

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 (HLPE)*

Wilfrid Legg
HLPE Project Team Leader

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Why a focus on livestock?

Livestock is a:

- key sector world wide and in many countries
- a driver of land use and of cereal consumption
- powerful engine and a key driver for sustainable agriculture and food system development
- good illustration to explore possible pathways to SAD
- sector that has often not received the balanced attention it deserves concerning SAD for FSN

Many challenges for SAD are related or depend on the evolution of the livestock sector

Key roles of the livestock sector (1)



- Around 1/3 of global agricultural gross production value
- In 2010, animal products (excluding fish and seafood) globally produced 16 % of total calories and 31 % of protein
- In developing countries, most rural households keep livestock (between 44 and 79 % in seven African countries)
- Beyond ASF, livestock generates co-products and benefits (wool, skin, manure, draught power, store of wealth and safety nets, landscapes...)

Key roles of the livestock sector (2)

- **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

Over the last 50 years:

- Population growth: from 3 to 7.3 billion
- Global GDP increased more than 5 fold
- Global agriculture GPV increased 3 fold
- Urbanization: urban population increased from 30 % to 54 % of the global population.
- Long term decline in real prices of agricultural products but short-term volatility
- Increase in international trade of agricultural products, including ASF

Over the last 50 years:

- Global meat production has quadrupled from 71 to 292 million tonnes,
- Global milk production has more than doubled from 342 to 720 million tonnes
- Egg production rose from 15 to 69 million tonnes
- Share of ASF and vegetable oils in total calorie intake increased from 13 to 22 percent since the early 1970s

Projections of key trends by 2050

- Global population is expected to reach 9.7 billion (and to double in Africa)
- 66 % of people will live in cities (rapid urbanization of Asia and Africa)
- Rural population will continue to grow in Africa, Oceania and in the least developed countries.
- ASF consumption will grow in developing countries but remain stable or decrease in developed countries

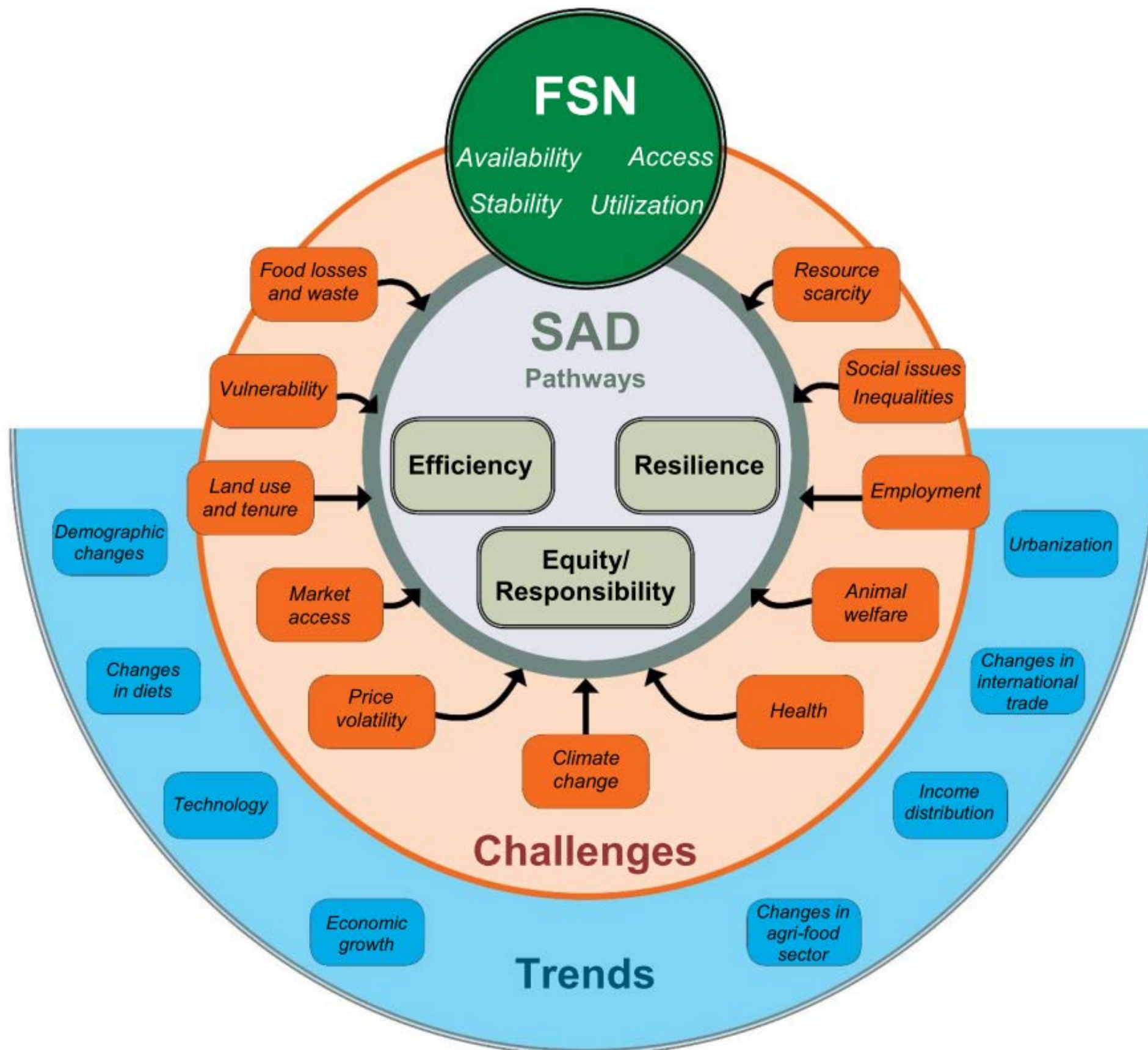
Given current trends, to meet food demand by 2050:



- Global agricultural production will need to increase by 60 % in volume
- Global meat production could increase by 76 % and milk production by 62%

(This increase in livestock production will occur mostly in developing countries)

Conceptual framework



Environmental challenges

- Reduce environmental footprint of livestock and feed crops
- Pressure on land, including deforestation and land degradation and water
- Biodiversity loss
- Climate change (mitigation / adaptation)

- Better functioning of markets (internalize externalities)
- Lack of consensus on how to integrate FSN concerns in trade agreements
- Low levels of investment in agriculture and R&D
- Concerns about corporate concentration in agri-food, including livestock sector

- **Working conditions (in particular in meat packing and processing industry)**
- **Child labour (of 215 million child labourers, about 60 % are engaged in agriculture)**
- **Gender inequalities (in developing countries, 43 % of agricultural labour force are women)**
- **Ageing labour force in some countries – need to make farming more attractive for young people**
- **Conflicts and protracted crises (number of countries facing food crises has doubled since 1990)**

- ***One Health* approach: better prevent zoonoses by taking into account the links between human health, animal health and the environment**
- **Animal diseases (in Africa, 35 highest priority diseases cost USD9 billion a year – 6 % of livestock production value)**
- **Human health**
 - ✓ **Complex links between ASF, nutrition and health**
 - ✓ **Food-borne diseases: 420 000 deaths per year, developing countries bear 98 % of the burden.**
- **Antimicrobial resistance**

Recognize that animal welfare is variously addressed across countries and production systems

Implement OIE's international animal welfare standards based on the « five freedoms »:

- ✓ Freedom from thirst, hunger and malnutrition,
- ✓ Freedom from discomfort
- ✓ Freedom from pain, injury and disease,
- ✓ Freedom to express normal behaviour,
- ✓ Freedom from fear and distress.

Specific challenges (1):

Smallholder mixed farming systems:

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

Pastoral systems:

- Conflicts for land and water
- Discrimination / Social and gender inequity
- Human and animal health challenges

Specific challenges (2):

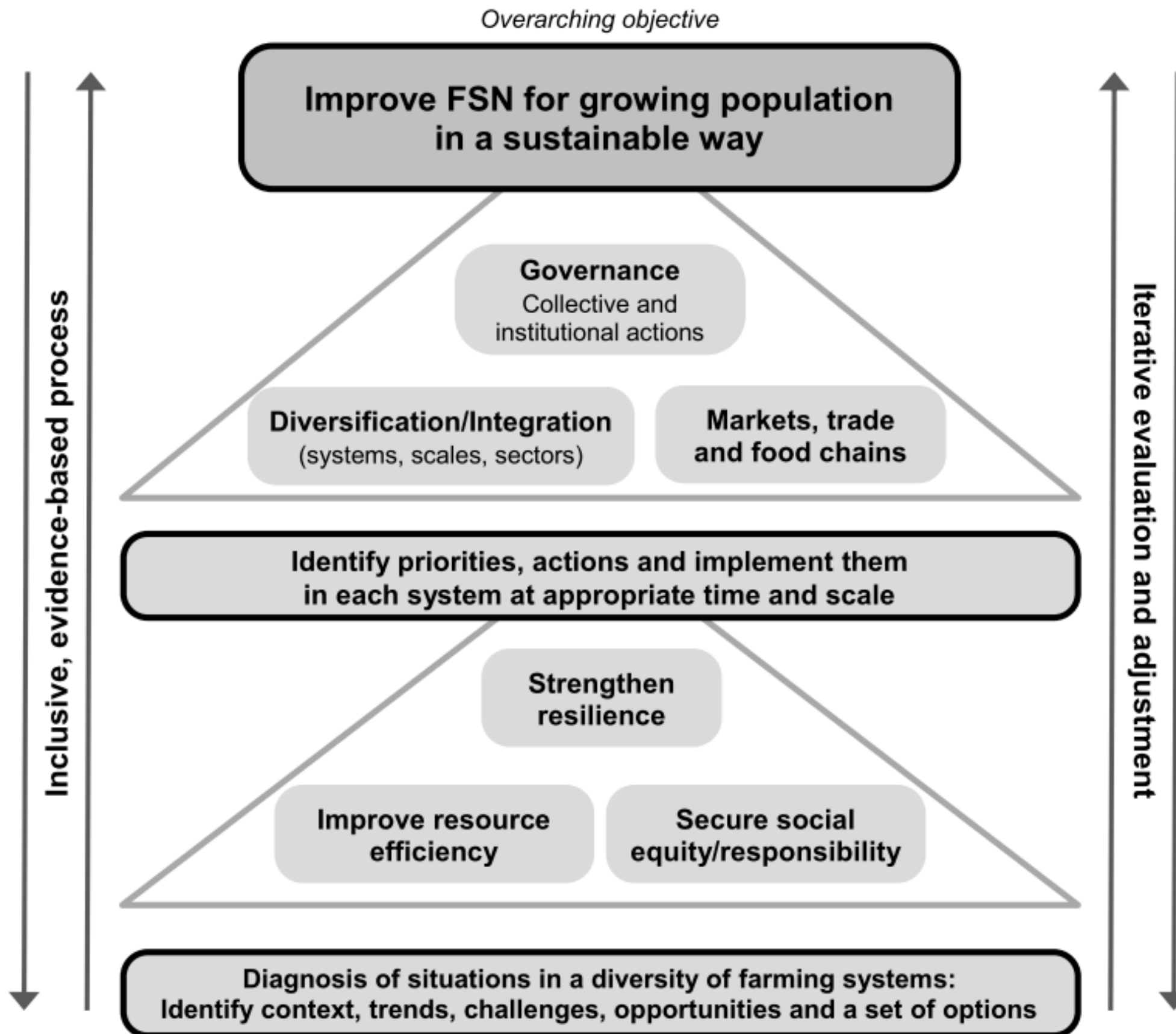
« Commercial » grazing systems:

- Grassland degradation & biodiversity loss
- Conflicts for land and resources
- Working conditions

Intensive livestock systems:

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

Common approach for pathways (1)



Pathways towards SAD for FSN will have to:

- address multiple challenges at the same time and cover all the dimensions of sustainability and FSN
- be context specific and vary across countries / farming systems
- combine technical actions, investments and enabling policy instruments

The HLPE proposes a common and iterative approach in **8 steps** to achieve SAD pathways

3 operational principles for SAD

- Improve **resource efficiency** (of production, natural resources and the environment)
- Strengthen **resilience** (ability to respond and adapt to shocks)
- Secure **social equity/responsibility** (addressing and respecting the diversity of social issues)

- Reduce animal mortality (improve access to veterinary services in developing countries)
- Reduce yield gaps **and** environmental footprint (GHG emissions could be reduced by 18-30 % if all producers adopted best practices in a given system and region)
- Improve animal feed efficiency
- Close nutrient cycles
- Reduce food losses and waste

Strengthen resilience through



- **Adapting to climate change**
- **Protecting and managing genetic resources**
- **Strengthening actions to improve animal health**
- **Wider application of risk management tools**

This covers a wide range of social issues: income distribution, human rights, gender, tenure and property rights, discriminations, responsibility of all actors (individual, corporate, collective)...

Among the operational priorities for action:

- Developing social protection systems, in particular for smallholders**
- Improving working conditions (legislation, law enforcement, practical guidelines)**
- Enhancing animal welfare (standards, technical innovations)**

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

System specific recommendations



11. Recognize the importance of smallholders mixed farming systems for FSN and support them
12. Recognize and support the unique role of pastoral systems
13. Promote the sustainability of « commercial » grazing systems
14. Address the specific challenges of intensive livestock systems

Thank you for your attention



Photo credit: ILRI/Susan MacMillan