

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

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*Meeting of the Agricultural Chief Scientists of G20 States (MACS)
14 November 2017*



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

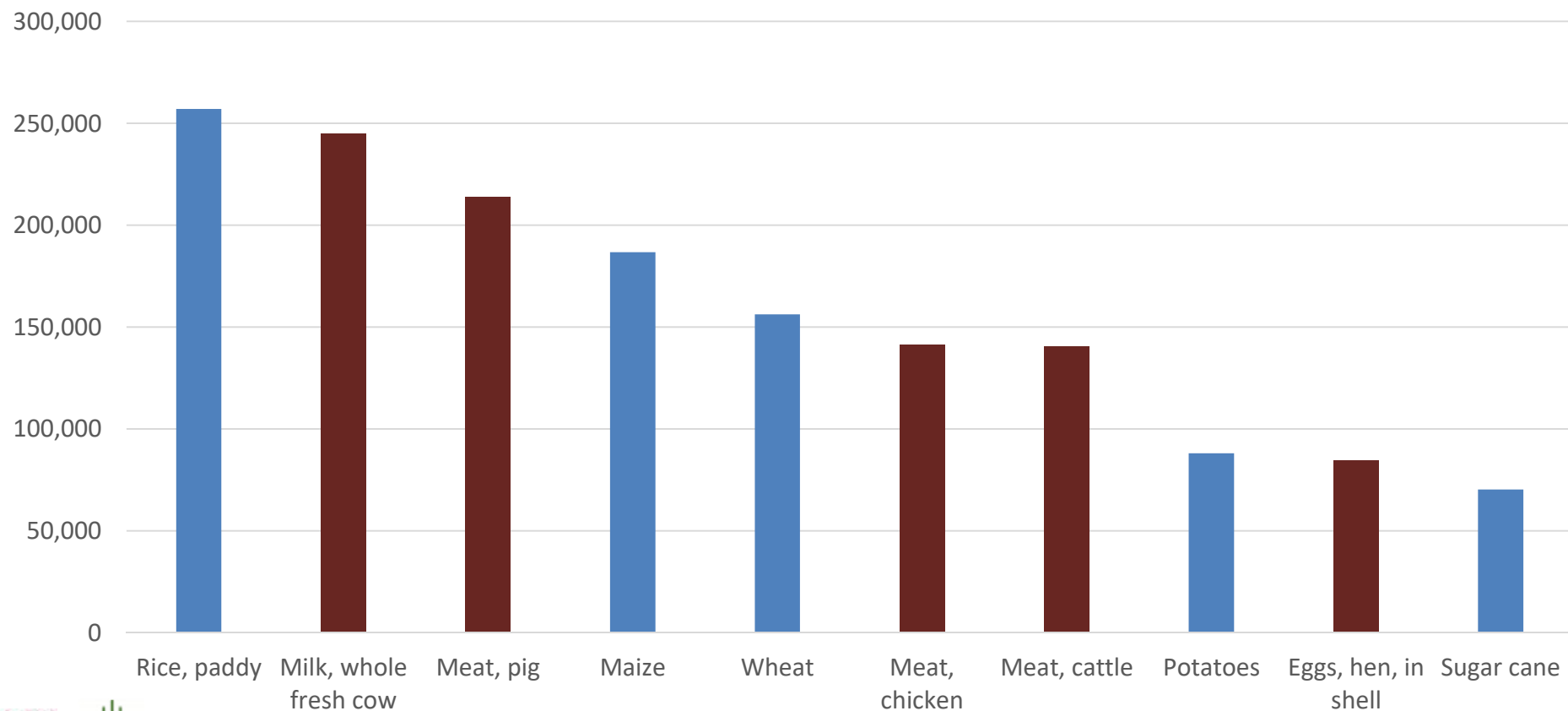
Demand
Supply

and

Transition

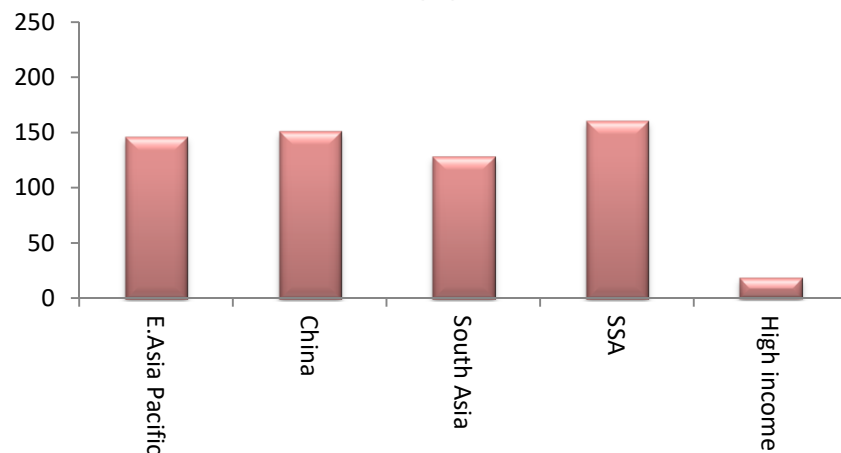
Global commodity values: On average, animal-source foods make up 5 of the top 10

Current million USD
(average values 2005-2014; animal source foods: USD 825 billion)

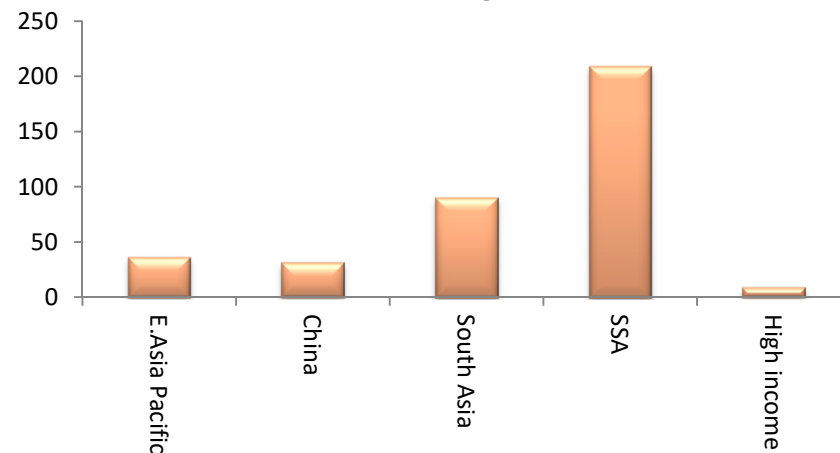


% growth in demand for livestock products 2000–2030

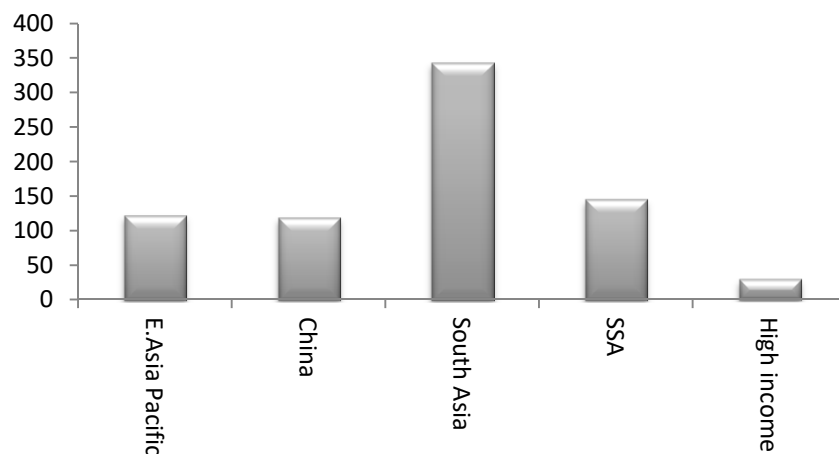
Beef



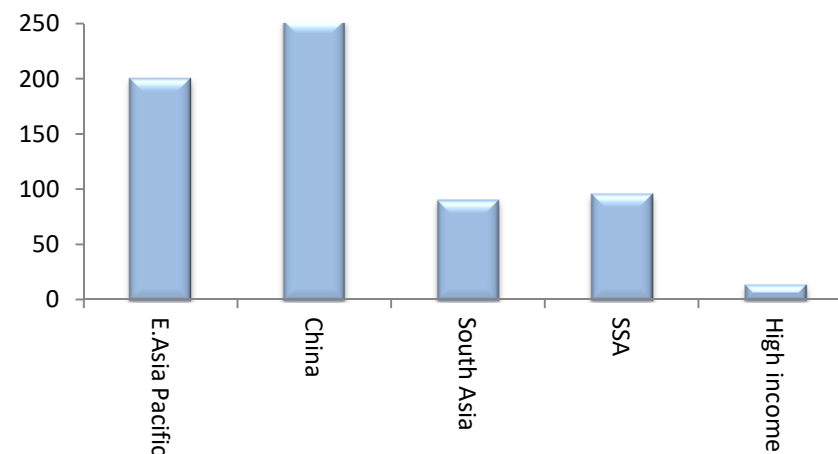
Pork



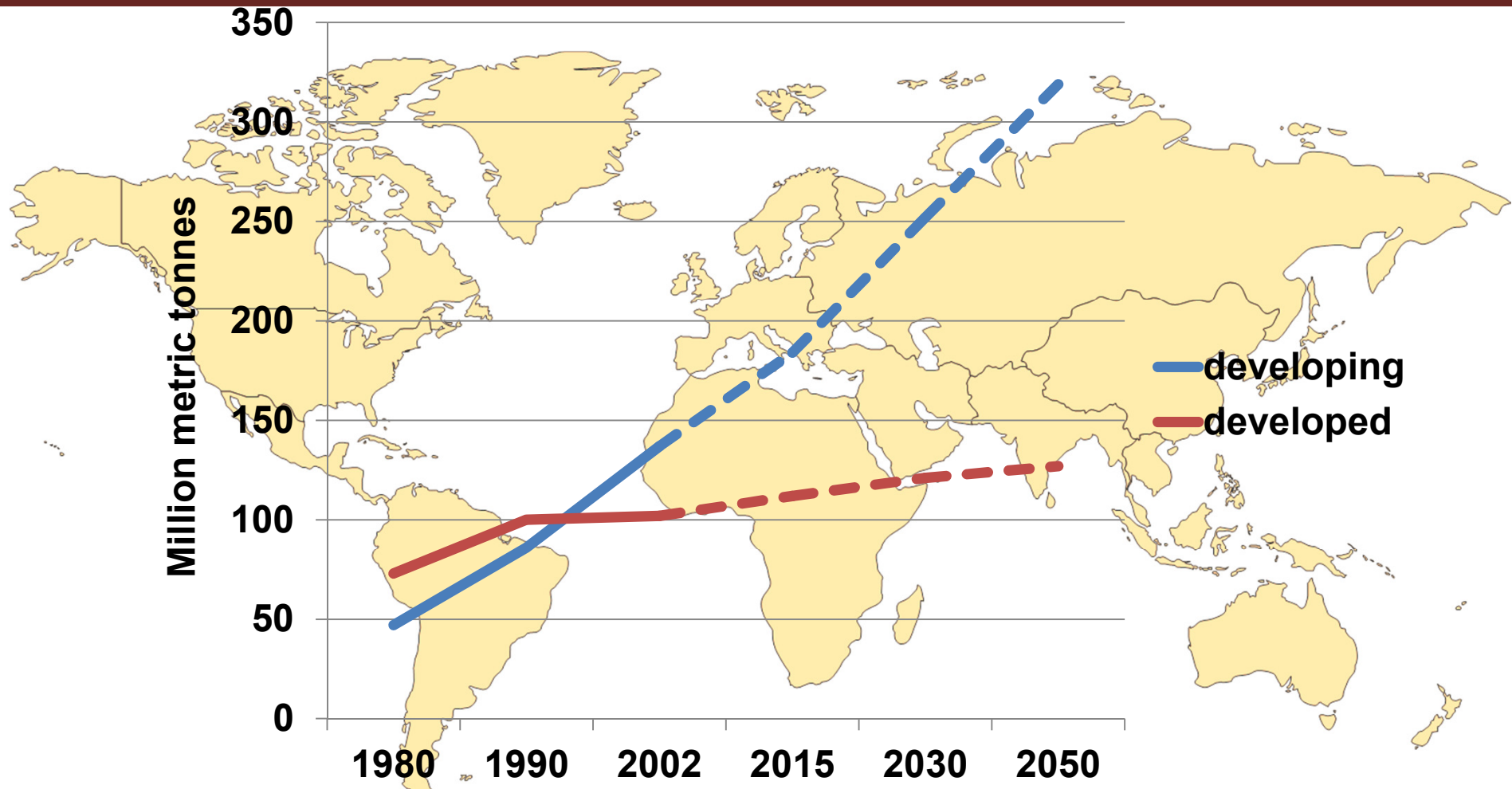
Poultry



Milk



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

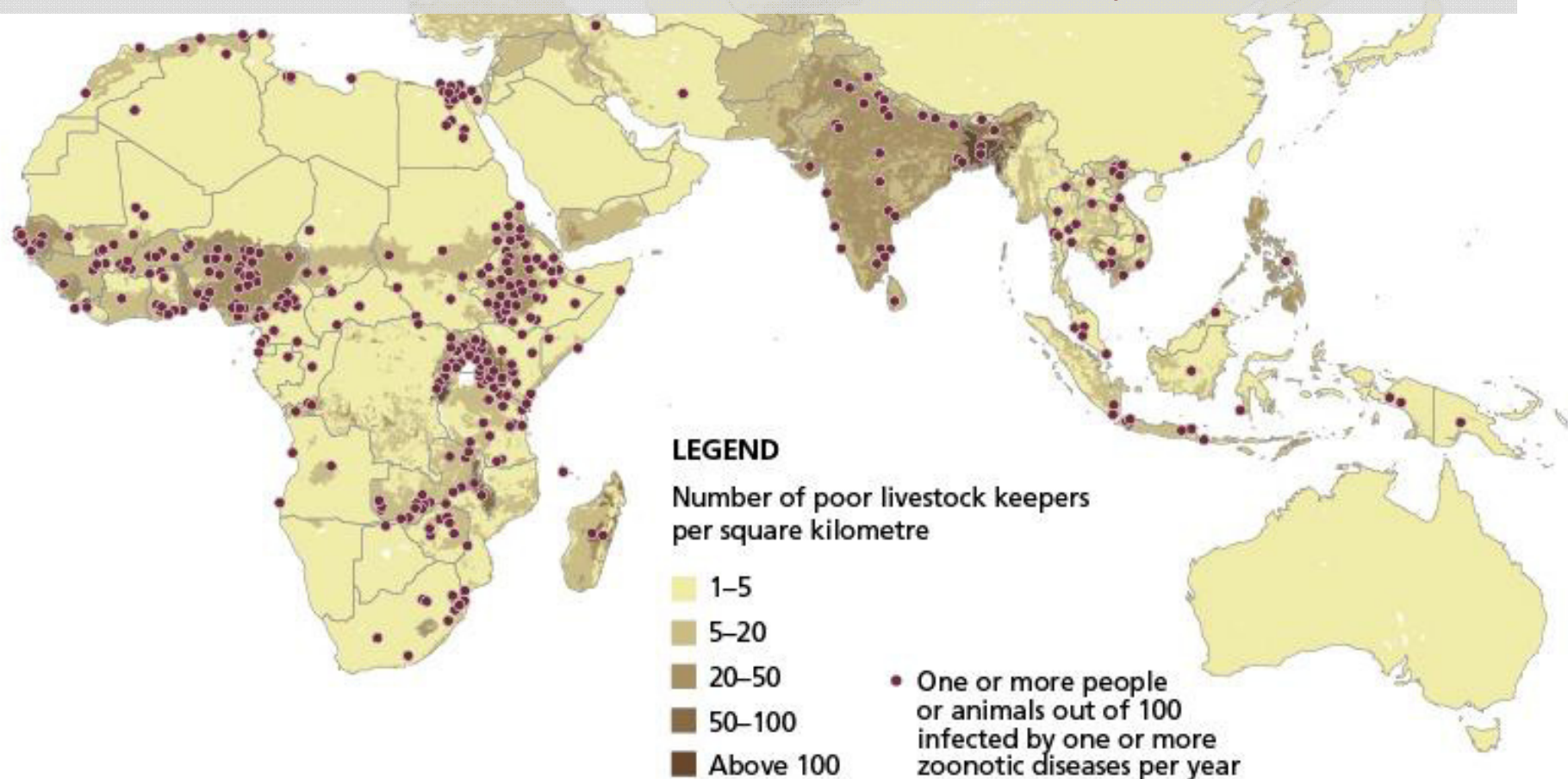
Science
Partnership
Investment

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

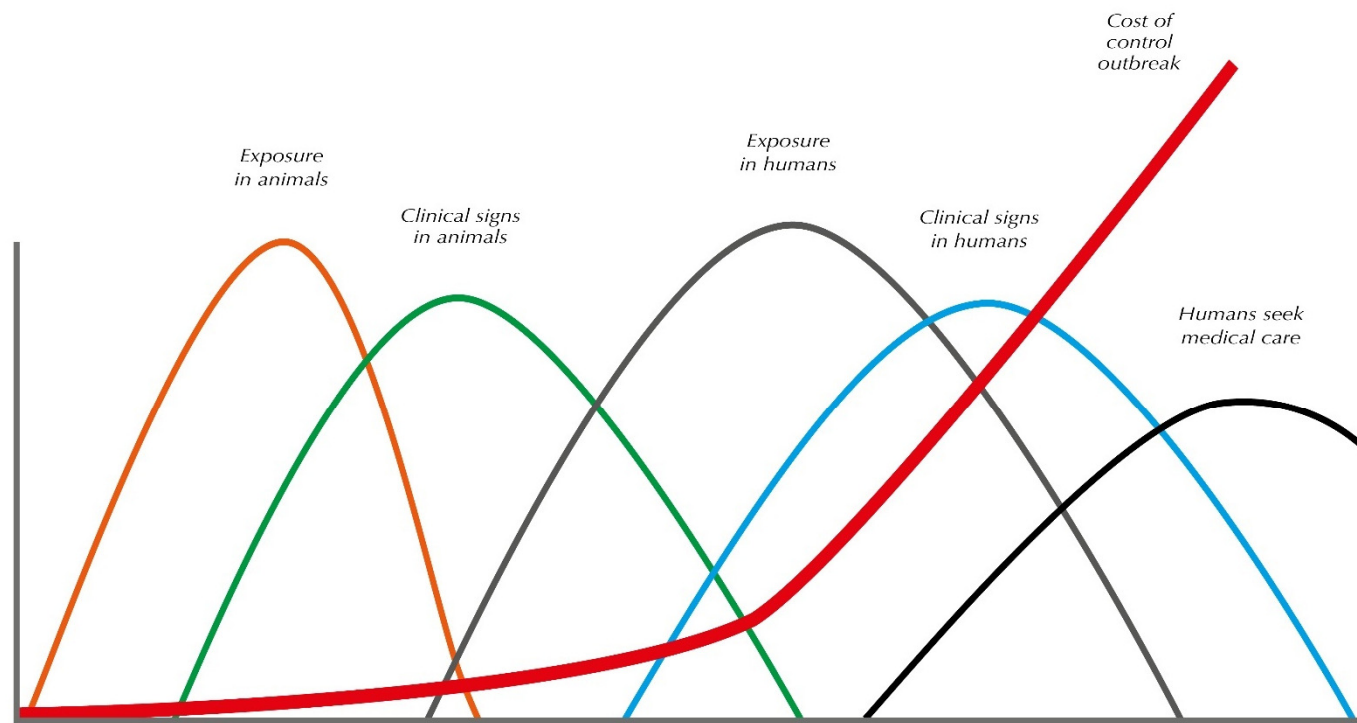
13 zoonoses sicken 2.4 billion people, kill 2.2 million people and affect more than 1 in 7 livestock each year



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



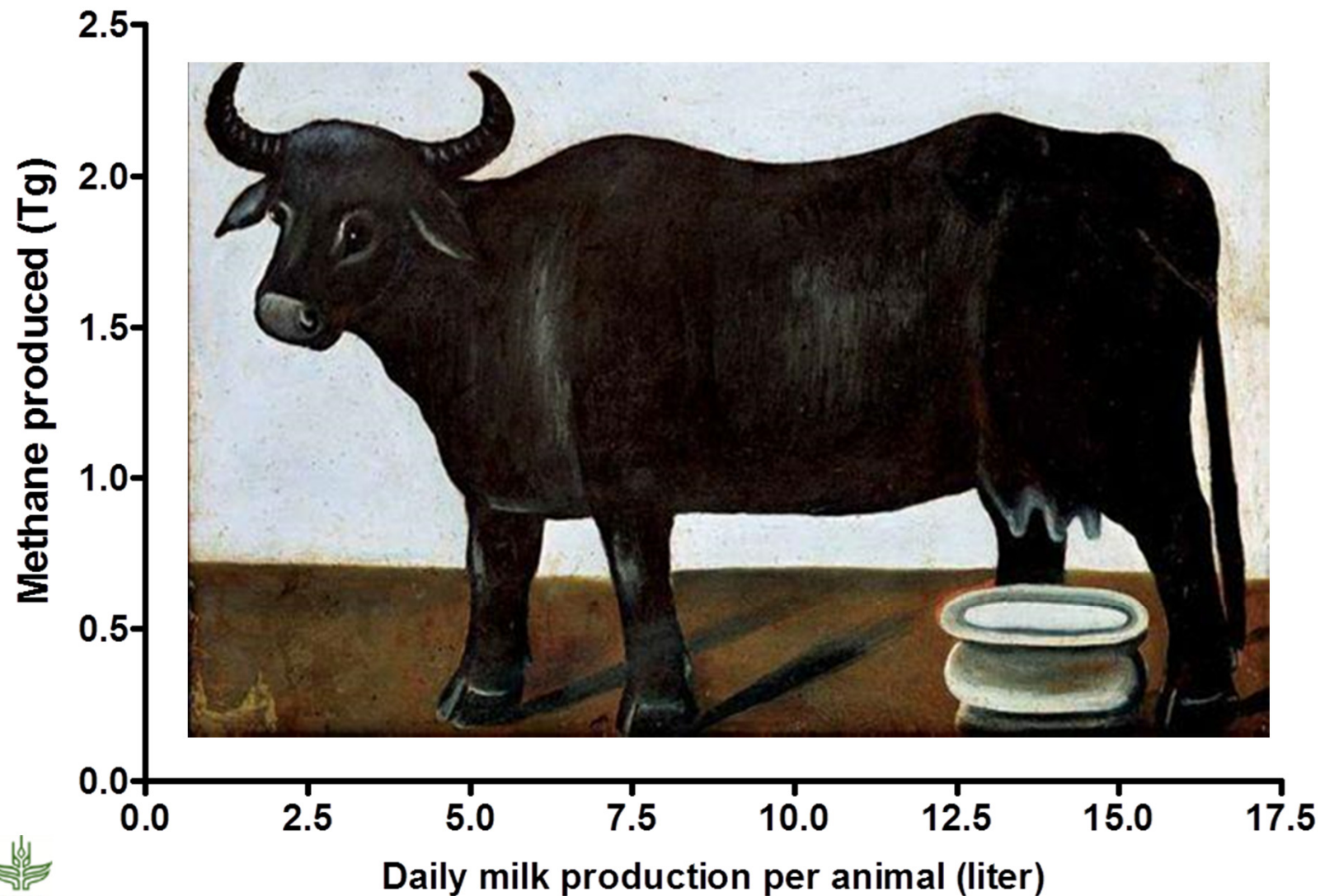
Investment:

- For USD9 billion per annum investment:
USD10-27 trillion global benefits 2017-2050

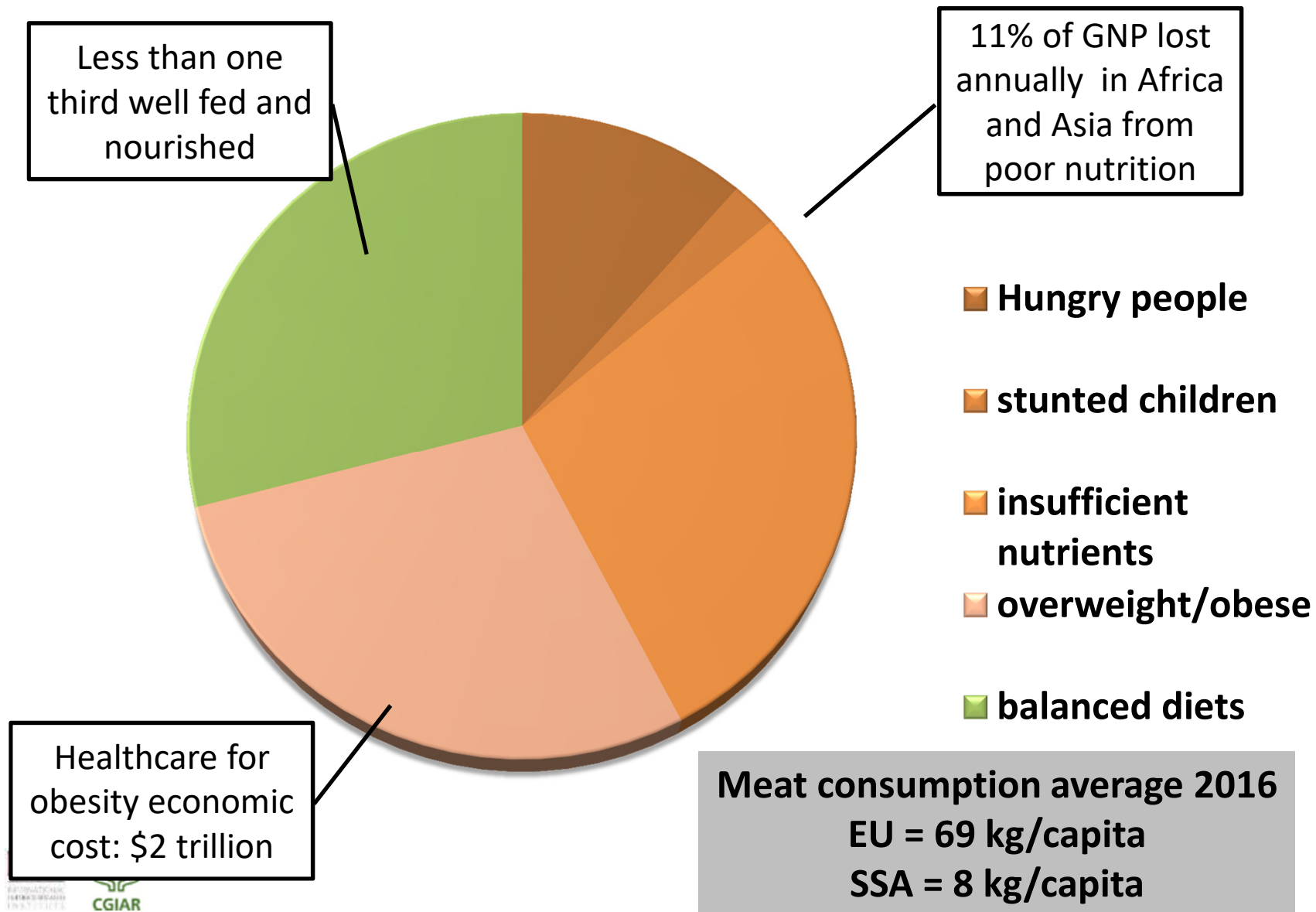
Big opportunities for livestock-environment

- 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

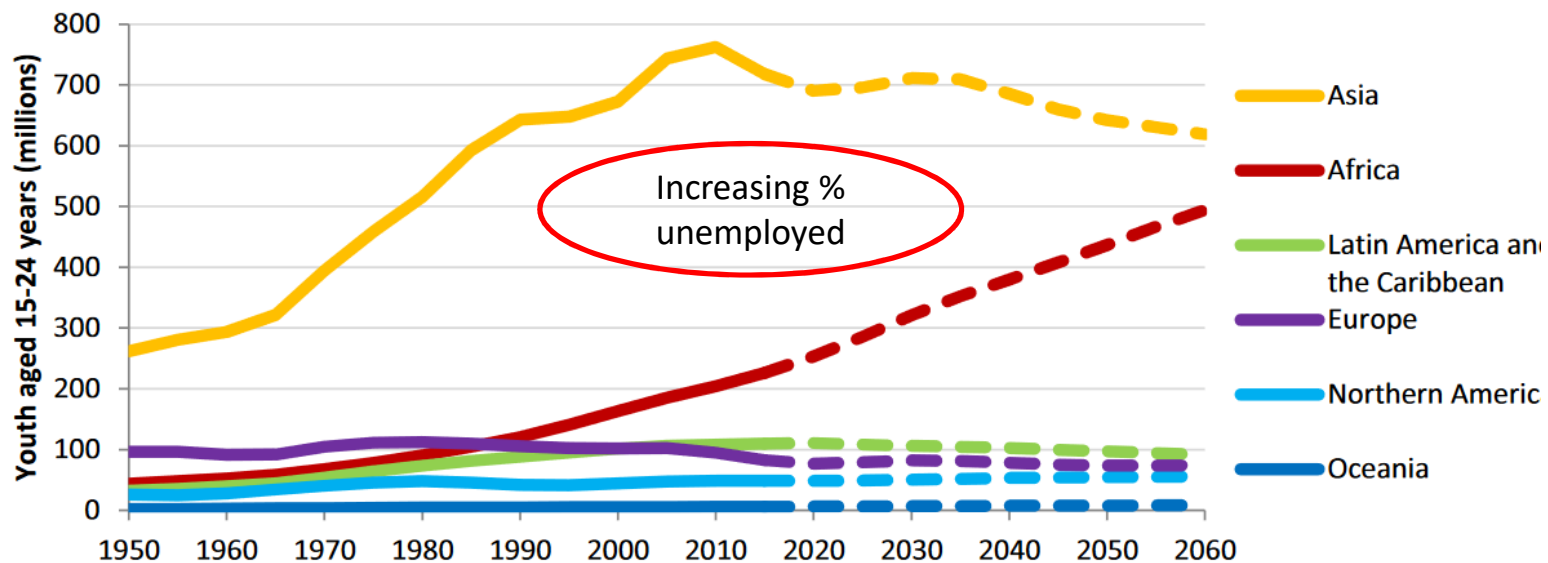


Big opportunities for livestock development to contribute to solving migration

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

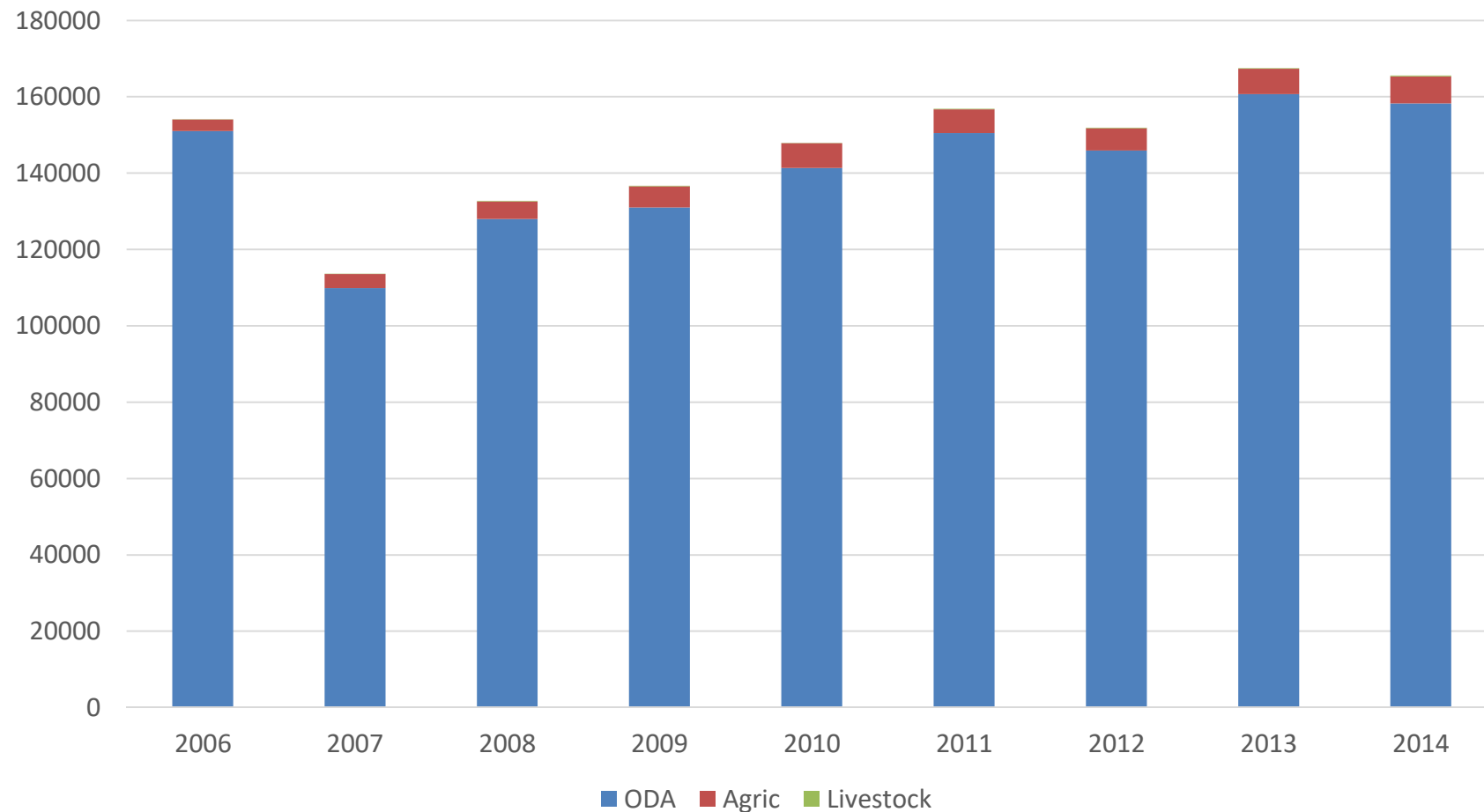
Figure 1: Youth aged 15-24 years, by region, 1950-2060



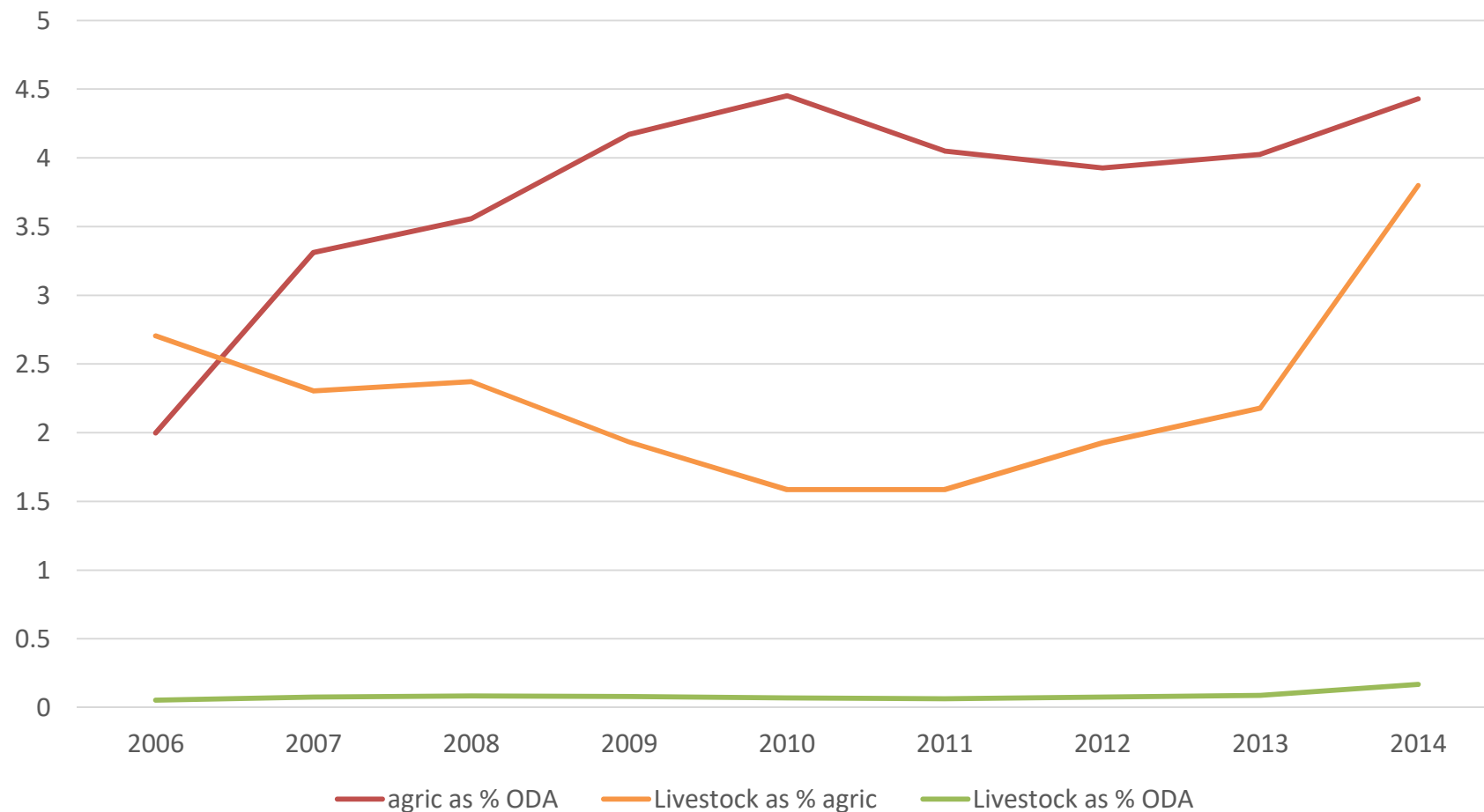
Conclusions

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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