

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2. Common challenges
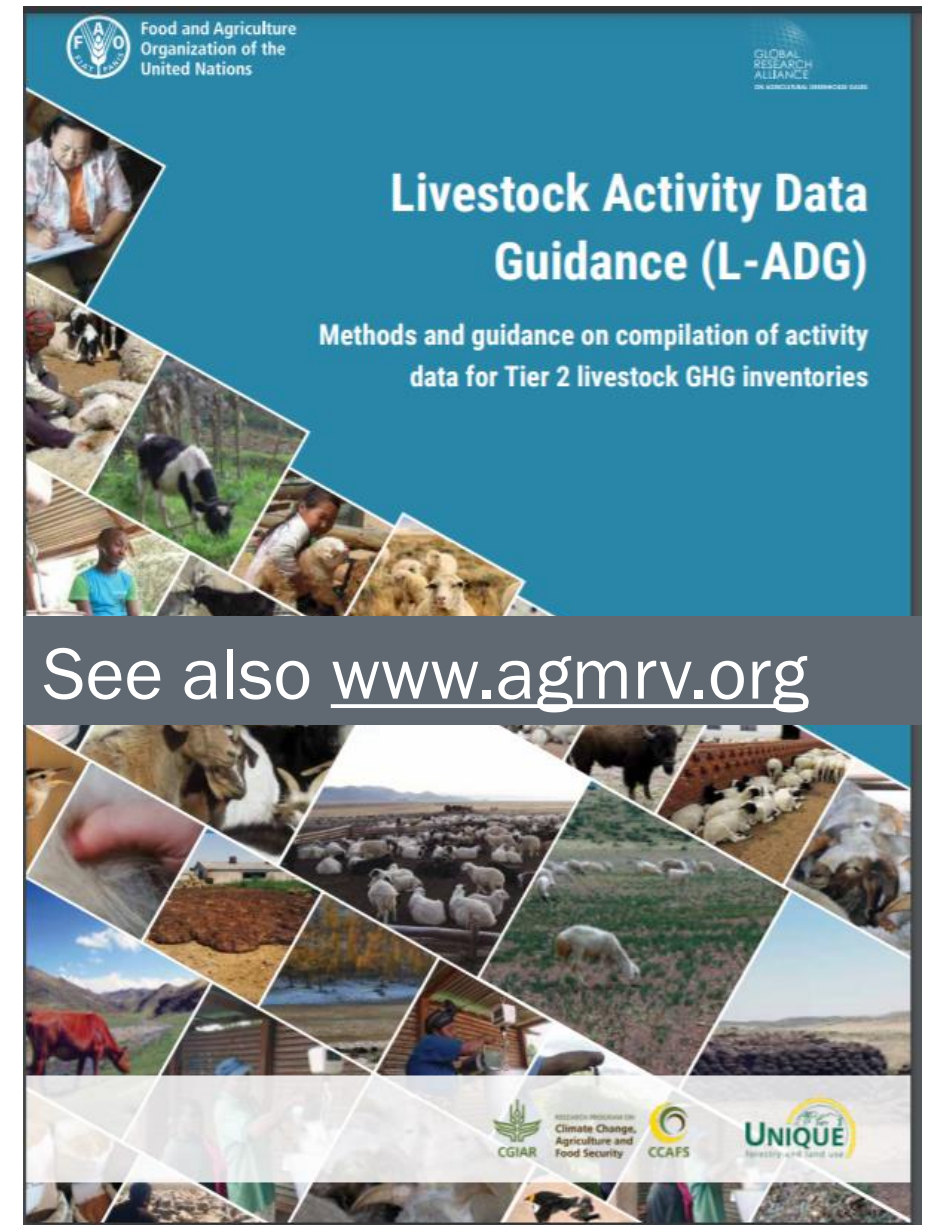
Manure management

Data challenges

- Availability: % of manure managed in different systems
    - Manure flows through different systems
    - Residence times in each system
- Rarely incorporated in national statistics in developing countries

3. Resources for support and future needs

Options:
- Making the best of available data
- Proxies
- Gap filling methods
- …
- Useful tools
- Worked examples
- Methodological guidance

Livestock Activity Data Guidance (L-ADG)

Methods and guidance on compilation of activity data for Tier 2 livestock GHG inventories

See also www.agmrv.org

3. Resources for support and future needs

Key future needs

- Cost-effective data collection methods
  - High-resolution, accurate data is costly
  - What is the uncertainty associated with 'second-best' data collection method (e.g. household surveys)
- Guidance on data collection, e.g. for manure management systems
- Making available data accessible, e.g. diet composition and feed quality data

At country level:

- Collaboration to improve livestock data for stakeholders' multiple data needs

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Key points

- Common demand to improve livestock GHG inventories in many countries

- Need for user-oriented innovation & guidance for common activity data needs

- Better livestock data is not only useful for GHG inventories – let's work together on it!