

Livestock, food security and climate change

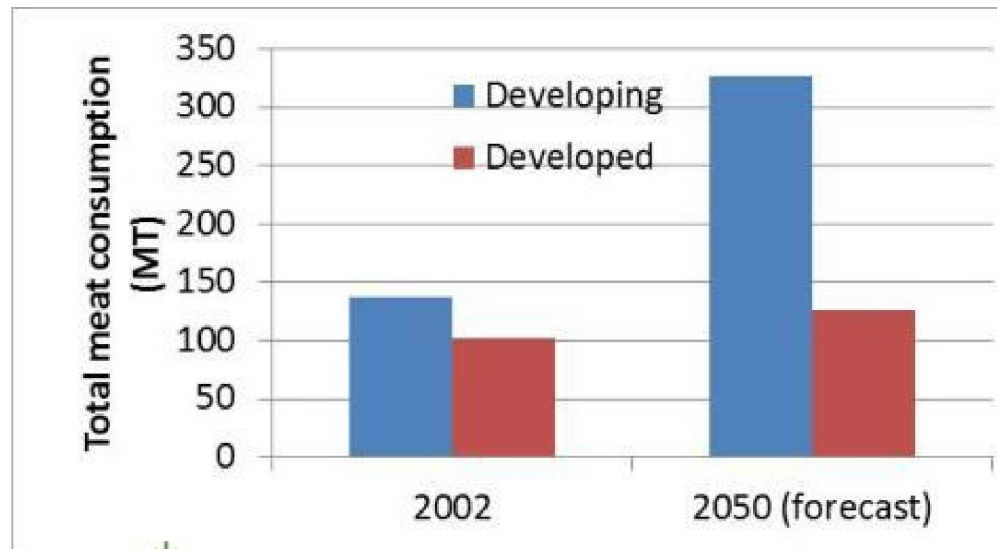
Iain Wright

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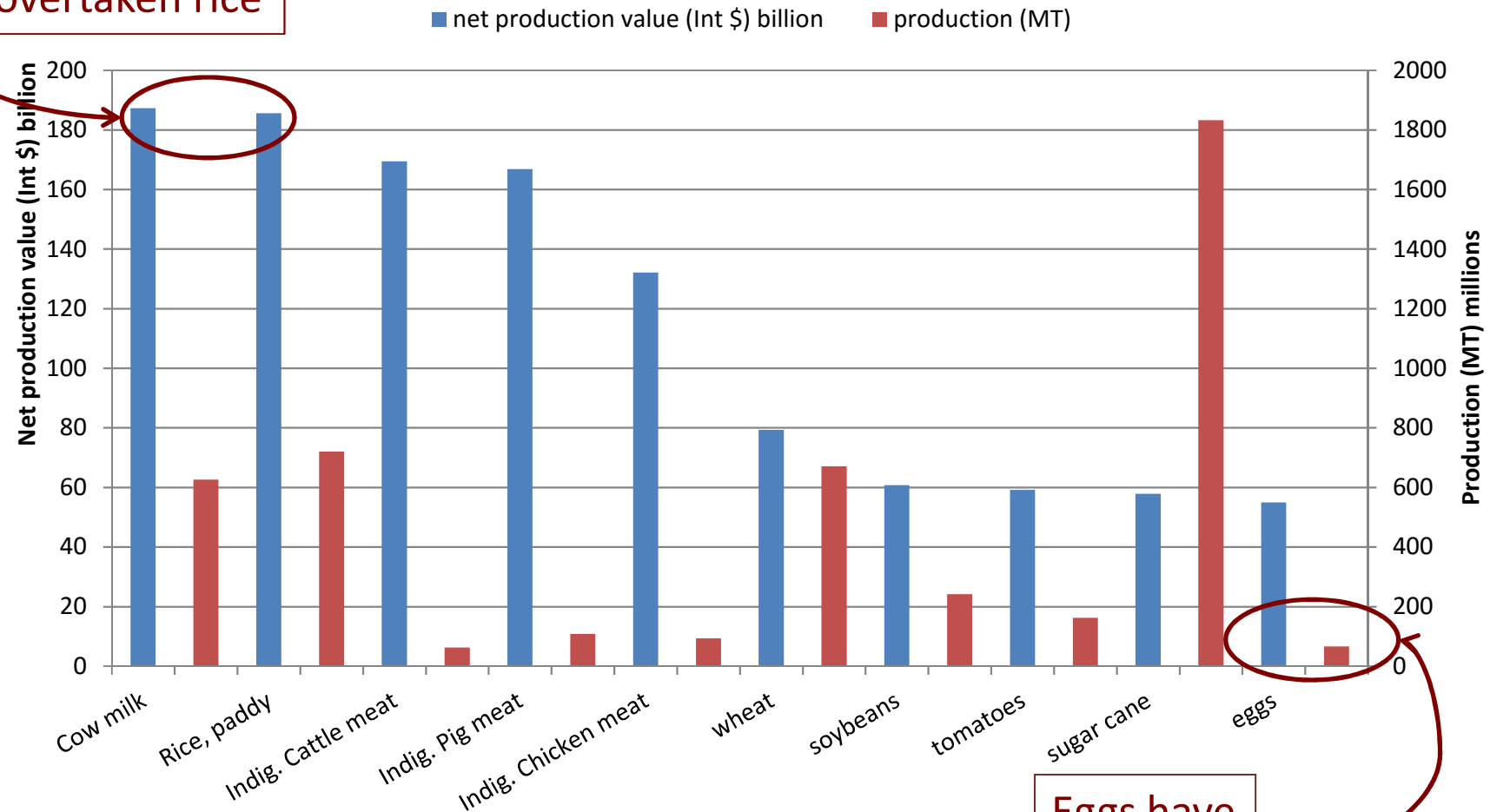
Economic opportunities in the livestock sector

- 37 billion domestic animals
- Asset value \$1.4 trillion
- Employs 1.3 billion people



4 of 5 highest value global commodities are livestock

Cow milk has overtaken rice

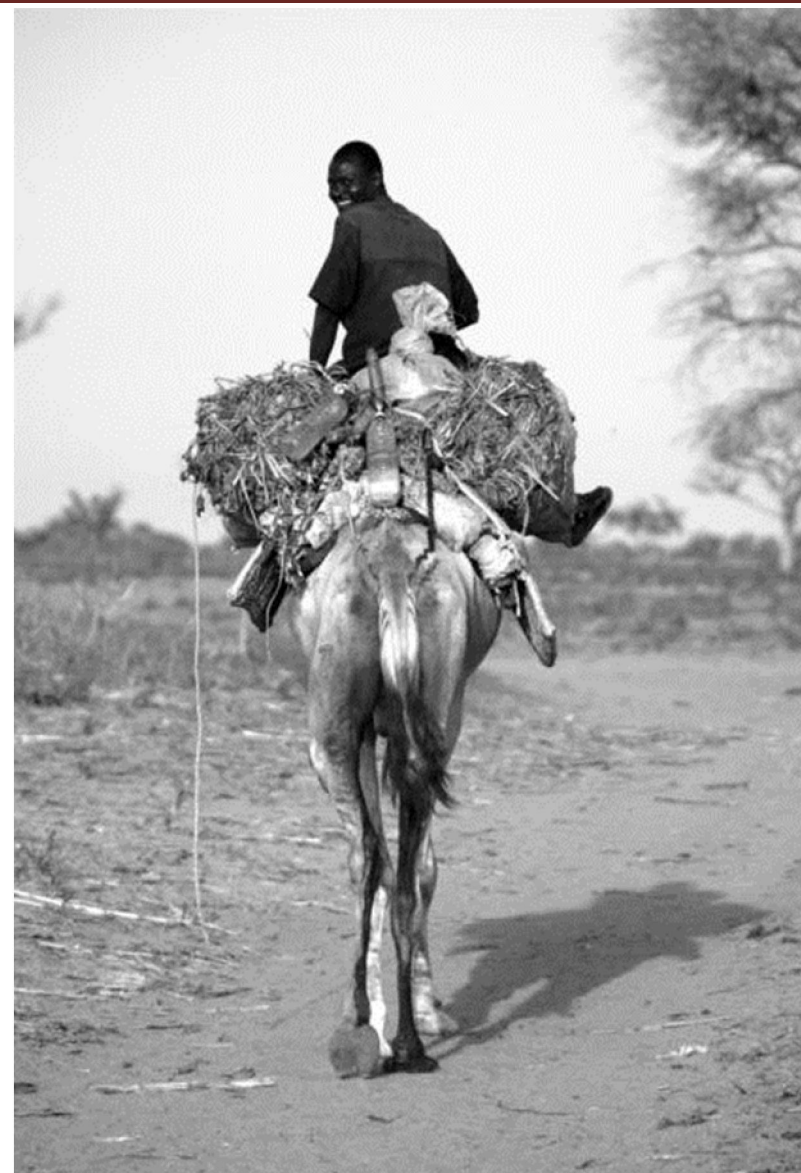


Eggs have displaced maize

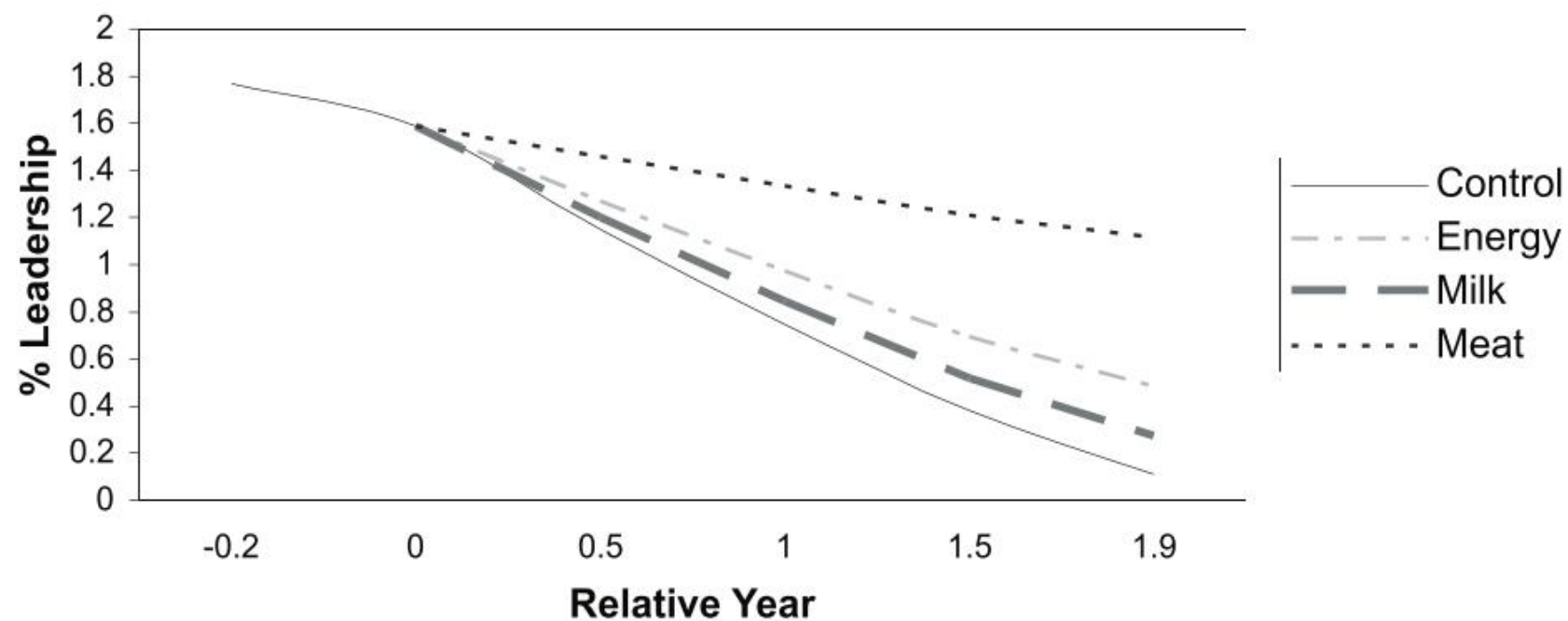
FAOSTAT 2014
(values for 2012)

Livestock's contribution to agricultural GDP (IGAD Region)

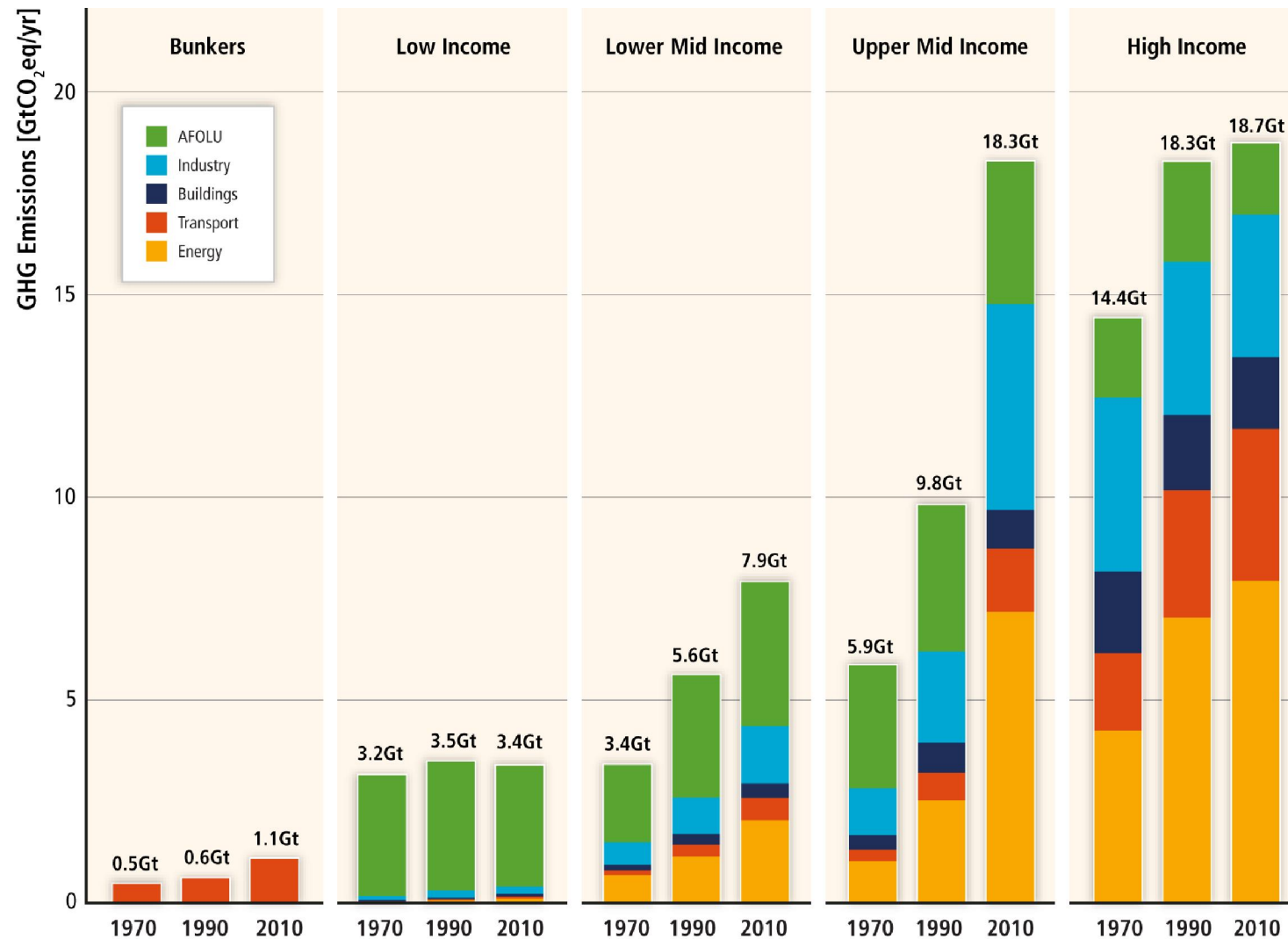
- Livestock contribute an average of 40 % of the agricultural GDP
 - Eritrea - 93%
 - Sudan - 60%
 - Tanzania- 14%
 - Burundi - 13%



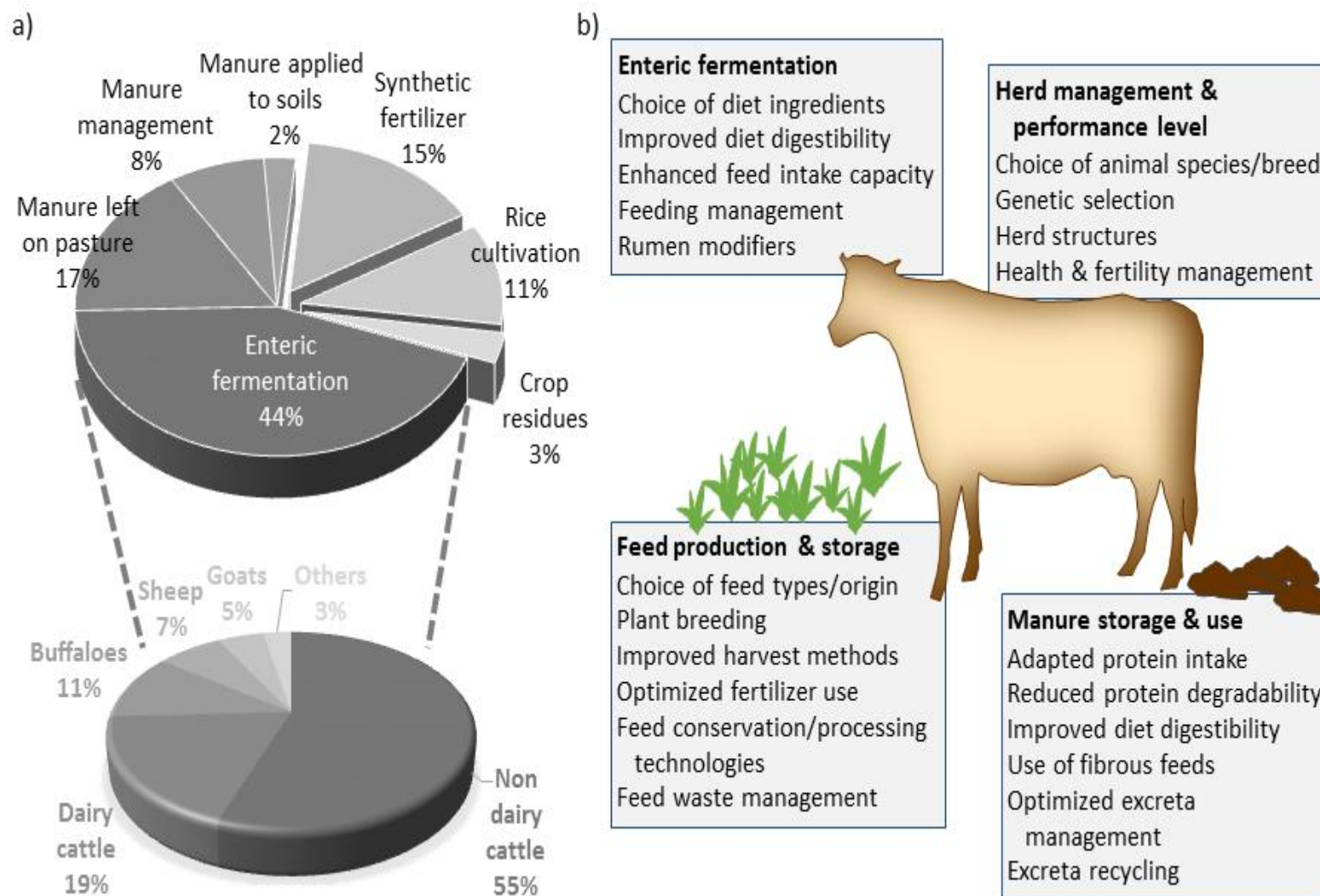
Supplementation with milk and meat increases leadership behaviour in school children



Importance of Agriculture to GHG emissions



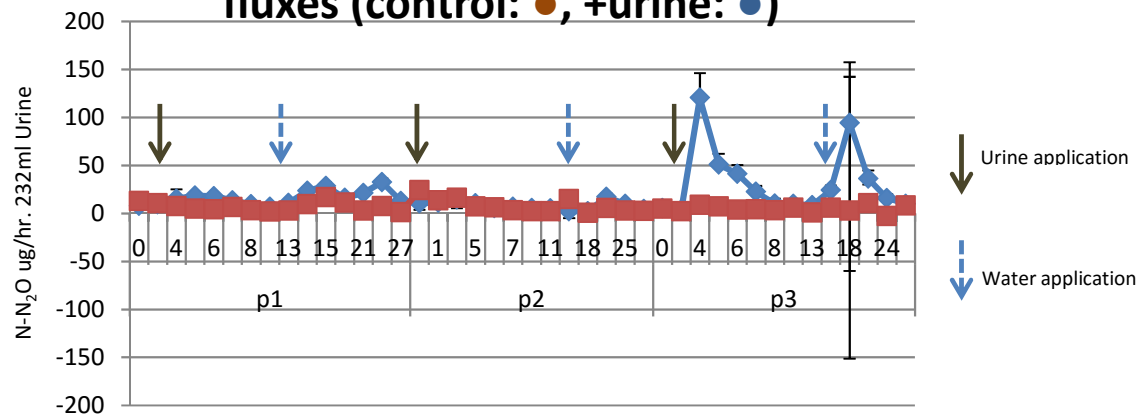
Sources of GHG emissions during livestock production (Dickhoefer et al., 2014)



CH₄ and N₂O emissions due to manure management



Urine addition to rangeland and effects on N₂O fluxes (control: ●, +urine: ●)



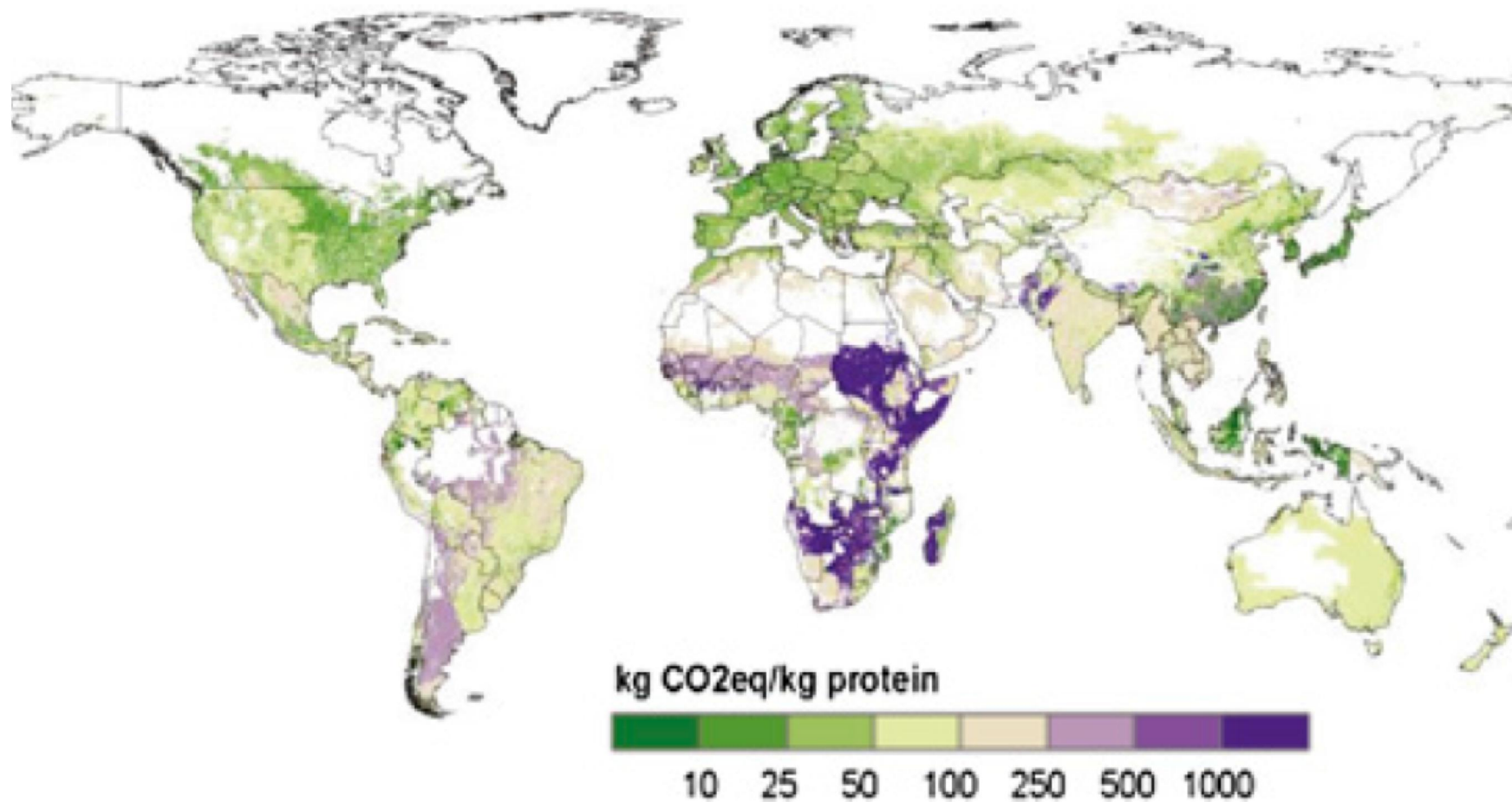
- IPCC guidelines: 2% of added feces or urine N lost as N₂O
- Our data: 0.2 - 0.8% of added N lost as N₂O



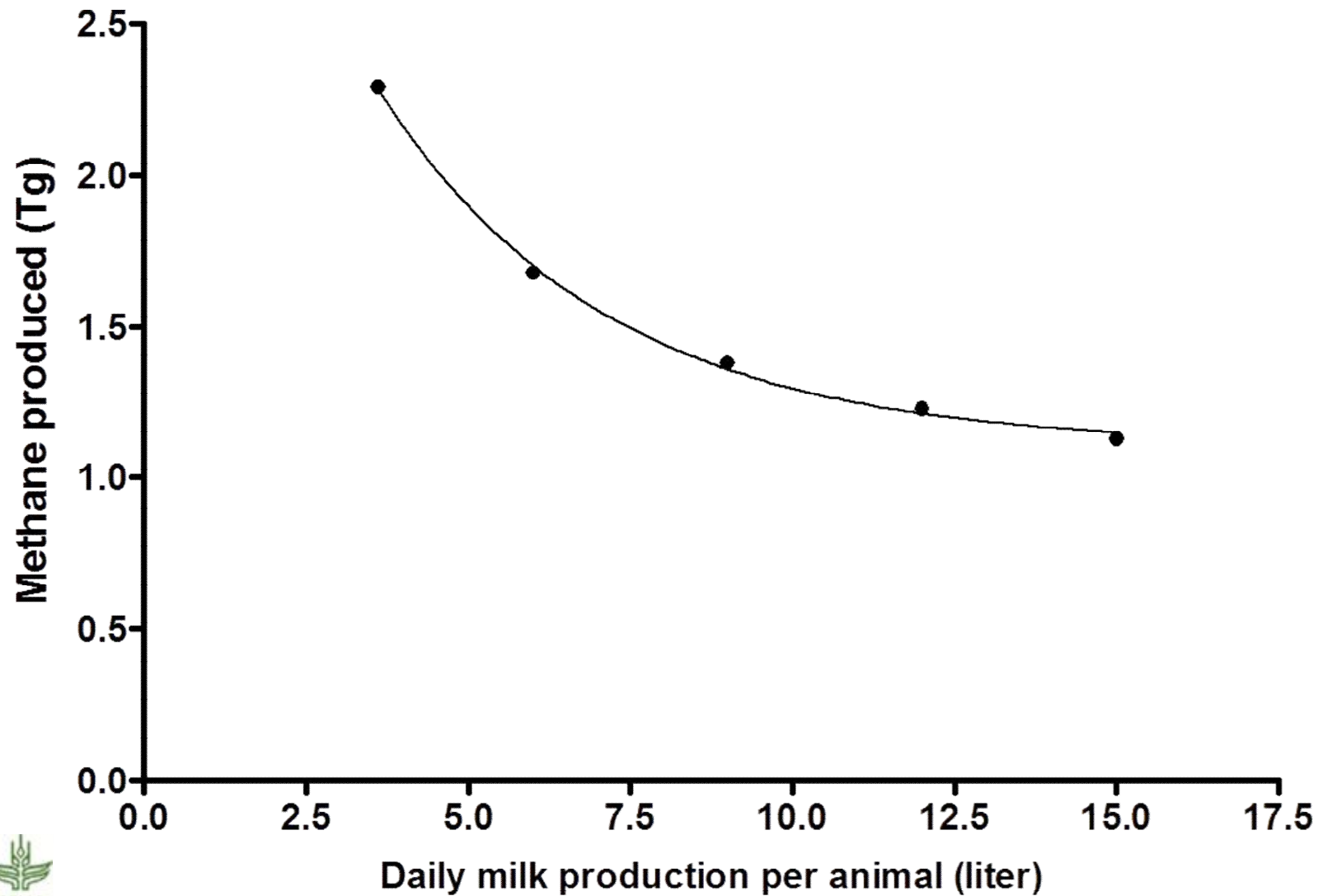
Lack of knowledge on
manure management
associated GHG emissions
in SSA

GHG intensity of livestock production

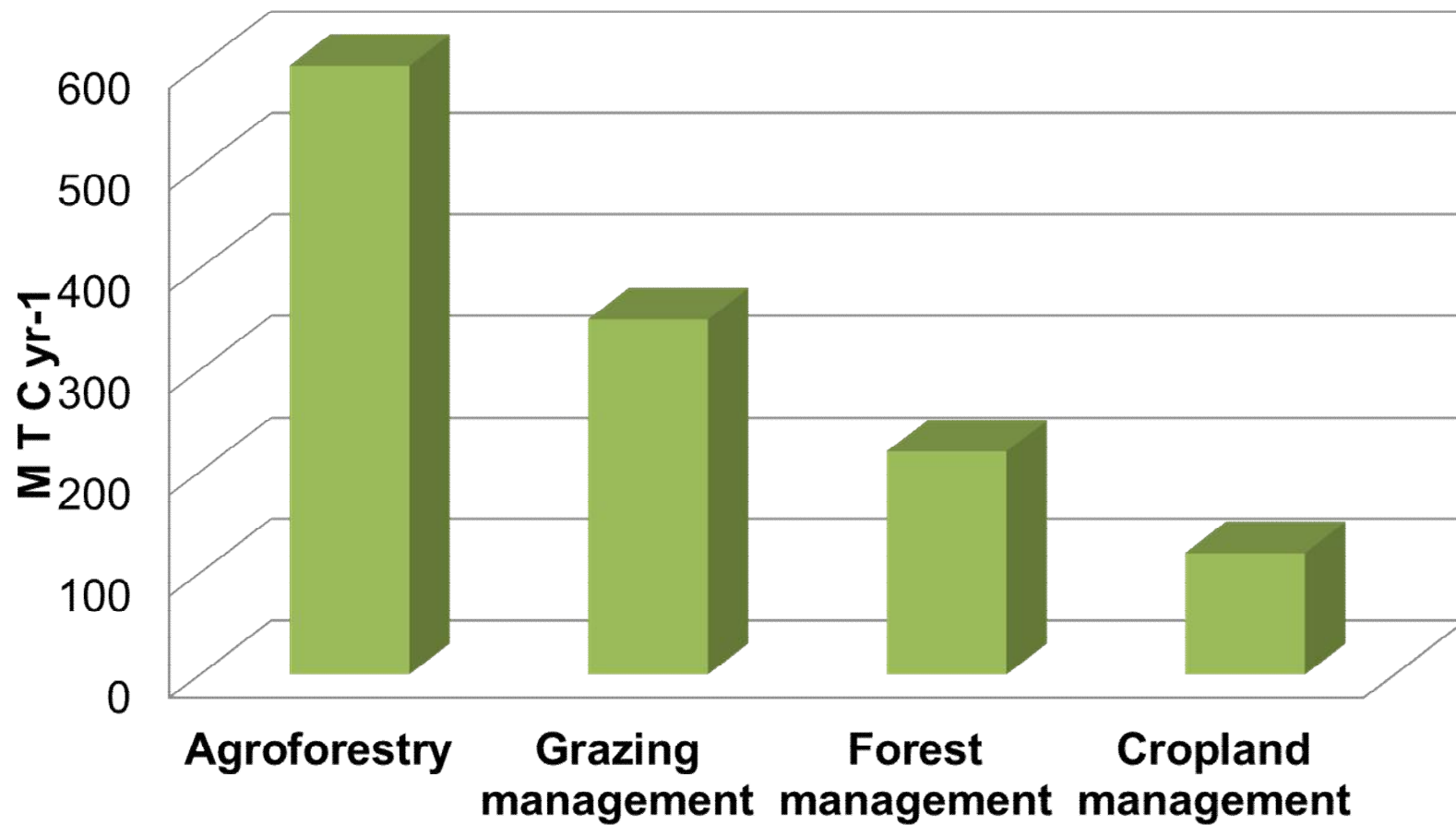
(Herrero et al., 2014)



Daily milk yield and methane emissions



Potential carbon sequestration by 2040



Opportunities and challenges in the livestock sector

Provides food and nutritional security

BUT overconsumption can cause obesity

Powers economic development

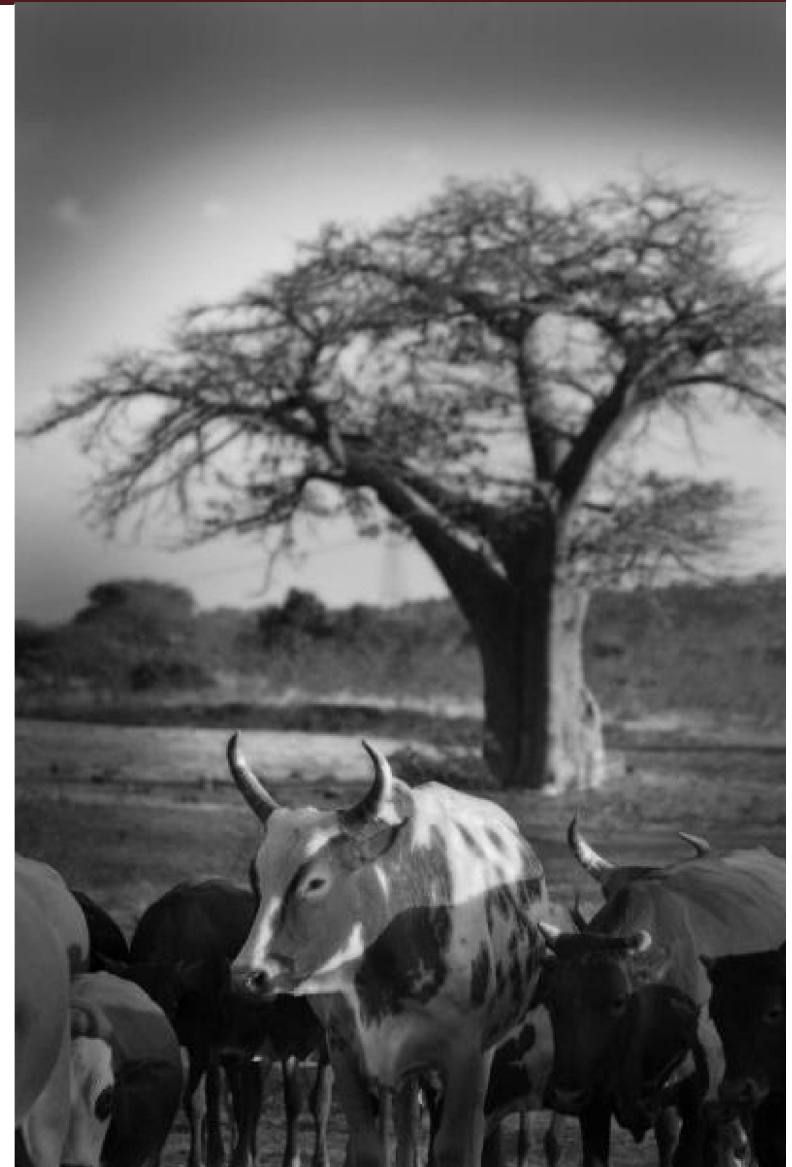
BUT equitable development can be a challenge

Improves human health

BUT animal-human/emerging diseases
and unsafe foods need to be addressed

Enhances the environment

BUT pollution, land/water degradation,
GHG emissions and biodiversity losses
must be greatly reduced



Key messages

1. Livestock offer huge opportunities for economic growth, employment and livelihood support
2. Animal source foods play a vital role in food and nutrition security
3. While livestock contribute to GHG emissions there is huge scope for reducing emissions intensity through improved productivity
4. Restoration and proper management of pasturelands could increase C sequestration more than in forests

better lives through livestock

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