

# Livestock and resilient future food systems: Developing countries and global perspectives

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# CGIAR: Science for a food-secure future

## 15 research centres working in more than 70 countries



### ILRI's Mission

Improve food and nutritional security and reduce poverty in developing countries through research for efficient, safe and sustainable use of livestock—  
*ensuring better lives through livestock*

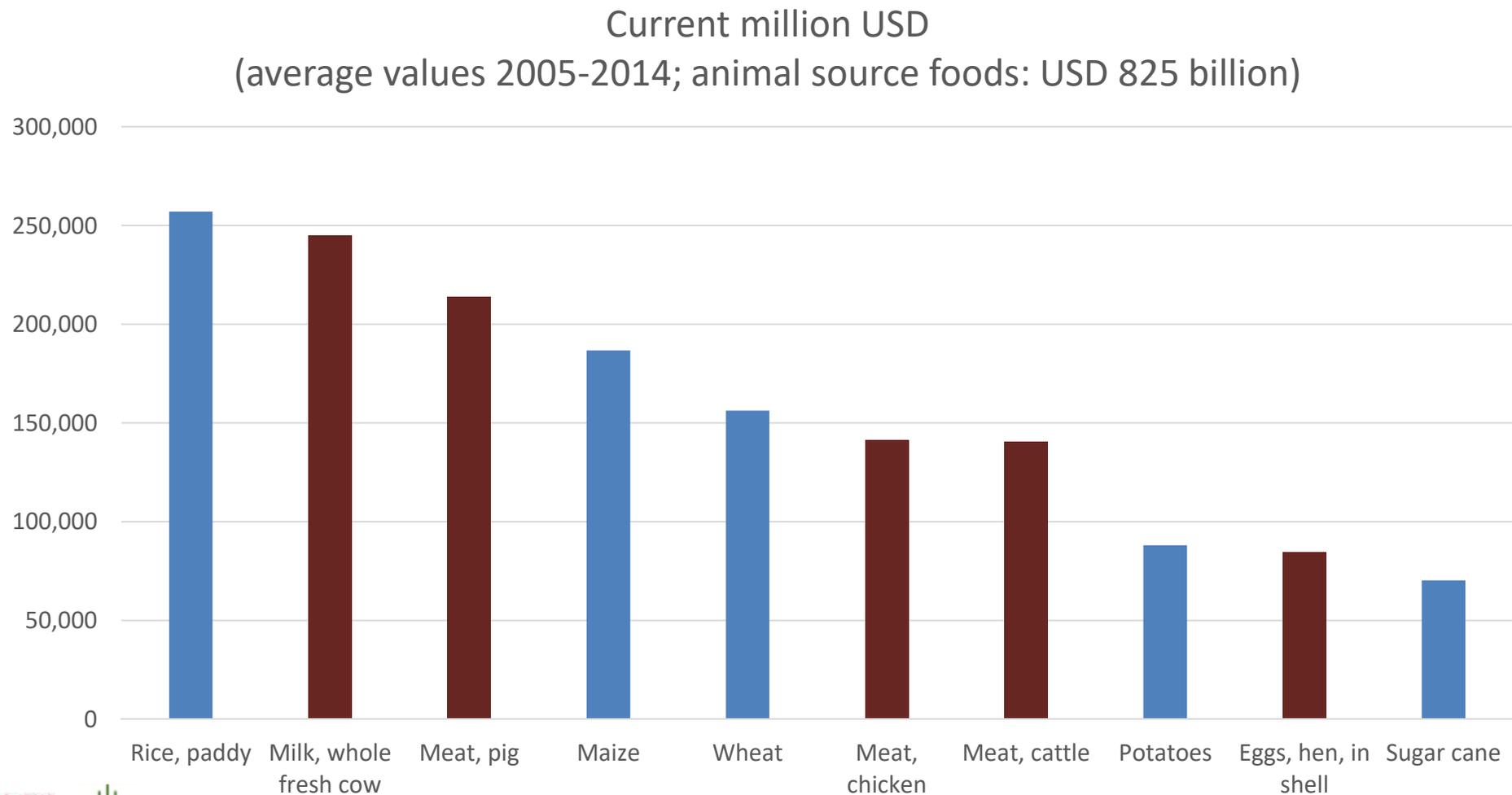
# Livestock commodities

Demand  
Supply

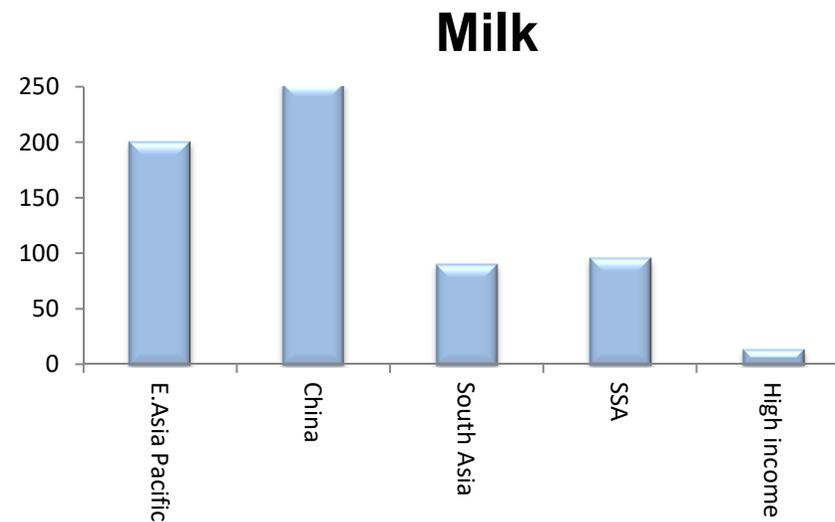
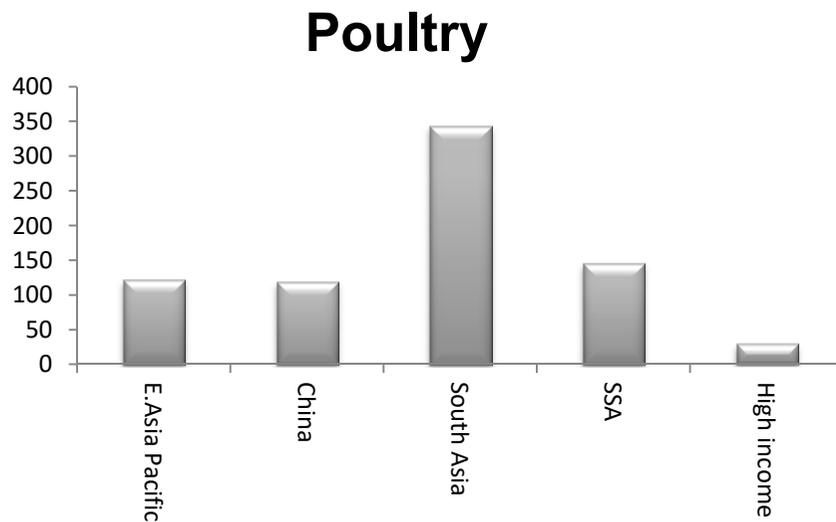
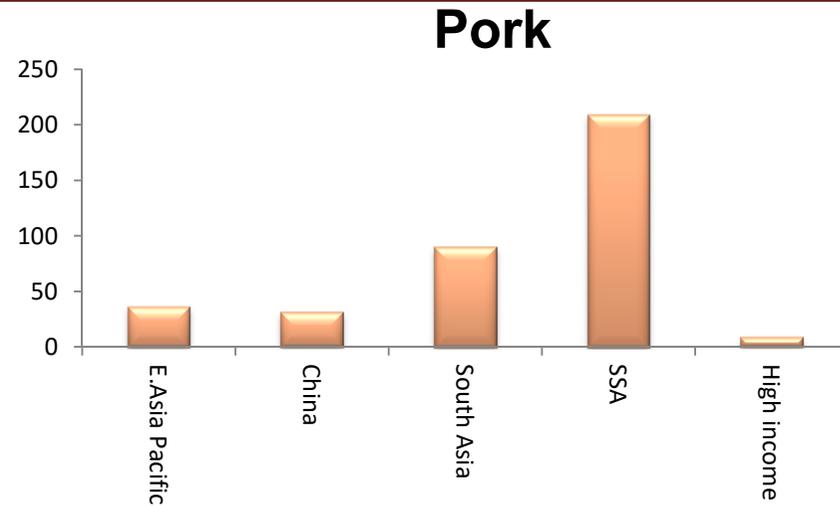
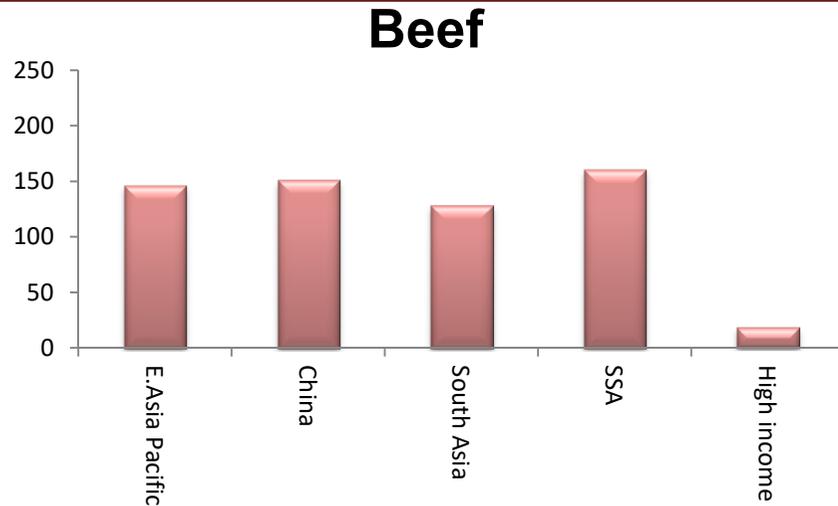
and

Transition

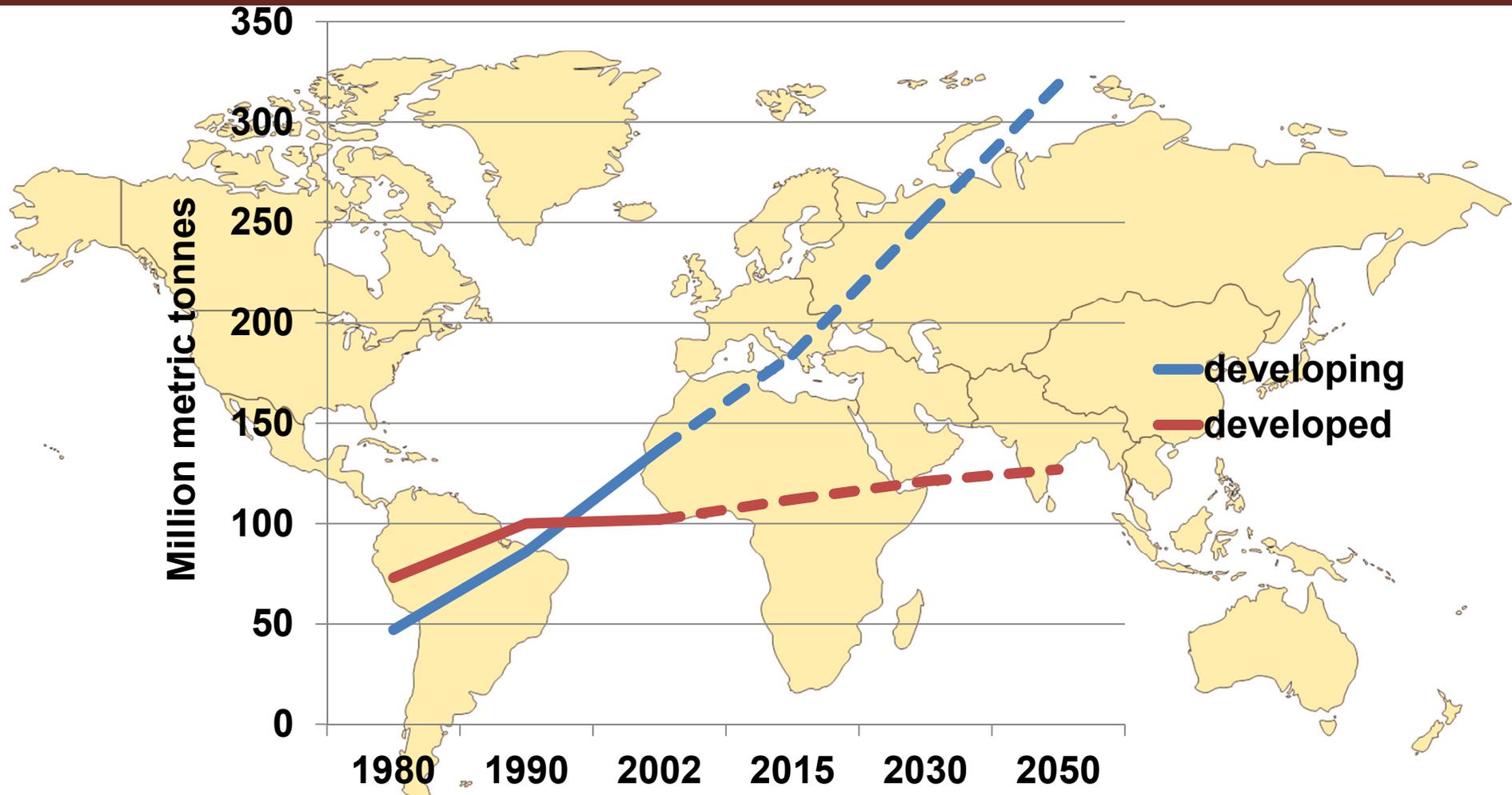
# Global commodity values: On average, animal-source foods make up 5 of the top 10



# % growth in demand for livestock products 2000–2030



# Gains in meat consumption in developing countries are outpacing those of developed



Increases not because of overconsumption!

EU average 2016 = 69 kg/capita

SSA average 2016 = 8 kg/capita

# Demand for livestock commodities in developing economies will be met—presenting new opportunities

## **Trade opportunities**

Meeting livestock demand by

--livestock products and inputs--

## **New business and input supply opportunities**

Meeting livestock demand by

--*investments in production and know-how*--

## **Development opportunities and new markets**

Meeting livestock demand by

--*transforming smallholder livestock systems*--



# Livestock Sector

Opportunities  
and  
Challenges

# Agenda 2030's Sustainable Development Goals

- Livestock contribute indirectly to all 17 of the SDGs and directly to at least 8 of the goals.
- Negative press about, and low investments in, livestock development jeopardize Agenda 2030.



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# Finding Solutions

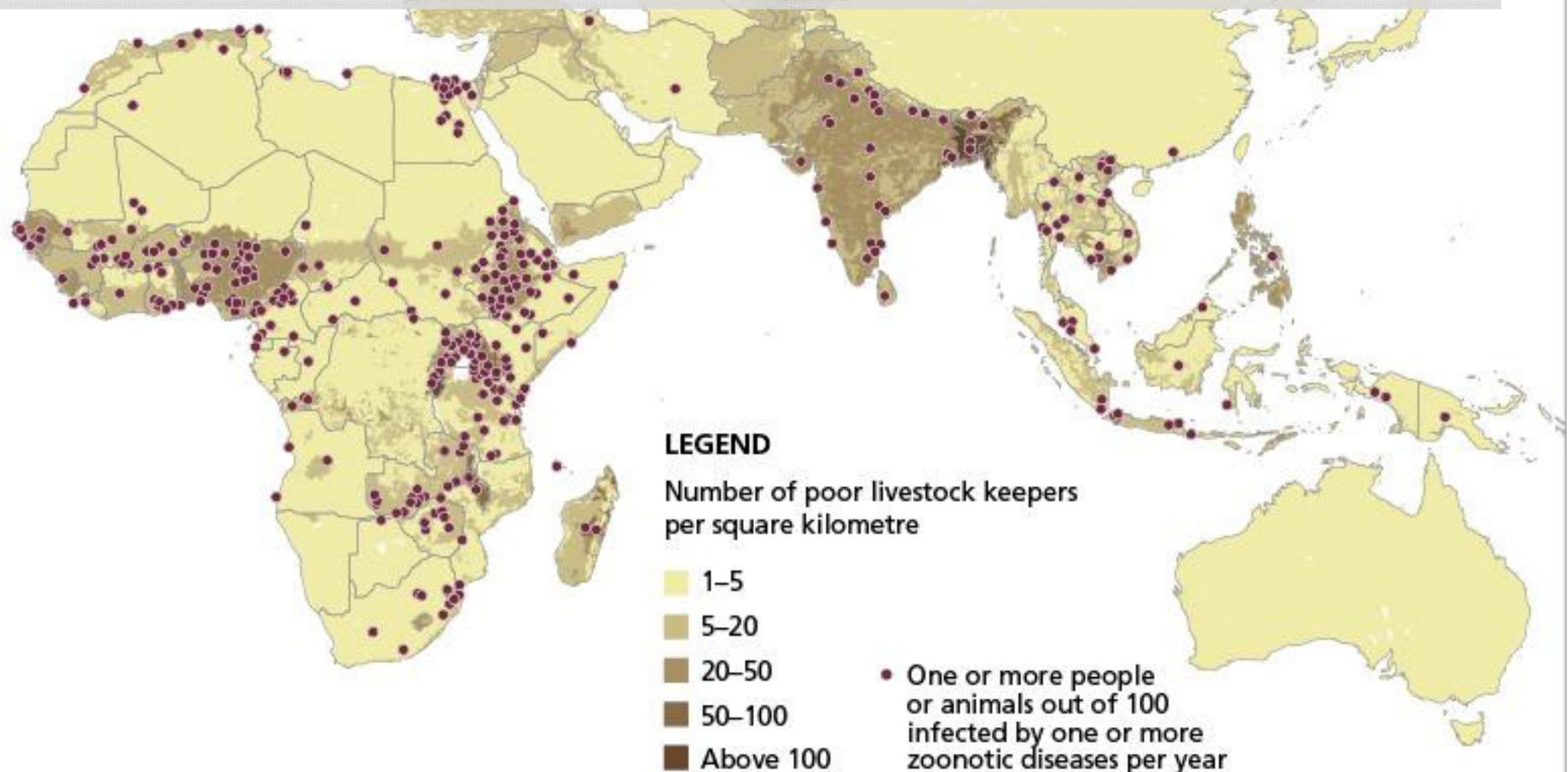
Science  
Partnership  
Investment

# Livestock can help mitigate rather than escalate key global challenges

- **Environment**
  - Livestock production accounts for 14% total GHG emissions
- **Health**
  - Controlling emerging infectious diseases costs USD6.7 billion annually
  - Antimicrobial resistance: a potential cost of 10 million lives per year and a cumulative risk to USD100 trillion of economic output by 2050
  - Less than one third of the global population is well-nourished, 30% consume too much with an economic cost of healthcare of USD2 trillion
- **Peace and security**
  - There were 247 million migrants in 2015 – a three fold increase from 50 years earlier
- **Animal rights**
  - A vociferous anti-livestock message can have deleterious consequences for development

# Controlling (zoonotic) livestock diseases stops their transmission to humans

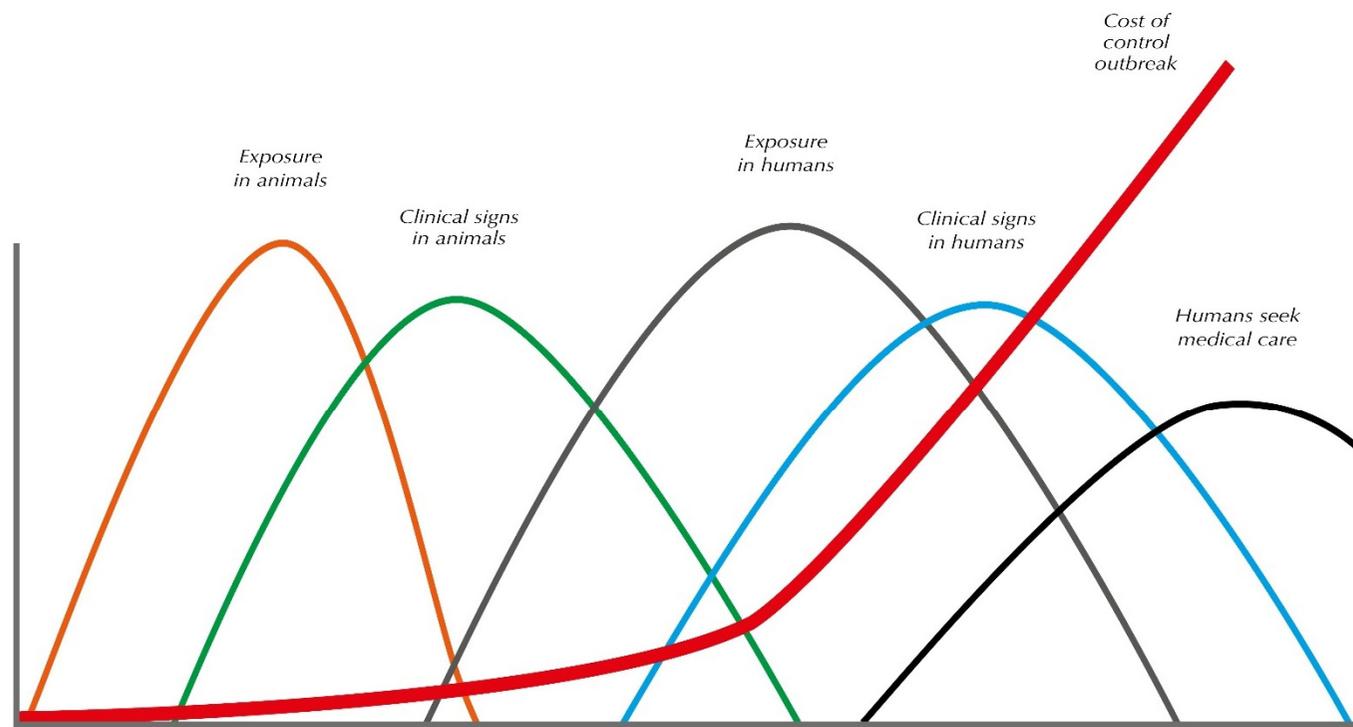
13 zoonoses sicken 2.4 billion people, kill 2.2 million people and affect more than 1 in 7 livestock each year



Map by ILRI, from original published in an ILRI report to DFID: *Mapping of Poverty and Likely Zoonoses Hotspots*, 2012.

# Big opportunities for livestock-health to reduce the threat of pandemic disease events

- Better animal disease surveillance, one-health and 'herd health' could save billions by addressing disease outbreaks in animals rather than people as timely 'sentinels'
- A global investment of US\$25 billion over 10 years in One Health could generate benefits worth at least US\$125 billion



# Big opportunities for livestock-health to address antimicrobial resistance

A **'3R'** approach to supporting rational drug use in developing countries:

**Reduce:** policy, regulatory and market incentives

**Replace:** vaccines, resistance in breeds

**Refine:** practices in animal husbandry and biosecurity

## Partnerships:

- Collaboration between countries and sectors (health-livestock-environment) is essential
- WHO-OiE-FAO: Global Action Plan on AMR
- Needed: research partnership



## Investment:

- For USD9 billion per annum investment:

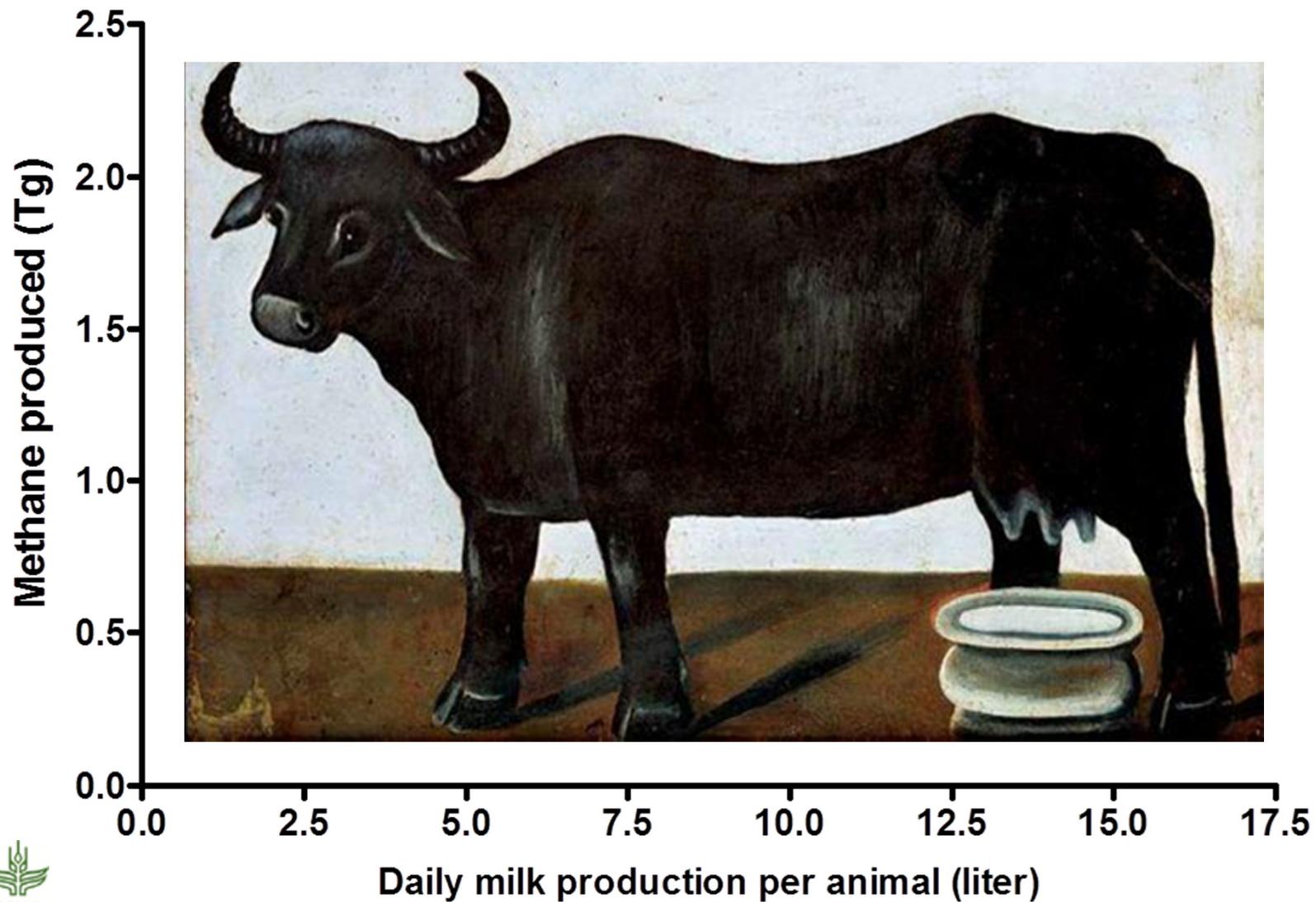


USD10-27 trillion global benefits 2017-2050

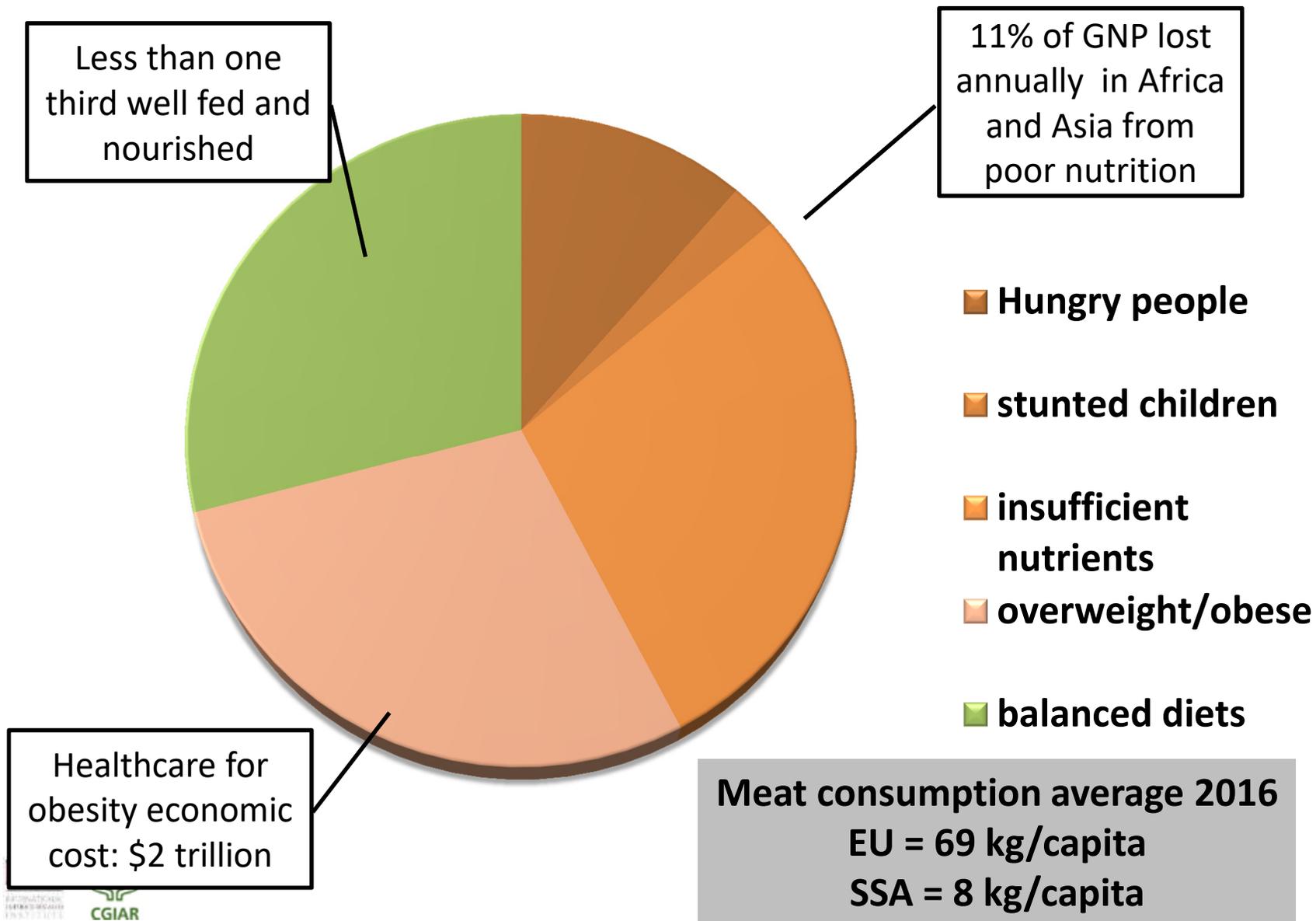
# Big opportunities for livestock-environment

- **Productivity ‘win-win’**
  - 63% reduction on carbon footprint per unit of milk in US over 60 years through better productivity
  - Potential for similar solutions in south Asia to reduce GHG emissions in the dairy sector by 38%
- **Obtain accurate livestock GHG emission figures**
  - Support developing-country-led solutions to climate change as specified in nationally appropriate mitigation actions (NAMAs).
- **New science:**
  - ‘low carbon’ cows?
  - Rumen manipulation?
- **Livestock’s essential role in a robust bio-economy:**
  - Optimal and balanced use of biomass.

# Production of the greenhouse gas methane falls as animal productivity rises



# Nutritional divides among 7 billion people today

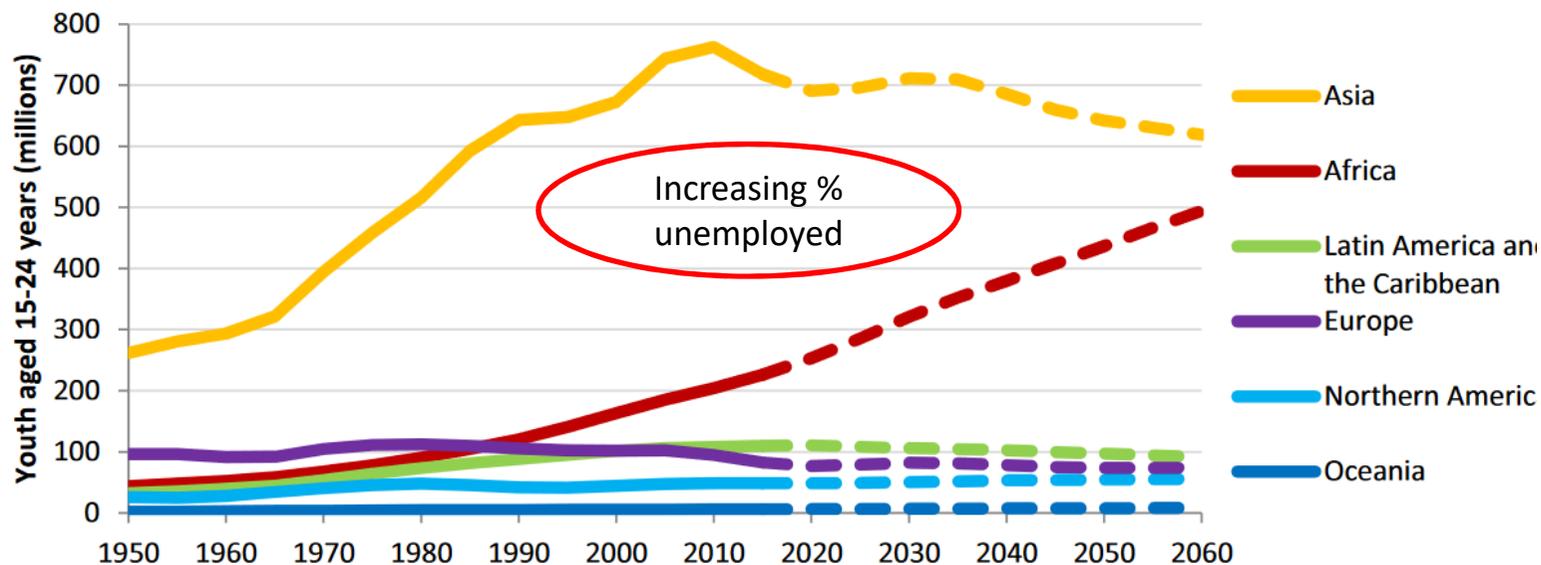


# Big opportunities for livestock development to contribute to solving migration

## Migration

- Half the 247 million migrants are under the age of 18
- 65% are in developed economies
- Numbers are growing at 3% annually since 2000
- 80% come from developing economies seeking jobs and opportunities

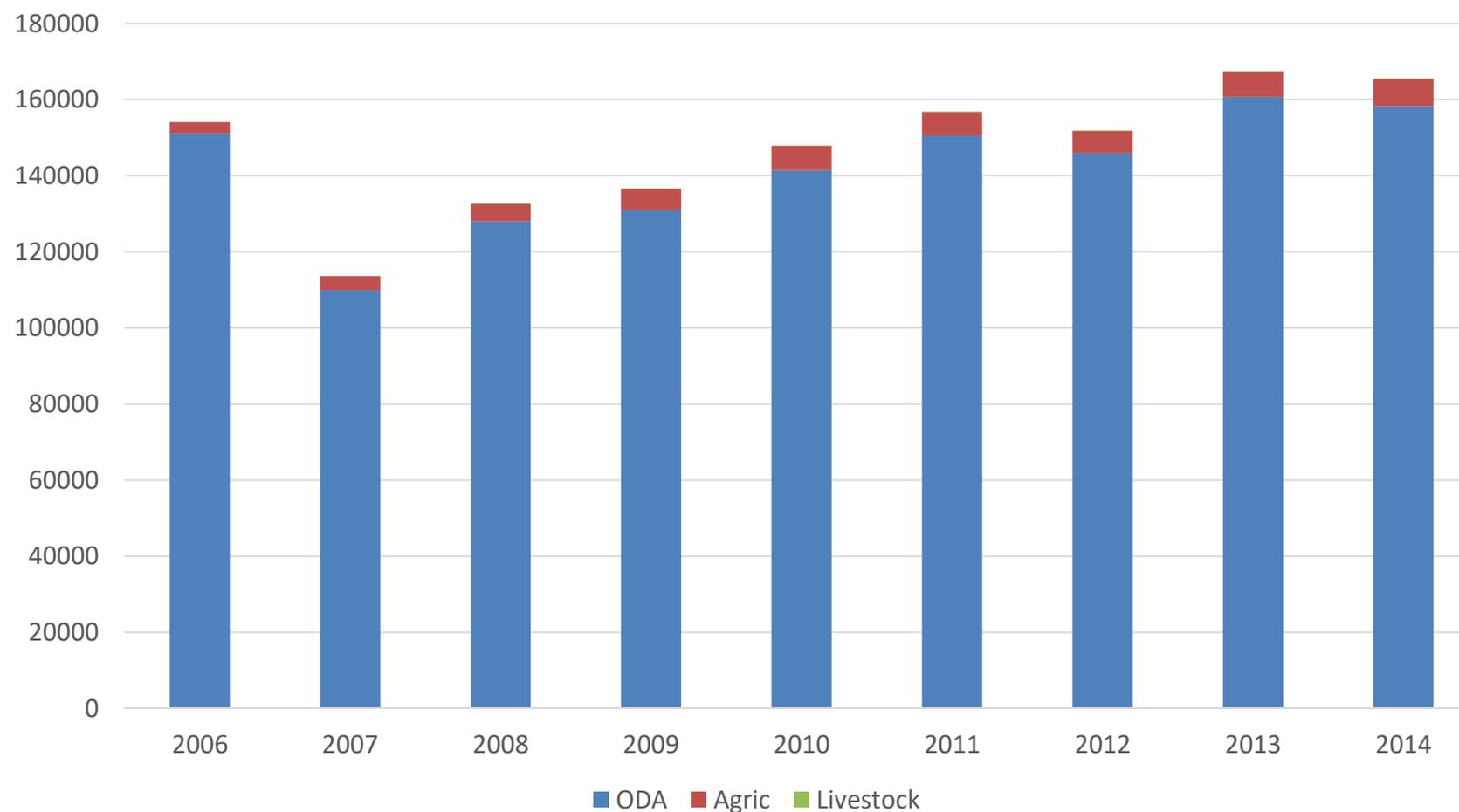
Figure 1: Youth aged 15-24 years, by region, 1950-2060



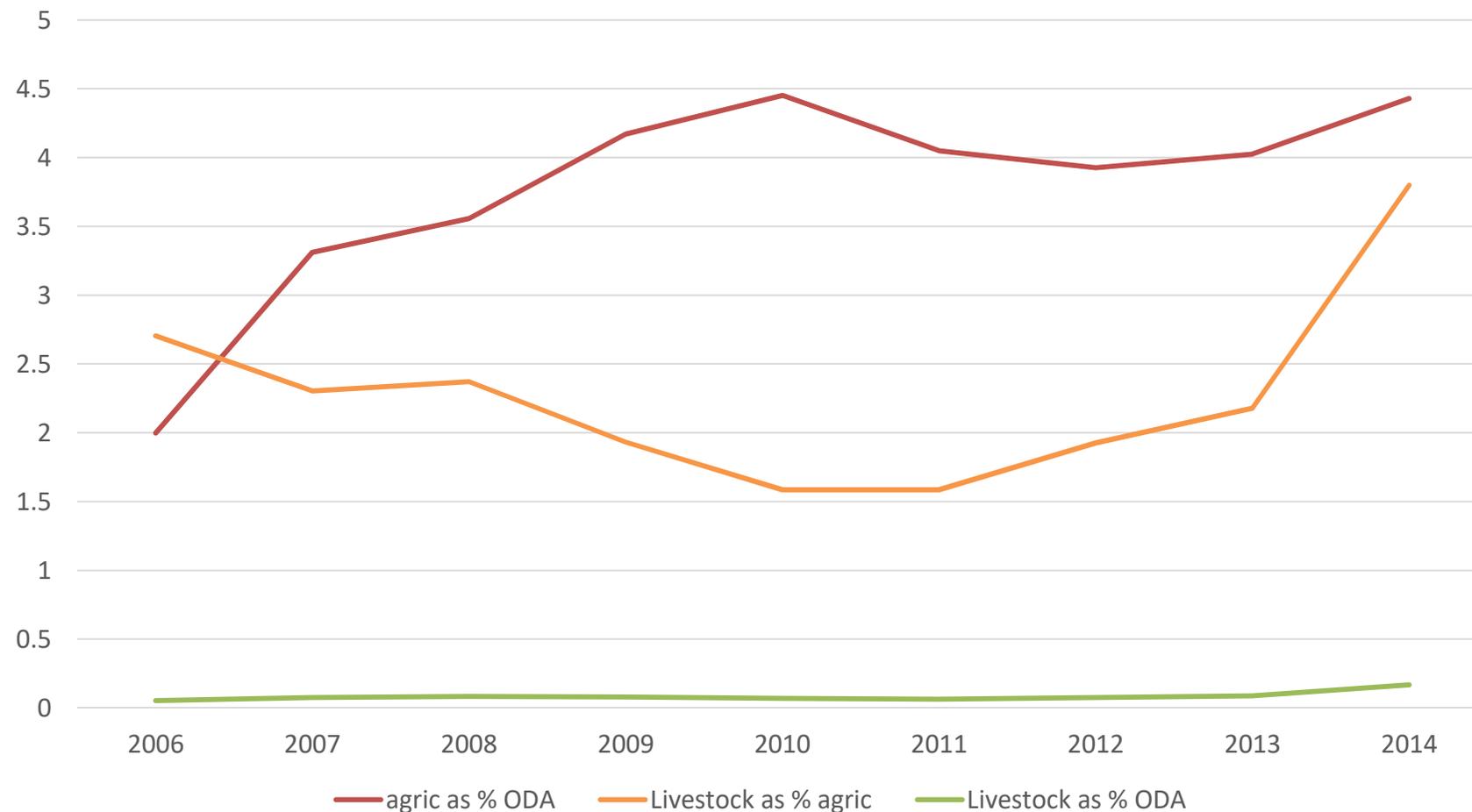
# Conclusions

Grasping opportunities together

# Total official development assistance (ODA) disbursements in 2014 were USD165 billion



# ODA disbursements to agriculture's (huge) livestock subsector are dramatically less than warranted



Source OECD

# Working together

- Keep the messages nuanced  
Strong voices (of the North) must not drown out the often contrasting roles of livestock in developing economies
- Support partnerships and initiatives that connect across and beyond the livestock sector
- Invest in livestock (research, development) to tackle—not ignore—challenges with evidence-based solutions

# Thank you!

## *better lives through livestock*

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ILRI thanks all donors and organizations who globally supported its work through their contributions to the **CGIAR system**

*Patron: Professor Peter C Doherty AC, FAA, FRS*

*Animal scientist, Nobel Prize Laureate for Physiology or Medicine–1996*

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