Vision of the role of animal productions from perspective of the HLPE

Sustainable Agricultural Development for Food Security and Nutrition: What Roles for Livestock?

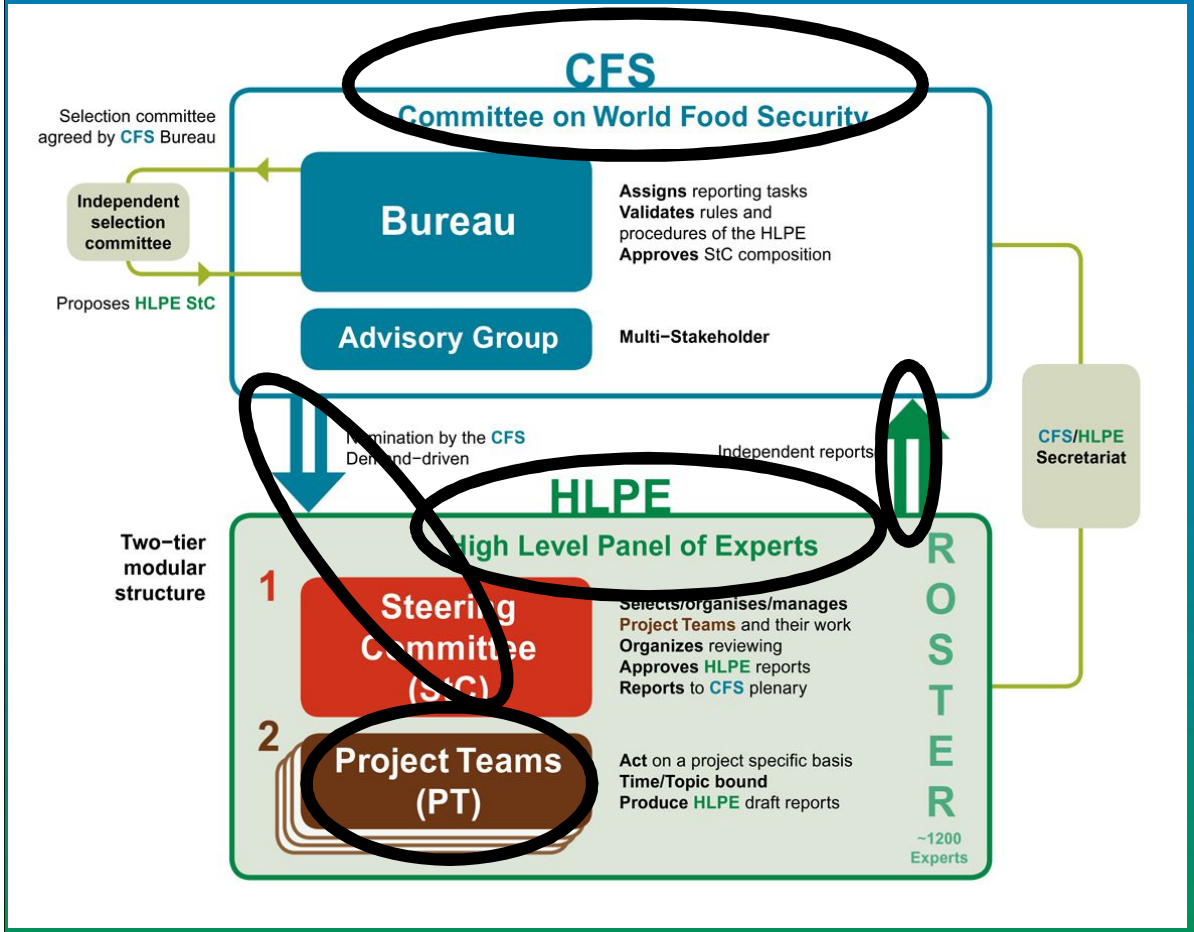
A report by the CFS High Level Panel of Experts on Food Security and Nutrition

Animal Task Force
Belfast, 29 August 2016

Dr Patrick Caron
HLPE - CFS Chair

The HLPE and the CFS

An expert panel created in 2010 as part of the CFS reform, to contribute to food security debate – just like the IPCC with climate change



HLPE Functions (as per the CFS)

(I) Assess and analyze the current state of food security and nutrition and its underlying causes.

(ii) Provide scientific and knowledge-based analysis and advice on specific policy-relevant issues, utilizing existing high quality research, data and technical studies.

(iii) Identify emerging issues, and help members prioritize future actions and attentions on key focal areas.

The initial request from the CFS (October 2014, to be discussed in October 2016):

Sustainable Agriculture for Devolpment for FSN,

including the role of livestock (SAD-L)

2 possible focus

Choice: focus on the livestock sector

- as a powerful engine for agriculture and food systems development (past ! future?)
- as an entry point for understanding the issues around SAD as a whole

A collective process

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117 contributions on V0 draft (429 pages)

Definition and conceptual framework

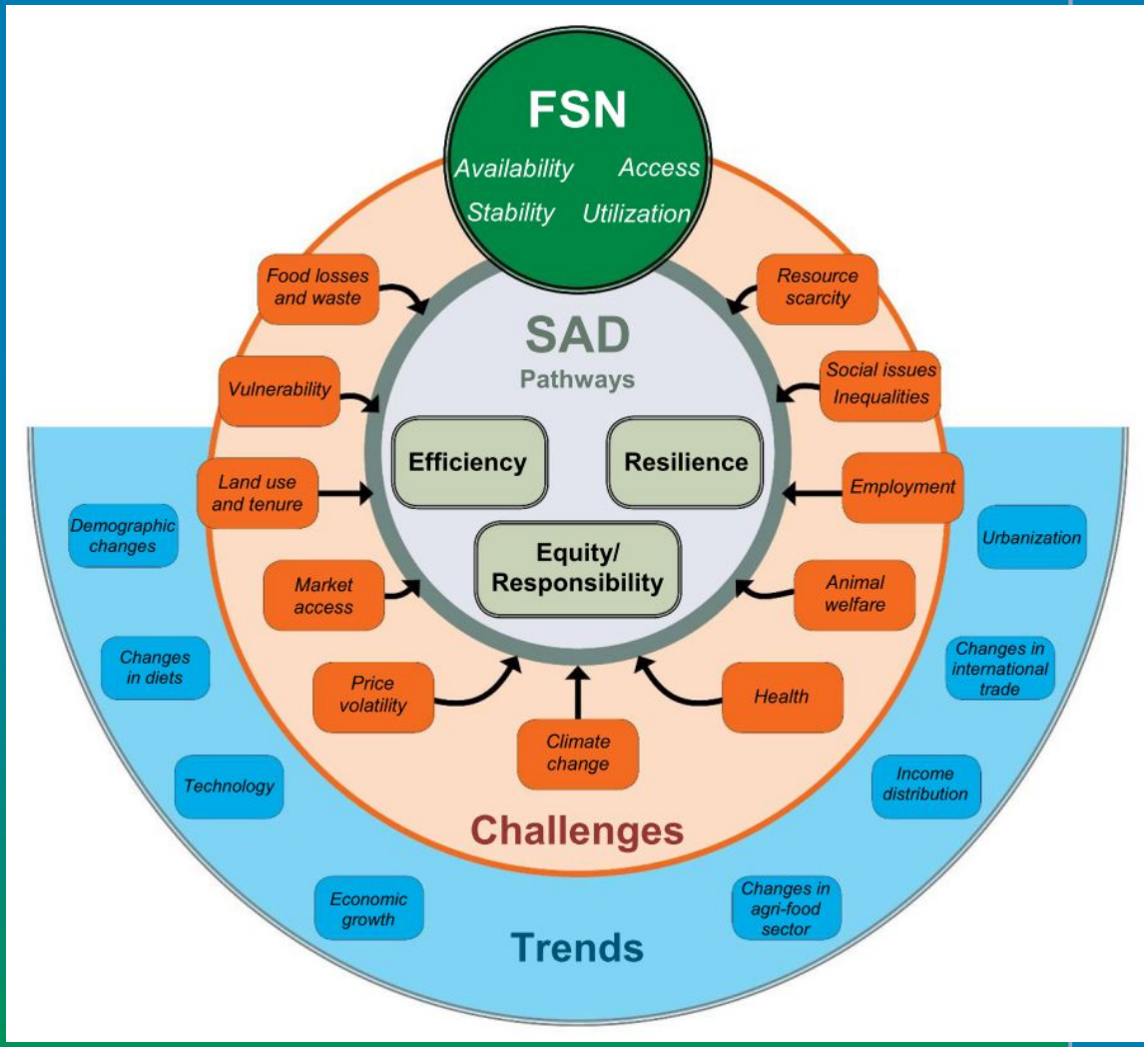
Sustainable agricultural development (SAD) is agricultural development that contributes to

improving **ressource efficiency**,

strengthening **resilience**, and

securing **social equity / responsibility**

of agriculture and food systems in order to ensure food security and nutrition for all, now and in the future



Key role of the livestock sector

- 1/3 global agricultural gross production value and engine for growth
- Most rural households in developing countries (44-79 % in seven African countries)
- In 2010, animal products (excluding fish and seafood)

  = 16 % of total calories produced and 31 % of protein
- Co-products and benefits (wool, skin, manure, draught power, store of wealth and safety nets, landscapes…)
- Largest user of land resources :
  - ✓ Pastures = 26 % of global land area
  - ✓ Pastures + feed crops = 80 % of ag. land
- Major user of water resource, including irrigation for feed crops
- 14.5 % of GHG emissions (45 %: feed production and processing, 39 %: enteric fermentation of ruminants, 10 %: manure storage and processing, and 6 %: processing/transporting animal products)
-

Typology of livestock farming systems

- Smallholder mixed farming systems
- Pastoral systems
- Commercial grazing systems
- Intensive livestock systems
- (Links with plant-based systems)

Structural transformation in agriculture

From « Green » to « Livestock revolution »

Over the last 50 years:

- Meat production x 4 (from 71 to 292 million t.)
- Milk production more than x 2 (from 342 to 720 million t.)
- Egg production more than x 4 (from 15 to 69 million t.)

- Radical transformation through:
  - ✓ Intensification
  - ✓ Specialization at the farm and territorial levels
  - ✓ Evolution of crop-livestock linkages
  - ✓ Increasing complexity and globalization of food supply chains
  - ✓ Growing market concentration in the agro-food industry

Population heads (percent)						
	Grazing	**Mixed**	**Feedlots**	**Backyard**	**Intermediate**	**Industrial**
Cattle & Buffaloes	32.7%	64.0%	3.3%	n.a.	n.a.	n.a.
Small Rum.	44.2%	55.8%	n.a	n.a.	n.a.	n.a.
Pigs	n.a.	n.a.	n.a.	45.2%	16.6%	38.2%
Chickens	n.a.	n.a.	n.a.	18.5%		81.5%
Production (percent)						
	Grazing	**Mixed**	**Feedlots**	**Backyard**	**Intermediate**	**Industrial**
Cattle & Buffaloes Milk	32.5%	67.5%	n.a.	n.a.	n.a.	n.a.
Cattle & Buffaloes Meat	30.7%	57.0%	12.2%	n.a.	n.a.	n.a.
Small Rum. Milk	37.6%	62.4%		n.a.	n.a.	n.a.
Small Rum. Meat	44.3%	55.7%	n.a.	n.a.	n.a.	n.a.
Pork	n.a.	n.a.	n.a.	26.2%	17.6%	56.2%
Chicken meat	n.a.	n.a.	n.a.	1.8%	n.a.	98.2%
Eggs	n.a.	n.a.	n.a.	7.9%	n.a.	92.1%

Beyond the farm?

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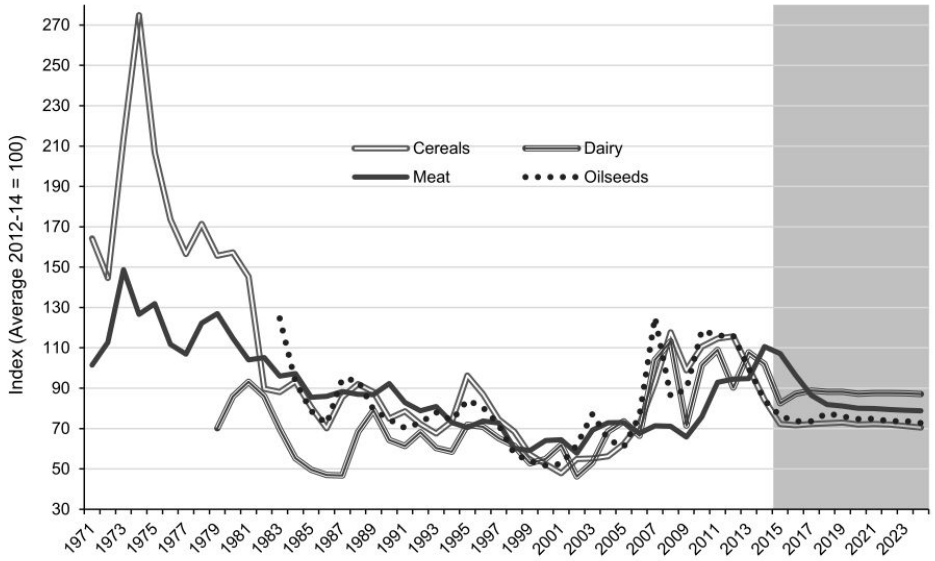
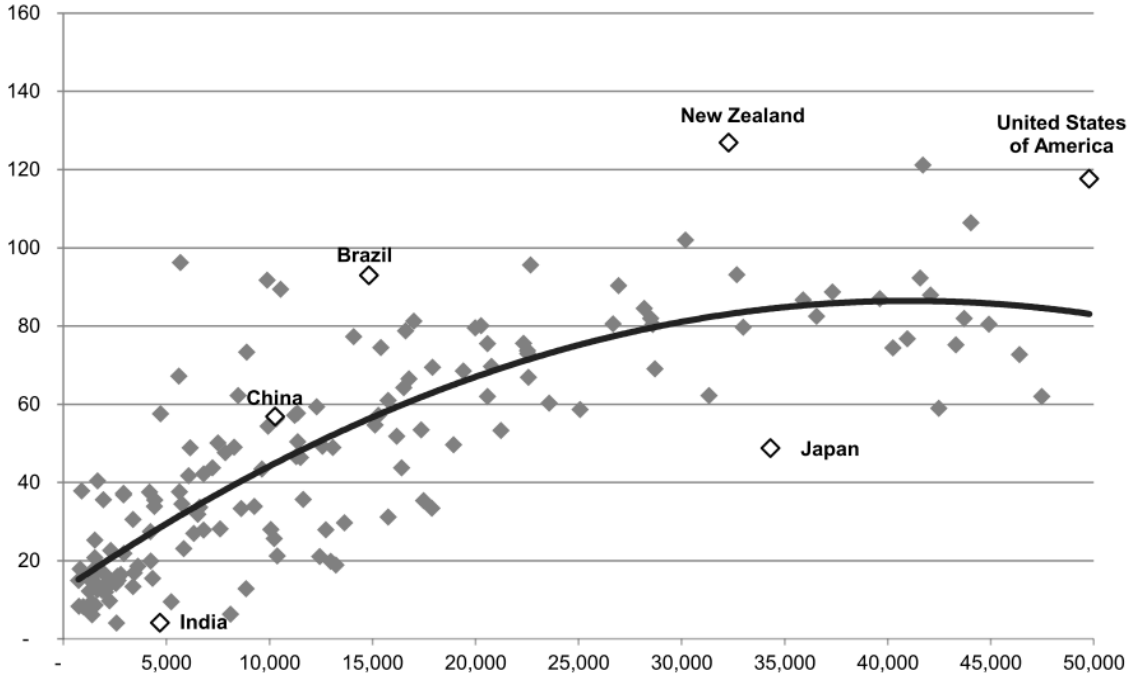


Source: OECD.Stat (http://stats.oecd.org/). Note: Index calculated by a constant weighting of commodities within each aggregate. The weight is calculated by the average 2012–14 real terms production value. 2015 figures are provisional.

Evolution of commodity real prices

Income and meat consumption



Source: Adapted from FAO (2009a). Based on data from FAOSTAT (FAO, 2015a) for per capita meat consumption and the World Bank for per capita GDP. *Note:* GDP per capita (horizontal axis) is measured at purchasing power parity (PPP) in constant 2011 US dollar. Per capita meat consumption (vertical axis) is measured in kg/capita/year.

Trends based projections by 2050

- Global agricultural production is expected to increase by 60 % in volume
- Global meat production could increase by 76 % (mostly in developing countries)
- Global milk production could grow annual rate
  - ✓ 1.8 % in developing countries
  - ✓ 0.3 % in developed countries

Challenges?

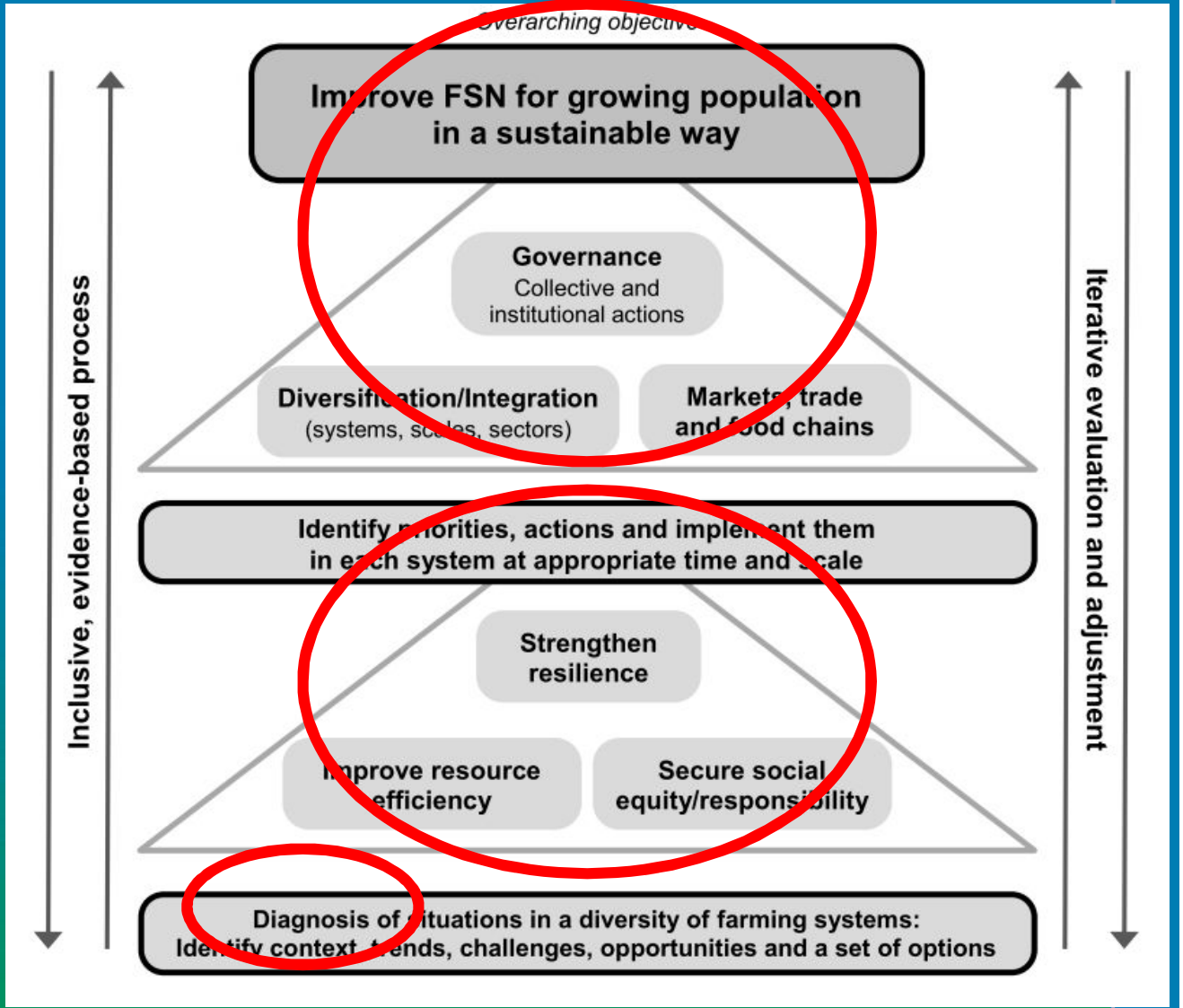
- **Environmental: Footprint of livestock and feed crops**
  - ✓ Directly: 3 environment conventions
  - ✓ Pressure on land, including deforestation
- **Economic**
  - ✓ Functioning of markets, including excessive volatility, internalization of externalities,…
  - ✓ Lack of consensus on how to integrate SDGs concerns in trade agreements
  - ✓ Corporate concentration in agri-food, including livestock sector
- **Social**
  - ✓ Working conditions, including child labour
  - ✓ Gender inequalities (in developing countries, 43 % of agricultural labour force are women)
  - ✓ Ageing labour force and attractiveness
  - ✓ Conflicts and protracted crises
- **Health**
  - ✓ *One Health* approach, including animal diseases and human health (nutrition and food-borne diseases
  - ✓ Antimicrobial resistance
- **Animal Welfare**
  - ✓ Implement OIE's international animal welfare standards

Common approach for pathways

Principles

- context specific
- combine technical actions, investments and enabling policy instruments
- address multiple challenges and cover all dimensions of sustainability

Framework In 8 steps from assessment to monitoring/evaluation



Addressing the 3 pillars

- **Improve resource efficiency**
  - ✓ Reduce animal mortality
  - ✓ Reduce yield gaps and environmental footprint
  - ✓ Improve animal feed efficiency
  - ✓ Close nutrient cycles
  - ✓ Reduce food losses and waste
  - ✓ …
- **Strengthen resilience through**
  - ✓ Adapting to climate change
  - ✓ Protecting and managing genetic resources
  - ✓ improving animal health
  - ✓ Application of risk management tools
  - ✓ ...
- **Secure social equity/responsibility**
  - ✓ Social protection systems, in particular for smallholders
  - ✓ Working conditions (legislation, law enforcement, practical guidelines)
  - ✓ Animal welfare
  - ✓ …

Cross-cutting recommendations

1. Elaborate context-specific pathways to SAD for FSN
2. Strengthen integration of livestock in national SAD strategies
3. Foster coherence between sectoral policies and programmes
4. Develop gender-sensitive livestock policies and interventions
5. Better integrate SAD issues for FSN in trade policies
6. Limit and manage excessive price volatility
7. Protect, preserve and facilitate the sharing of livestock genetic resources
8. Improve surveillance and control of livestock diseases
9. Promote research and development
10. Review and improve indicators and methodology and identify data gaps

Specific recomendations according to type

Smallholder mixed farming systems

- Access to resources, markets and services
- Resource efficiency and resilience

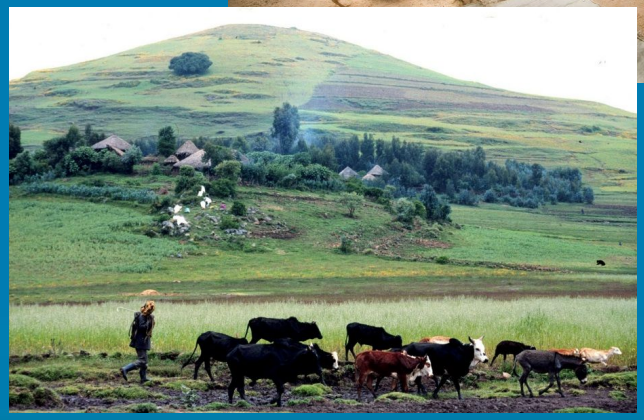


Photo credit: ILRI/Apollo Habtamu

Photo credit: ILRI/Fred Unger

Intensive livestock systems

- Water, soil and air pollution
- Pressure on land (feed production)
- Antimicrobial resistance
- Working conditions

Thank you for your attention

For more information about the HLPE and to download the reports, please visit the HLPE website at: www.fao.org/cfs/cfs-hlpe