

Livestock's role in food security and resilience

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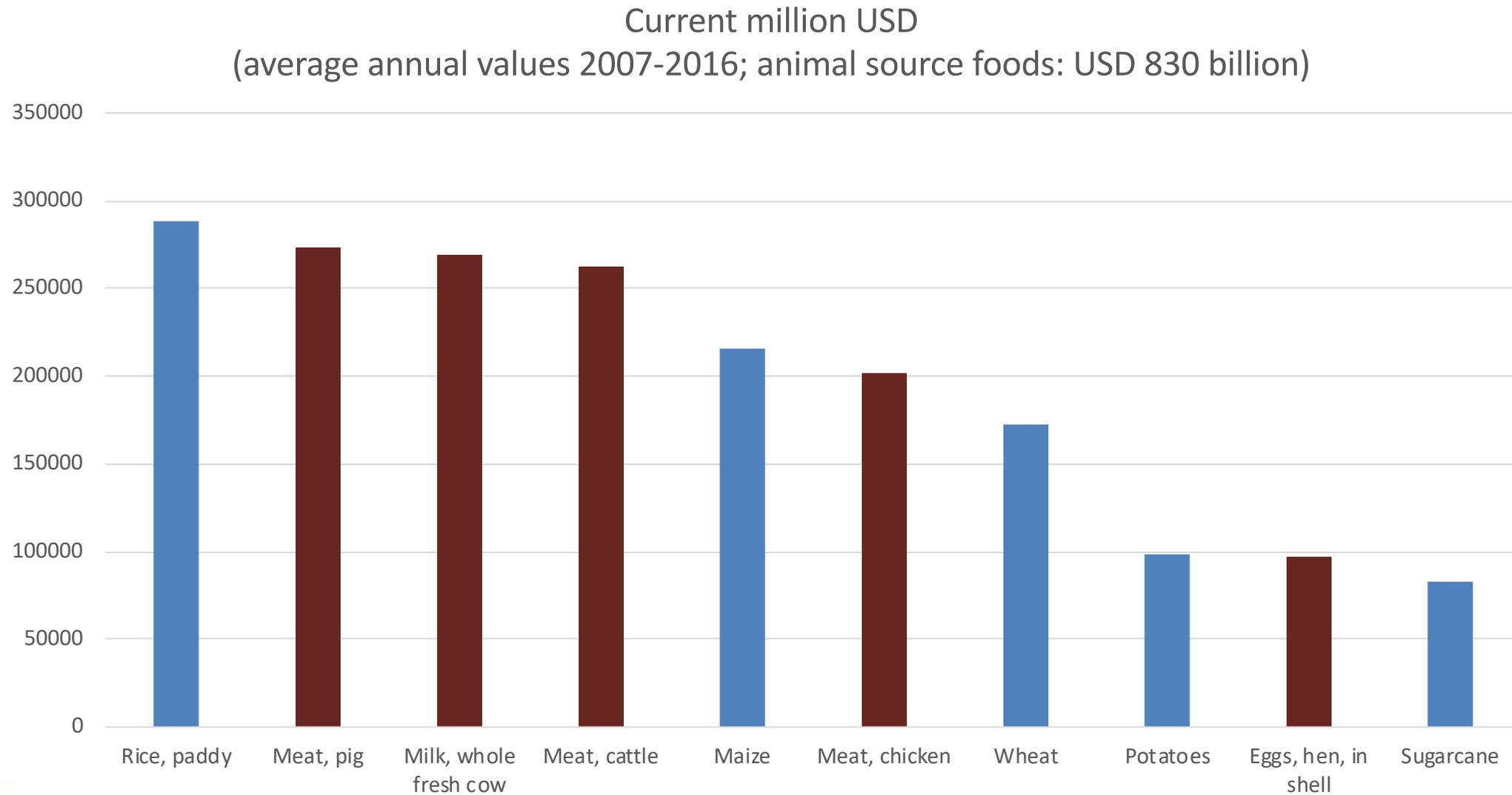
USAID, 15 November 2019





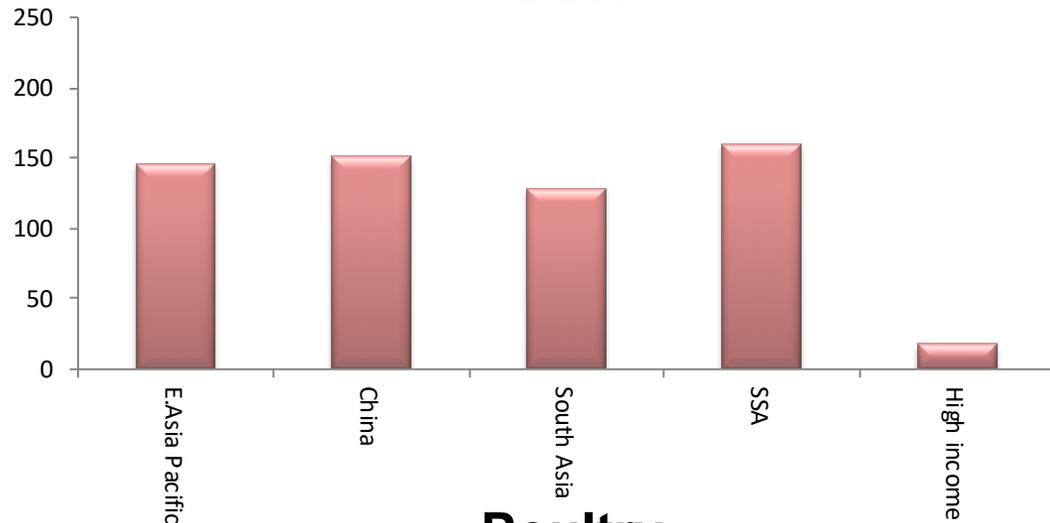
GLOBAL
CONTEXT

Global commodity values: on average animal source foods, five of the top ten

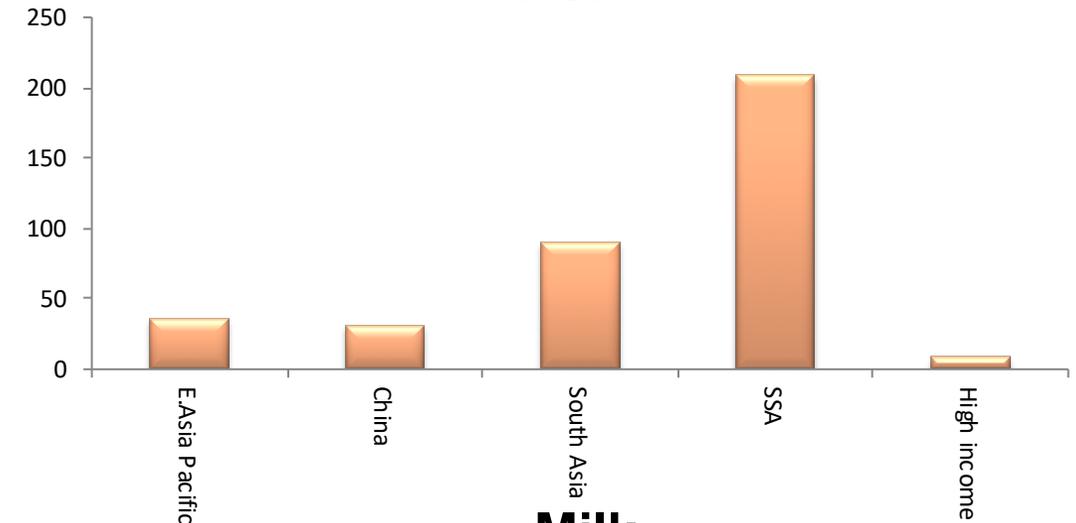


% growth in demand for livestock products to 2030

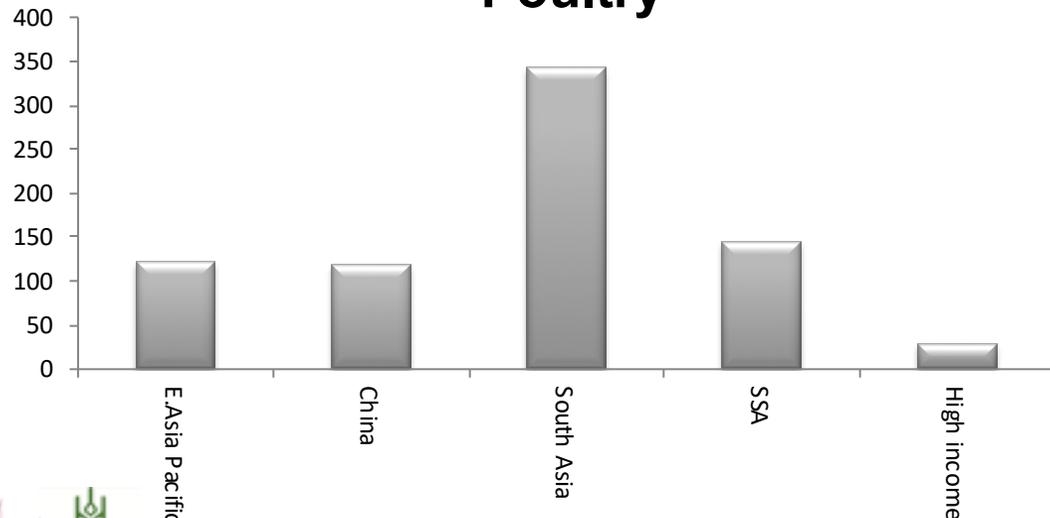
Beef



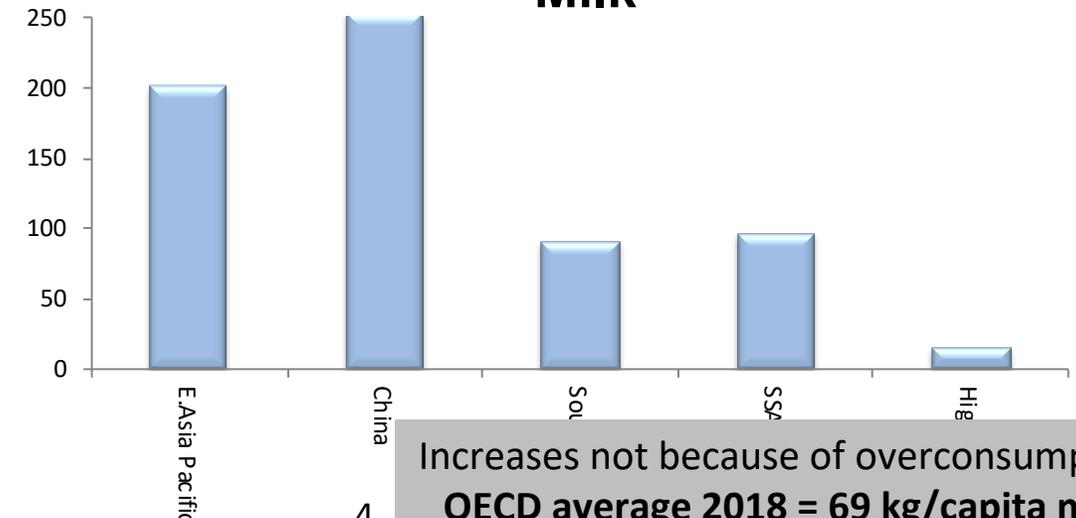
Pork



Poultry



Milk



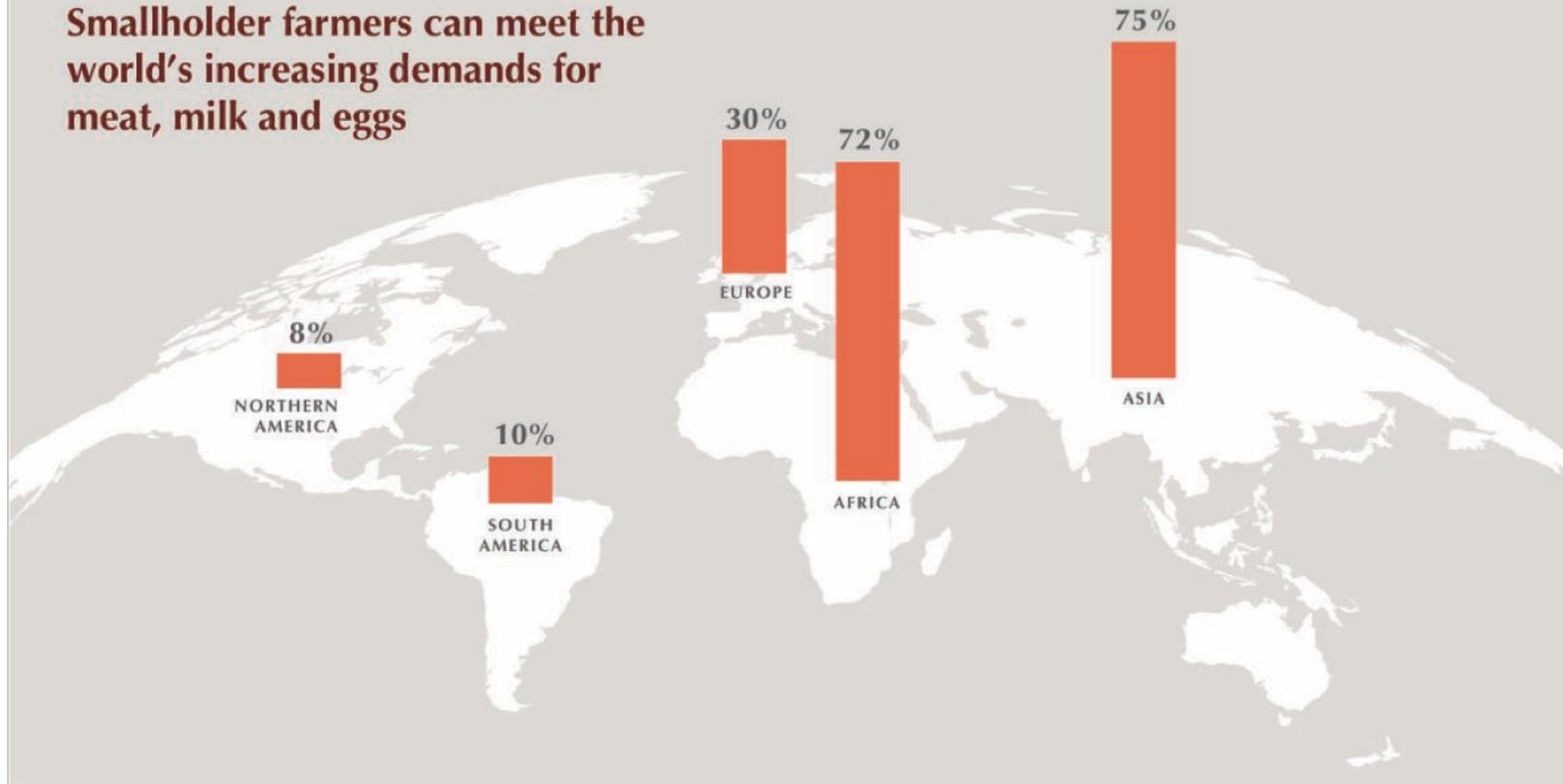
Increases not because of overconsumption!
OECD average 2018 = 69 kg/capita meat
SSA average 2018 = 10 kg/capita meat

Estimates of the % growth in demand for animal source foods in different World regions, comparing 2005 and 2030. Estimates were developed using the IMPACT model, courtesy Dolapo Enahoro, ILRI.



Proportion of livestock-derived foods produced by small farms in 2010

Smallholder farmers can meet the world's increasing demands for meat, milk and eggs



Farms less than 20 ha provide:

Globally: nearly 50% of the livestock and cereals

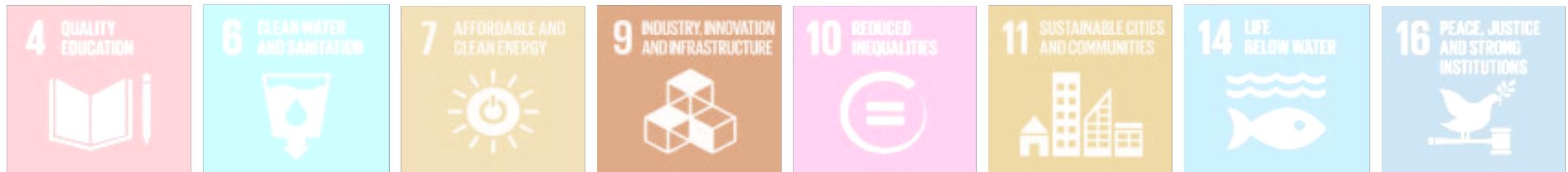
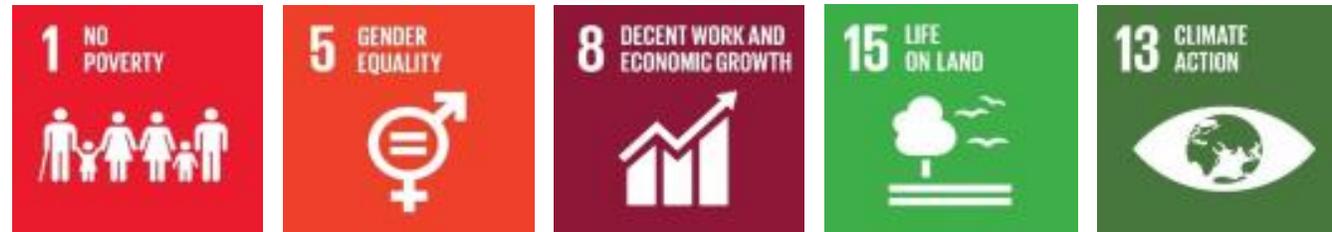
In emerging and developing economies: close to 70% of the livestock and cereals

Percentage of livestock-derived foods produced by small farms (less than 20 hectares) in 2010

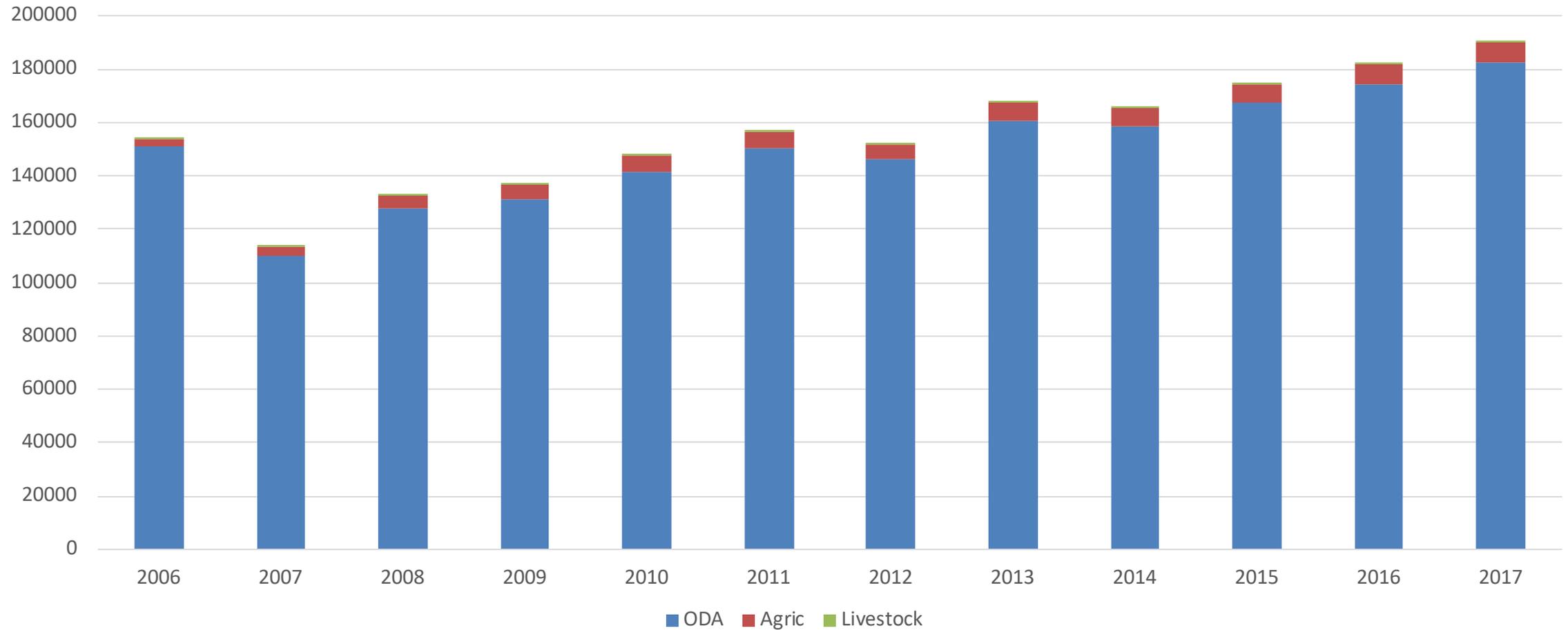
Food and nutrition security, SDGs and livestock



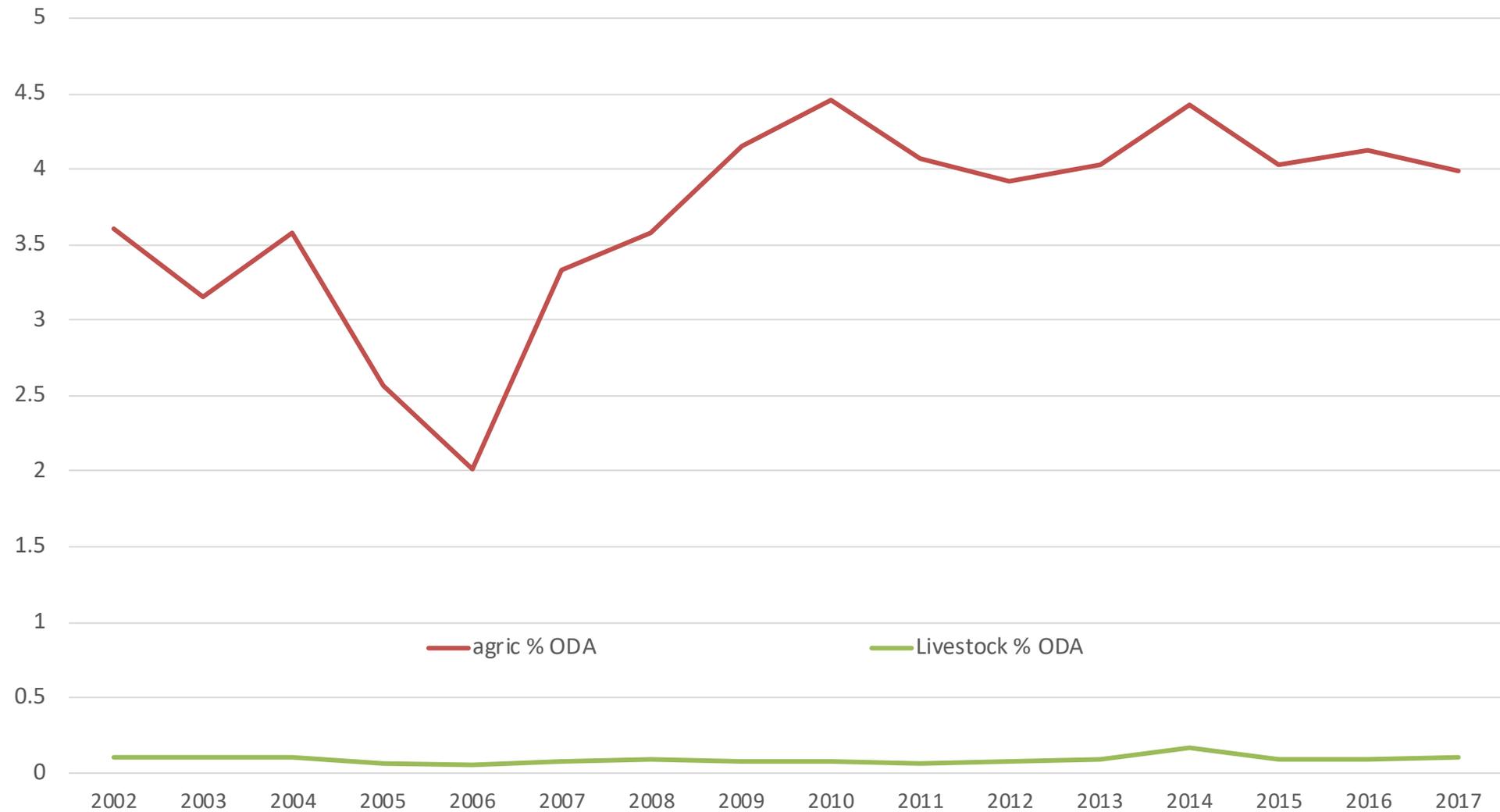
Food and nutrition
security



Total Official Development Assistance disbursements to developing countries, USD million



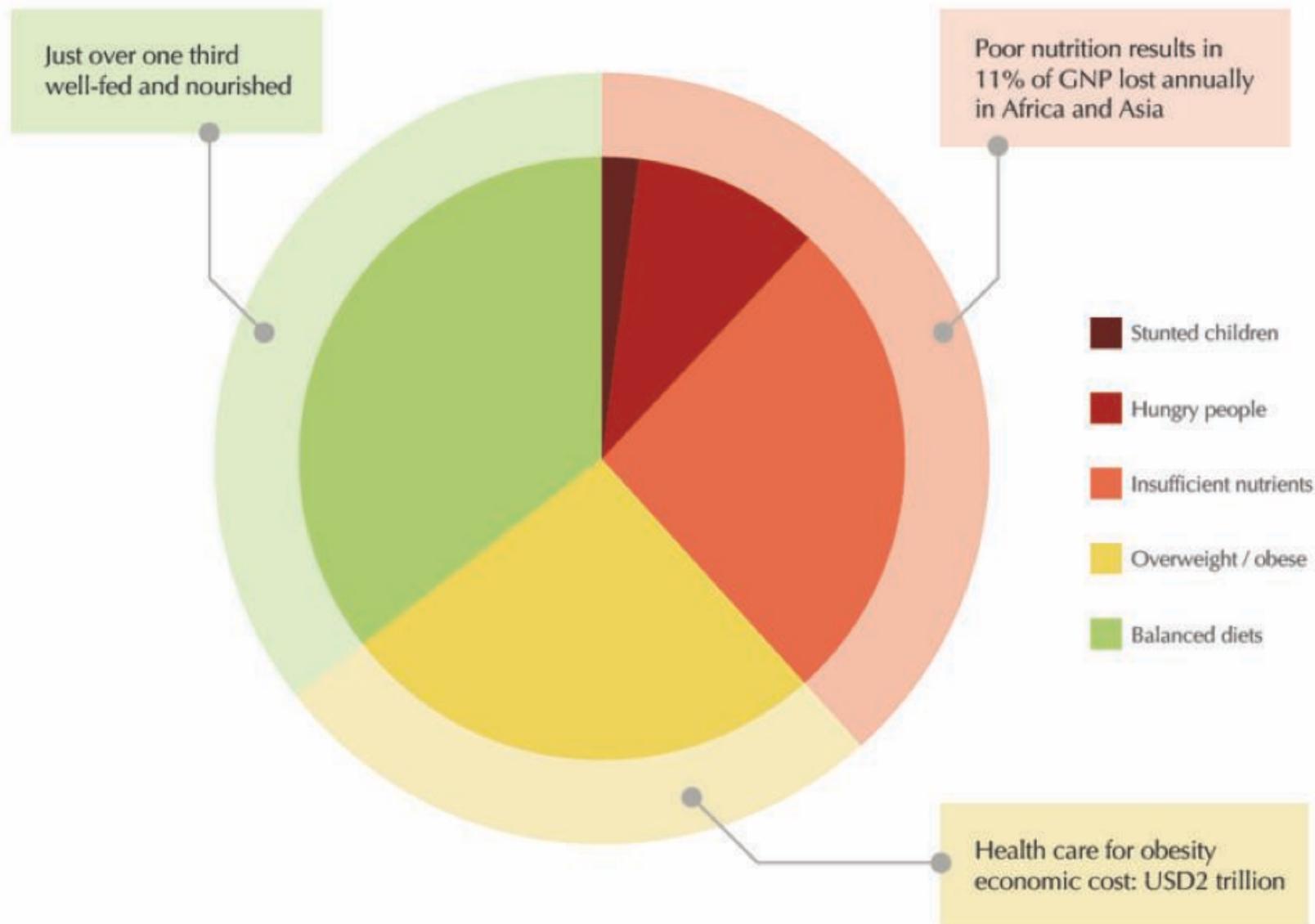
Percentage ODA disbursements for agriculture and livestock



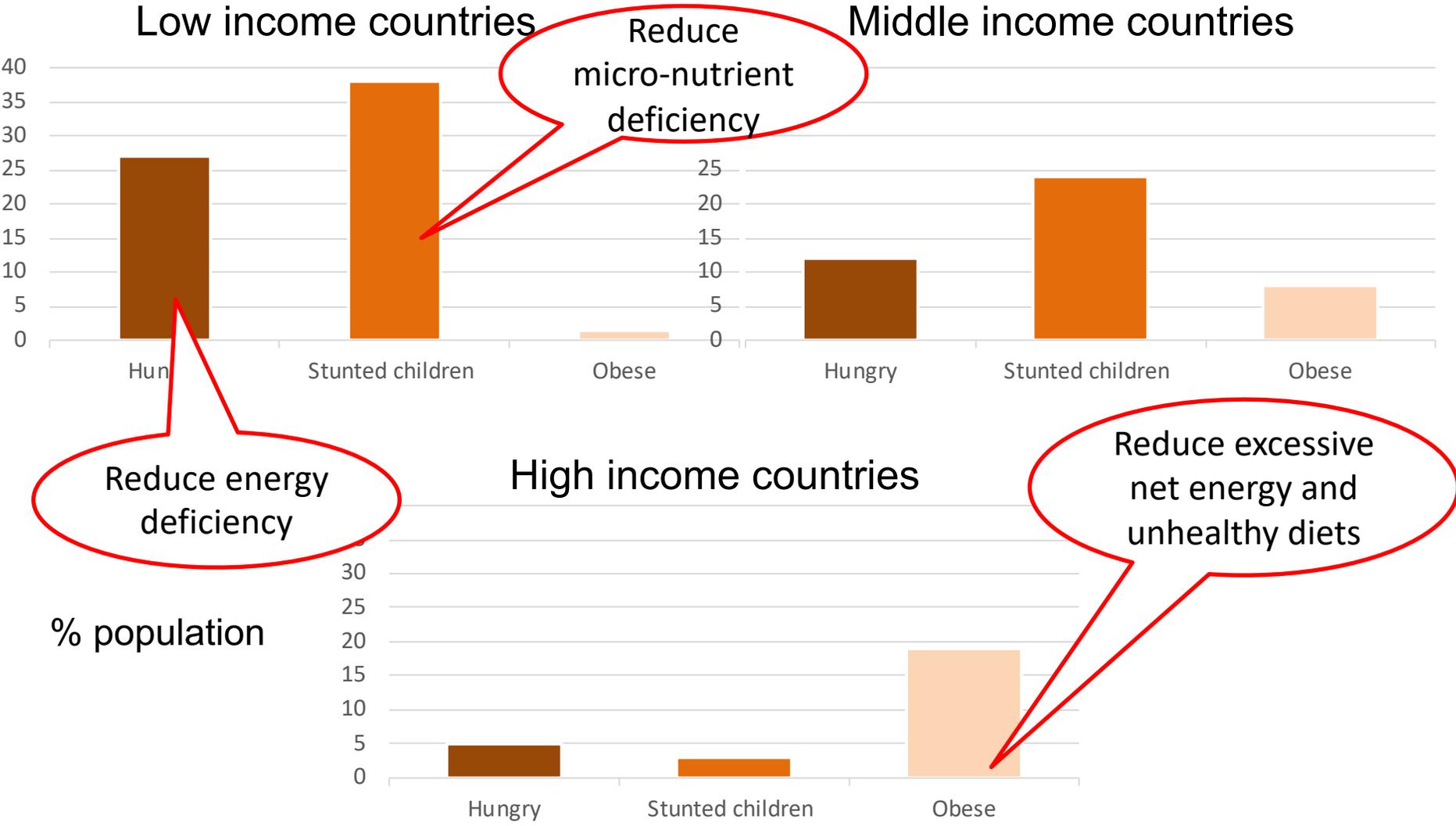


NUTRITIONAL SECURITY

Nutritional divides among the world's 7.5 billion people



Diverse nutritional status demands diverse solutions



Livestock-derived foods are critical for human health, especially for new mothers and young children

- 150 million young children are stunted
- Milk, meat and eggs provide key nutrients (vitamins A, B12, choline, iron, zinc) in highly bioavailable forms for humans
- Especially critical for addressing nutrient deficiencies in undernourished people
- One egg a day can reduce stunting (by 47%) among in 6–9 month-old babies where stunting levels are high
- Growing evidence that it is impossible for babies to achieve adequate nutrition in the first 1000 days of life without access to livestock-derived foods
- And that livestock-derived foods are essential for at least 3000 days, and important in appropriate amounts for a healthy diet throughout life



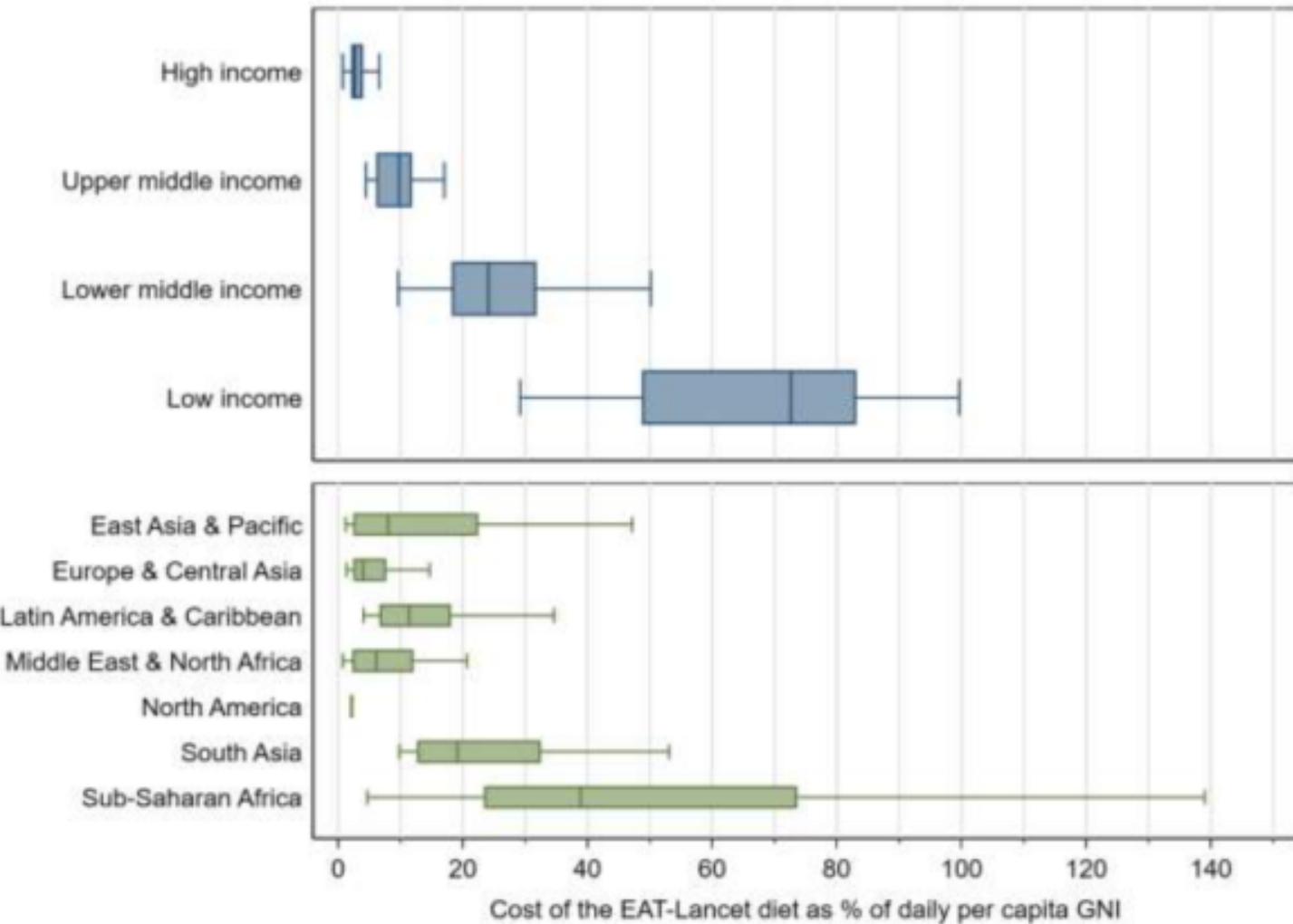
No one size fits all

“Too many people whose health would benefit from eating a more plant based diet want to impose this on populations whose health would benefit from eating more animal sourced foods”

Lawrence Haddad
Executive Director
Global Alliance for Improved Nutrition (GAIN)
World Food Prize Laureate, 2018



Improve access to animal source foods



Hirvonen et al. in press



FOOD
SECURITY

Multiple roles of livestock

Source of critical nutrients

Income from livestock buys nutritious foods

The livestock sector provides jobs for millions (mostly in the informal sector in developing countries)

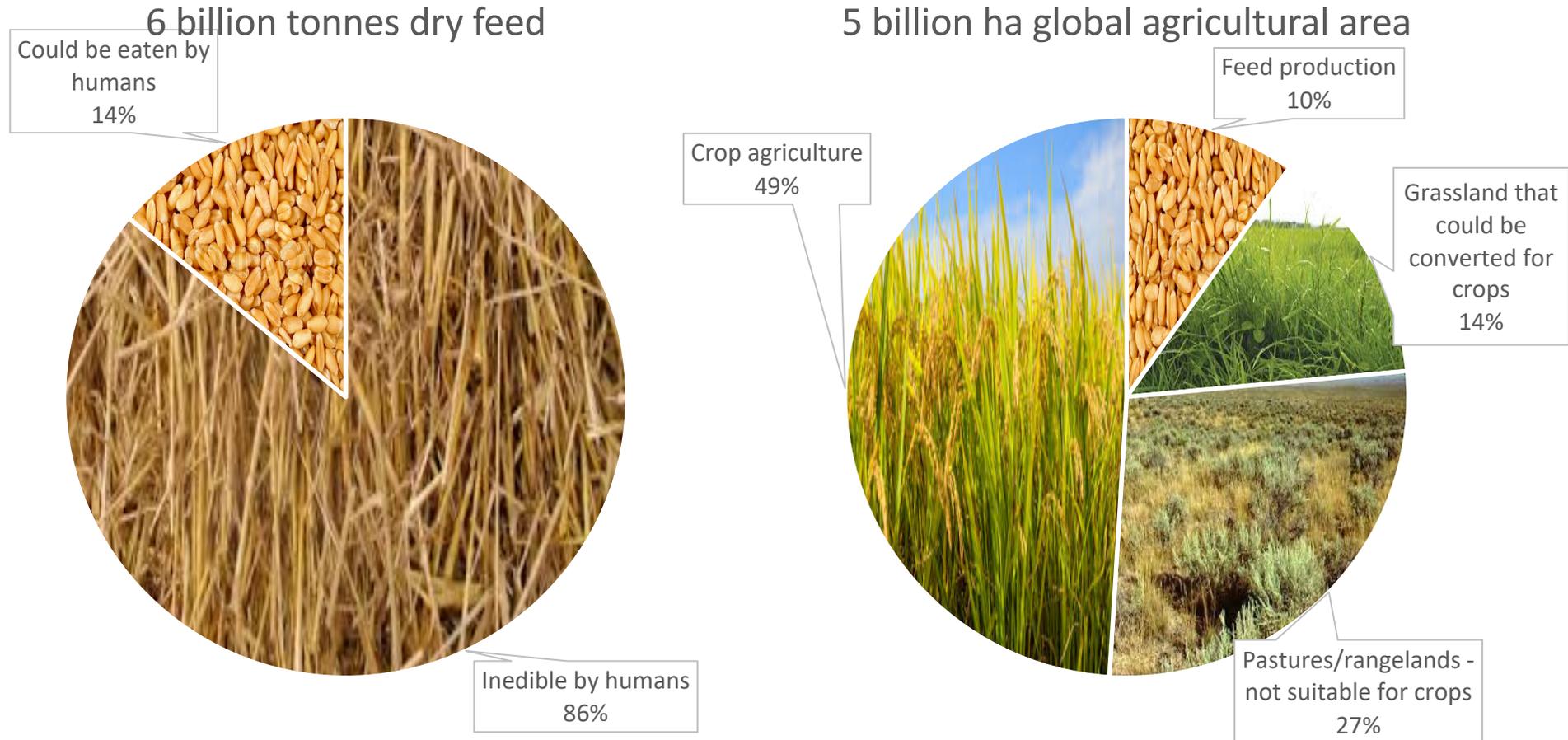
Drives economic development - 40% of agricultural gross domestic product (GDP); and 15–80% in developing countries

Over half the cereals in the world can only be produced with livestock in the system (soil fertility, traction, cash for inputs)

Of the over half a billion small holder mixed crop-livestock farmers in the world



Competition for land and grains? Maybe not!



Latest for 1 kg boneless meat:
2.8kg human-edible food for ruminants
3.2kg human-edible food for monogastrics

Women at the nexus

Two-thirds of the small holder mixed crop-livestock farmers in the world are women

Women have essential roles in household nutrition

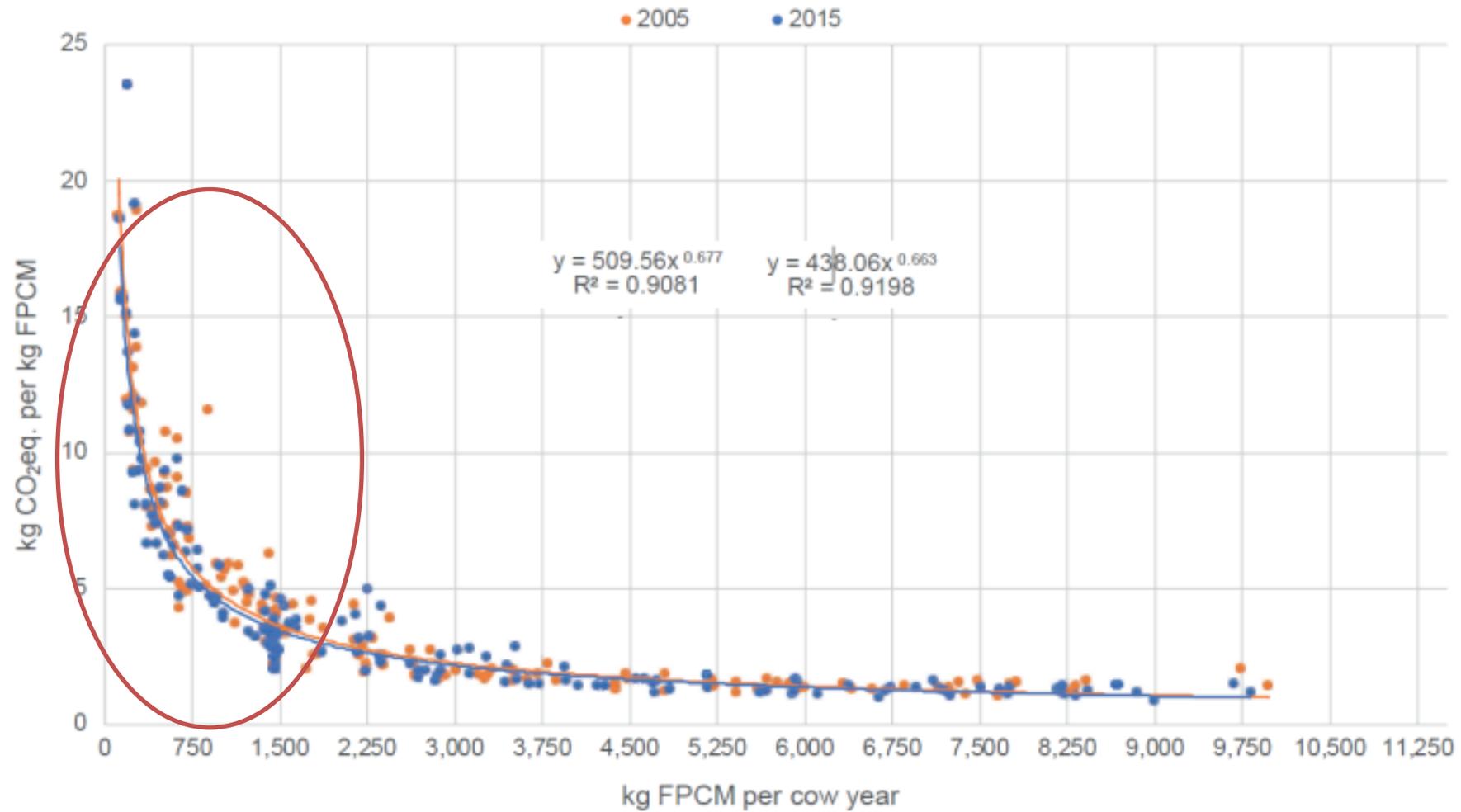
Livestock can be the means to bring about transformative change in millions of womens' lives



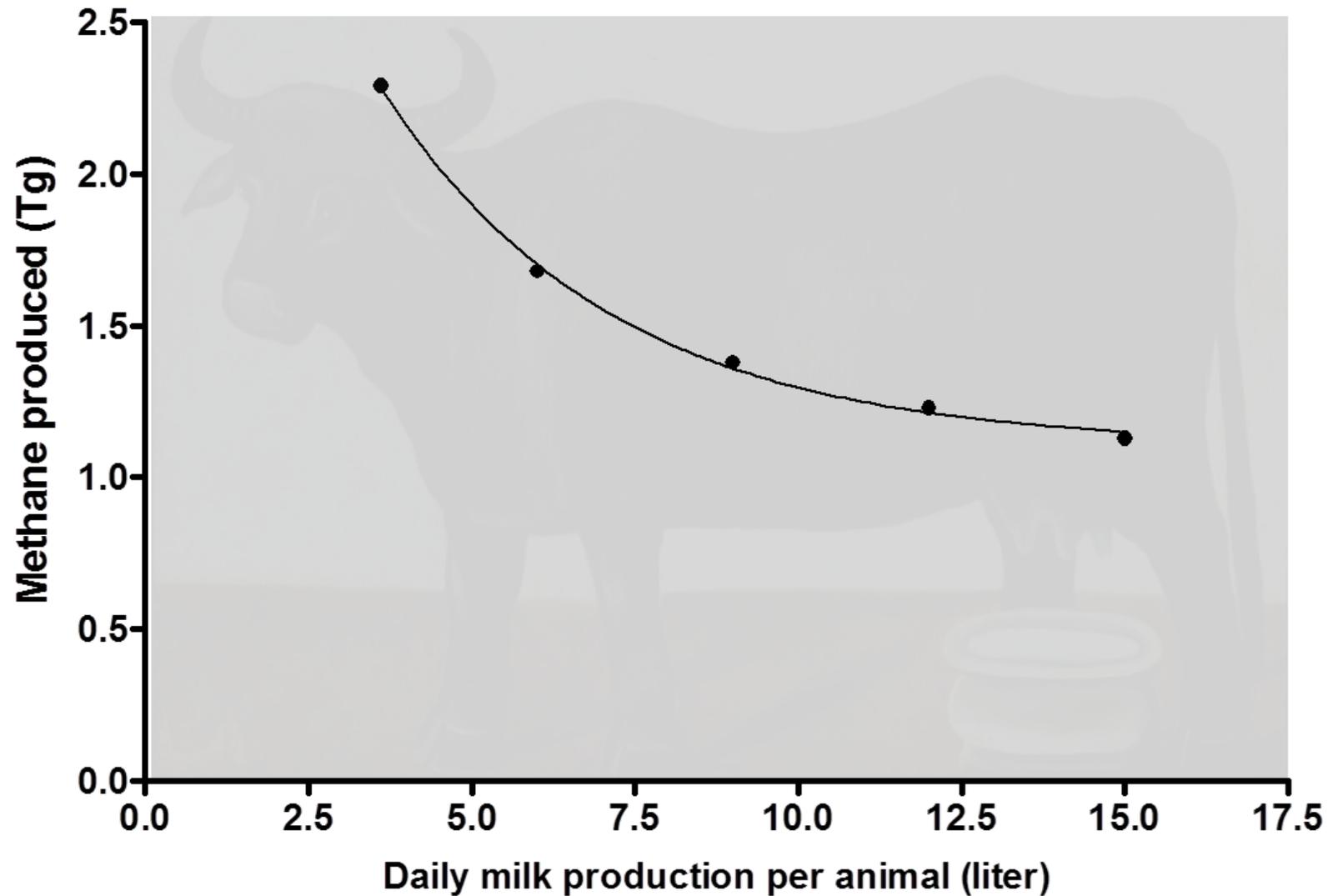


LIVESTOCK
AND THE
ENVIRONMENT

Mitigate environmental harms



Production of the greenhouse gas methane falls as animal productivity rises





LIVESTOCK
AND
HUMAN HEALTH

Promote food safety

- Food borne diseases (many associated with animal-source foods) each year:
 - 600 million people are sickened
 - 420,000 people, mostly children die
 - US95M economic loss for low- and middle-income countries
- Focus on informal markets
 - 70-80% of animal source foods sold in informal markets in developing countries
 - Adopt a risk based approach
 - Use market incentives to build capacity in food safety among value chain actors



Antimicrobial resistance

<https://amr.cgiar.org/>





LIVESTOCK

AND

RESILIENCE

Livestock as insurance



Mixed crop-livestock systems

- Diverse outputs – risk spreading
- Use the power of animal agriculture to promote a robust circular bioeconomy
- 23% of nitrogen for crop production in crop-livestock systems comes from manure
- 15% farms in southern Africa and 81% in northern Africa depend on traction for ploughing
- 7 million oxen are the main source of power for tilling in the Ethiopian highlands



Protecting assets - Insuring pastoralists against catastrophic drought



Index-based livestock insurance (IBLI)
Insures livestock assets
Based on satellite weather data

Taking to scale:

The Government: Kenya Livestock Insurance Program (KLIP): underway and targets 80,000 households by 2019

The private sector: several insurance companies, including Takaful which insured over 36 000 animals valued at over 100M KES in 2016 and recognises the 20M pastoralists in the Horn of Africa as an important insurance market



Those who purchased insurance:

- 36% drop in distress sales of livestock
- 25% reduced likelihood of having to eat significantly smaller meals
- 33% reduction in dependence on food aid

Public-Private Partnership in Animal Health Delivery

- Private sector joining Public sector during vaccination campaigns
- Provide additional services- drugs, clinical services, information
- Pilots
 - CCPP vaccination in Shimbirey, Garissa
 - PPR vaccination in Marsabit



*The Result
More than 90% of livestock
keepers bought additional
services
Resources were more
efficiently shared*

Market facilitation – Business to Business (B2B) linkage

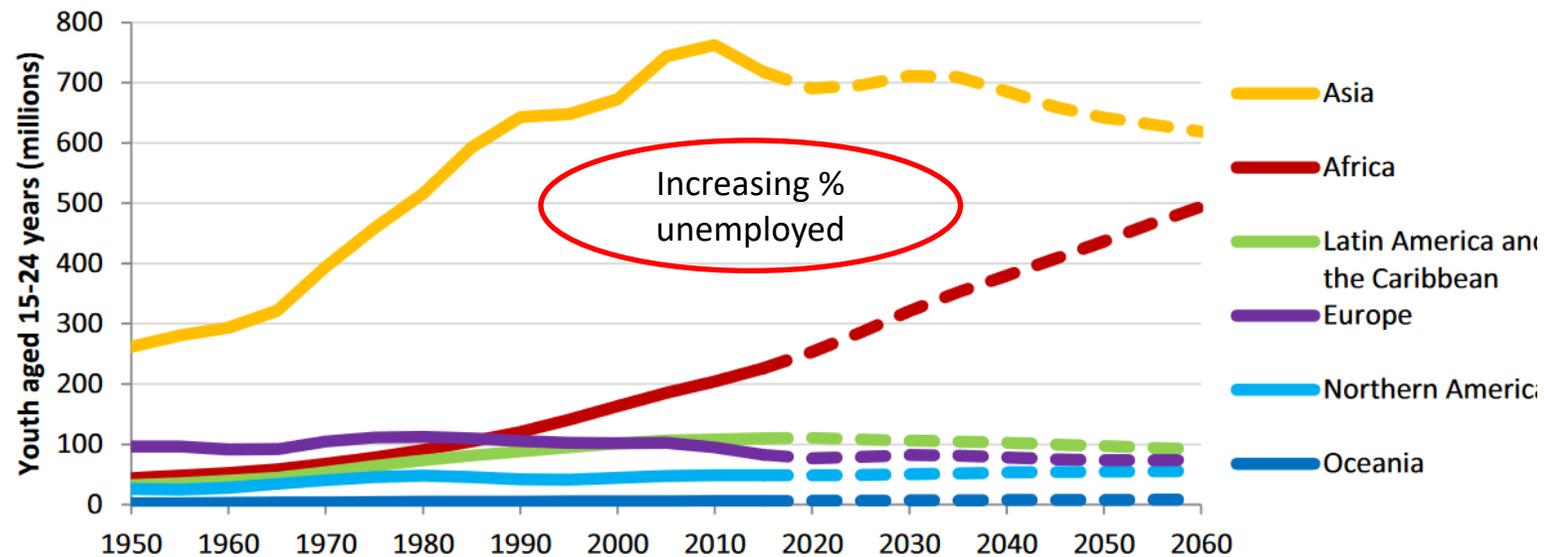


County	Value of Trade (US\$)
Marsabit	406,774
Wajir	783,358
Isiolo	891,058
Total	2,081,200

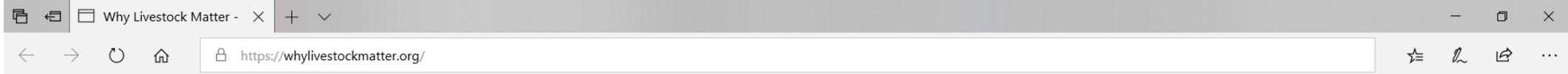
Big opportunities for livestock development to contribute to solving migration

- 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



Why Livestock Matter Website



WHY LIVESTOCK MATTER

Nutrition ▾ Health ▾ Economic Opportunity ▾ Gender ▾ Climate & Environment ▾

Making the Case:

Sustainable Livestock for Development

PHOTO CREDIT: ILRI / ZERIHUN SEWUNET

Livestock are critical for sustainable development yet often overlooked. The world's cows, sheep, goats, pigs, poultry and other farm animals are the mainstay of livelihoods across the developing world. And the energy and nutrient-dense milk, meat and eggs these animals produce provide hundreds of millions of families in the world's poorer countries with basic livelihoods, incomes, food and nutrition.

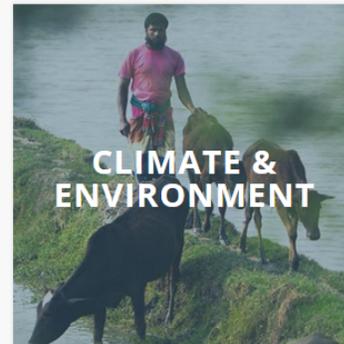
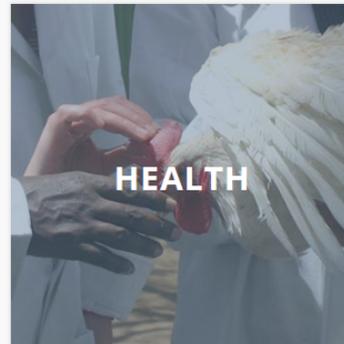
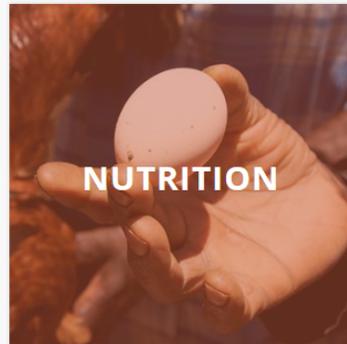
Despite this, the livestock sector receives **no more than 2.5%** of official development assistance to agriculture from major donor countries. **Investing in sustainable livestock systems is essential** if we are to achieve our sustainable development goals. Explore the themes below about how to invest in livestock for development:

Why Livestock Matter Website

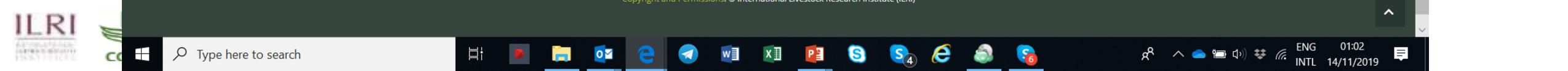


WHY LIVESTOCK MATTER

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better lives through livestock

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

Animal scientist, Nobel Prize Laureate for Physiology or Medicine—1996

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