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

Jimmy Smith, Director General
International Livestock Research Institute, Kenya

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

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

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
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.
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.
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

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

*Early detection and control of outbreaks of emerging/re-emerging zoonotic diseases reduces the cost of control and the potential threats to human populations (source: World Bank 2012).*
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’
  o 63% reduction on carbon footprint per unit of milk in US over 60 years through better productivity
  o Potential for similar solutions in south Asia to reduce GHG emissions in the dairy sector by 38%

• Obtain accurate livestock GHG emission figures
  o Support developing-country-led solutions to climate change as specified in nationally appropriate mitigation actions (NAMAs).

• New science:
  o ‘low carbon’ cows?
  o Rumen manipulation?

• Livestock’s essential role in a robust bio-economy:
  o Optimal and balanced use of biomass.
Production of the greenhouse gas methane falls as animal productivity rises.
Nutritional divides among 7 billion people today

- Less than one third well fed and nourished
- Hungry people
- Stunted children
- Insufficient nutrients
- Overweight/obese
- Balanced diets

Healthcare for obesity economic cost: $2 trillion

Meat consumption average 2016
- EU = 69 kg/capita
- SSA = 8 kg/capita

11% of GNP lost annually in Africa and Asia from poor nutrition
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

ilri.org

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