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# The Role of Livestock in MENA: Challenges and Opportunities for Sustainable Development

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 **ICARDA**  
Science for resilient livelihoods in dry areas

- The Middle East and North Africa (MENA) region faces significant challenges in ensuring food security and nutrition for its growing population.
- Livestock plays a vital role in the regional economy and food systems, yet the sector faces various challenges.
- This presentation focuses on the importance of livestock in MENA, explore the evolution of farming systems, and identify key trends impacting the sector.
- It also examines challenges facing the livestock sector and discuss frameworks for enhancing the role of livestock in food security and nutrition, particularly in the context of restoring large rangelands for sustainable development.



## Livestock: A Cornerstone of MENA's Economy and Food Security

### Economic Contributions

Livestock contributes significantly to the MENA region's GDP, providing employment and income for millions.

It is a key source of protein, dairy products, and other essential nutrients, contributing to the overall food security of the region.

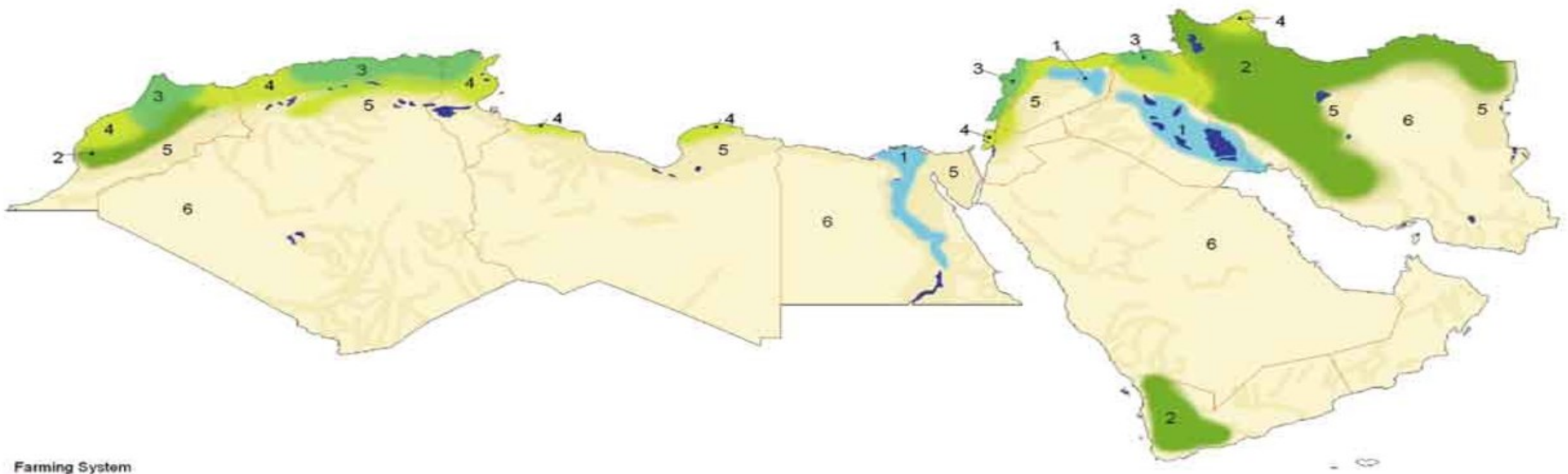
### Cultural Significance

Livestock is deeply ingrained in the cultural heritage of MENA societies. It is an important source of social capital, particularly in rural areas, and plays a vital role in traditional celebrations and social gatherings.

# Major Farming Systems

Middle East and North Africa

Map 1



- Farming System**
- 1. Irrigated
  - 2. Highland mixed
  - 3. Rainfed mixed
  - 4. Dryland mixed
  - 5. Pastoral
  - 6. Sparse (arid)
  - Water Bodies
  - Country Boundaries

Notes :  
Projection = Geographic (Lat/Long)

**FAO Disclaimer**

The designations employed and the presentation of the material in the maps do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

## Historical Context

Traditional nomadic herding has been practiced for centuries, with livestock grazing freely on vast rangelands. This system relied on natural resources and seasonal migration patterns.

1

2

3

Modern livestock farming is characterized by increased specialization, technology, and a focus on productivity. While this has contributed to increased food production, it also presents challenges in terms of animal welfare, environmental impacts, and the need for efficient resource management.

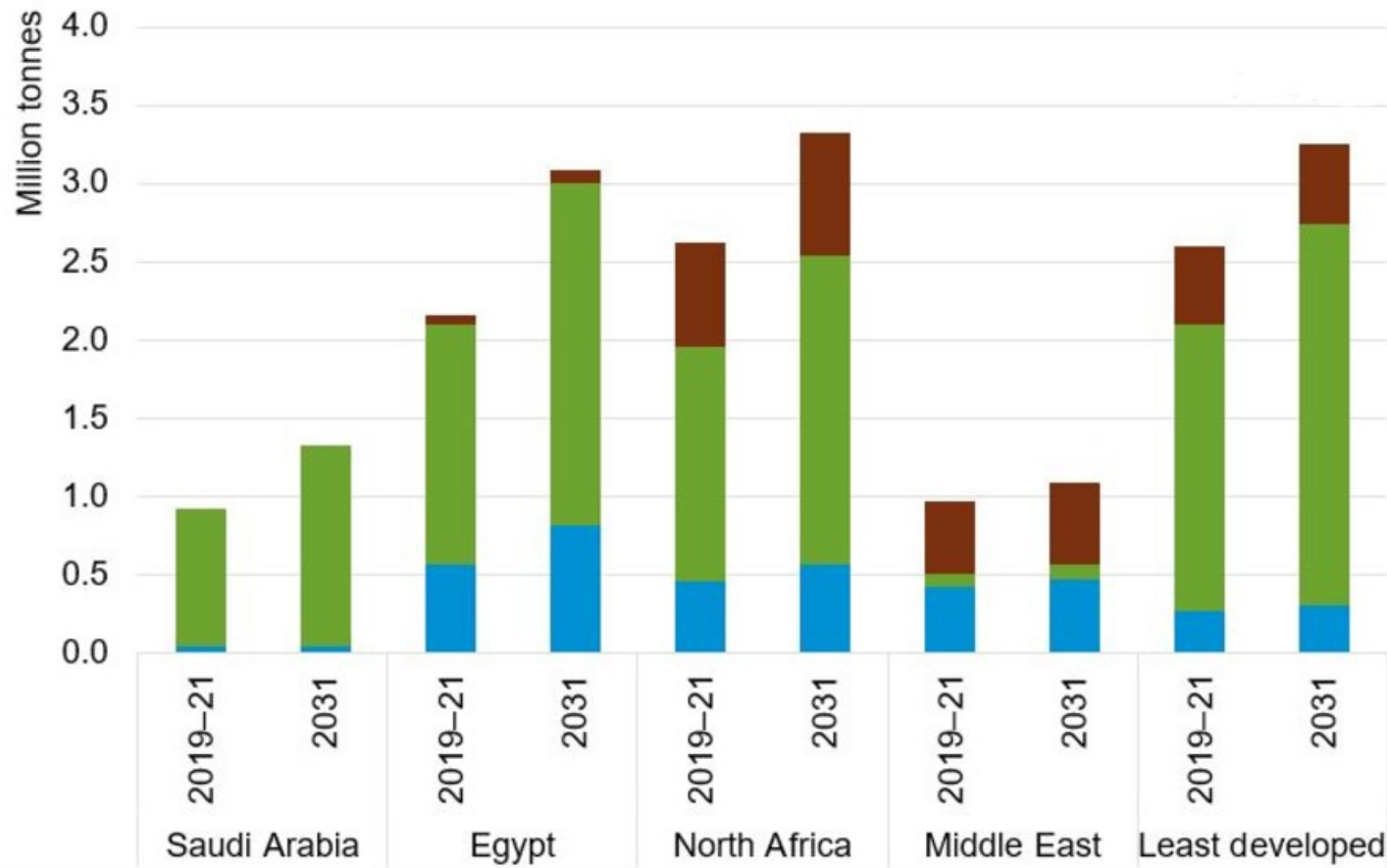
The development of irrigation systems, new agricultural technologies, and increased urbanization led to a shift towards more intensive farming systems. This transition brought about new challenges related to land use, water management, and environmental sustainability.



## Livestock population trends in the MENA region

- The livestock population in the MENA region is increasing from approximately 168 million heads in 2020 to around 179.2 million heads in 2023.
- Sheep populations are estimated to have risen from 85 million in 2020 to about 89.5 million in 2023, indicating stable demand for sheep farming.
- Goat populations have also increased, estimated to rise from 50 million in 2020 to around 54.5 million in 2023, reflecting their significance in local diets and economies.
- Cattle numbers have gradually grown, with estimates suggesting an increase from 25 million in 2020 to approximately 26.5 million in 2023.
- The camel population has seen a slight increase as well, estimated to grow from 8 million in 2020 to about 8.7 million in 2023.

## Livestock production trends in the MENA region



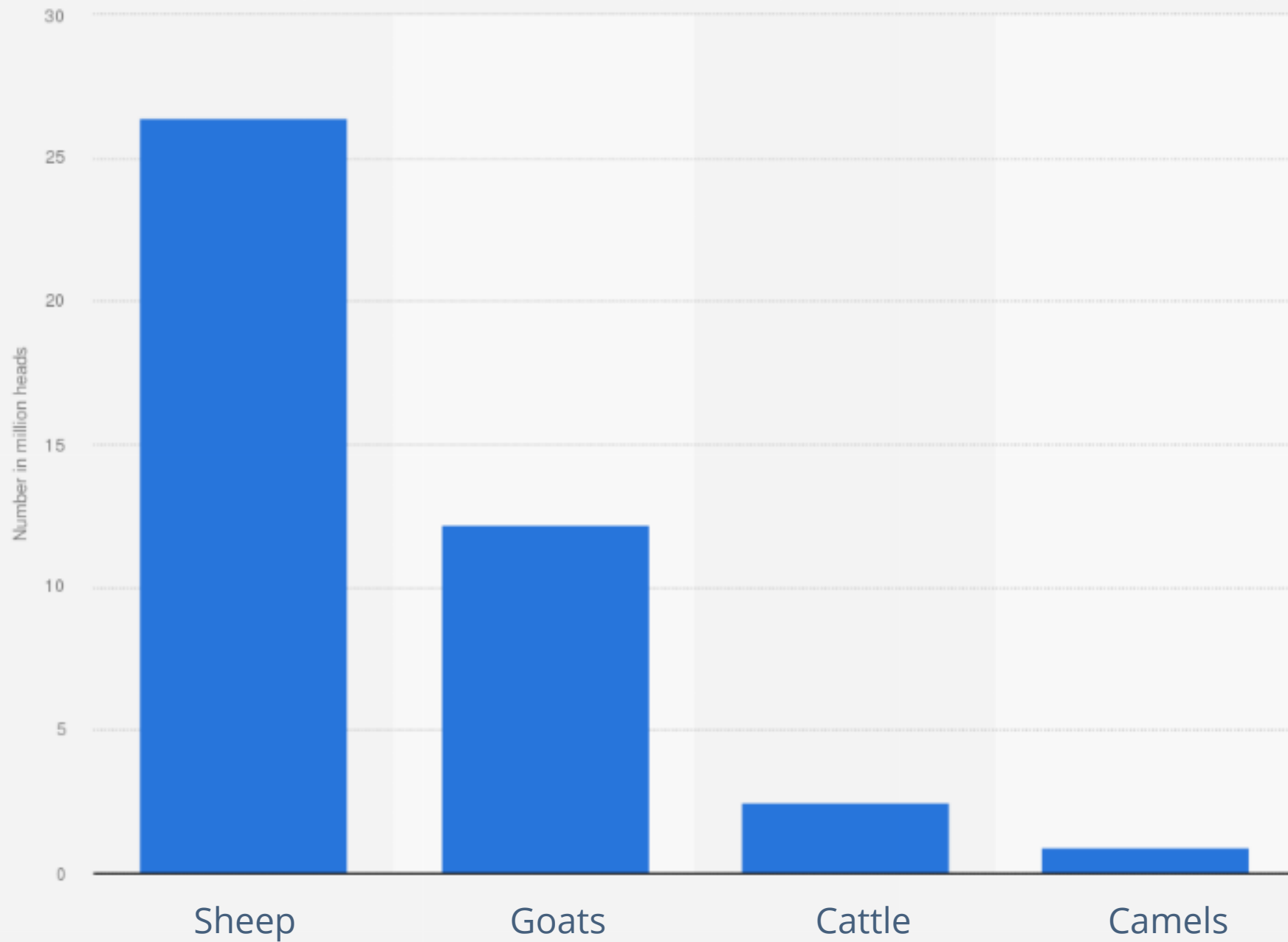
Growth in poultry meat production is highest for all meat (3.1% increase per annum), followed by bovine meat (1.6% increase per annum).  
Ovine production is expected to remain largely unchanged (OECD).

Source: OECD/FAO

■ Beef and veal 
 ■ Pork 
 ■ Poultry 
 ■ Sheep

- The leading livestock in the Gulf Cooperation Council region was lambs, with 26.4 million animals. The total number of all livestock raised in the GCC region was 42 million animals.
- Goat populations have also increased slightly, from 14.9 million in 2020 to around 15.8 million in 2023.
- Cattle numbers have seen a gradual rise, from 2.4 million in 2020 to about 2.7 million in 2023.
- The camel population has increased from 1.8 million in 2020 to approximately 2 million in 2023, reflecting their importance in the region.





**Number of  
livestock in the  
GCC region as of  
2021, by type (in  
million heads)**

## Water Scarcity

The MENA region faces severe water scarcity, which significantly impacts livestock production, especially in arid and semi-arid areas. Water management strategies and efficient resource allocation are crucial for sustainable livestock production.

## Animal Diseases

Livestock is susceptible to various diseases which can cause significant losses in production and impact regional trade. Investing in disease surveillance and control measures is essential for mitigating these risks.

## Feed Shortages

Limited availability of high-quality feed is a major challenge for the livestock sector. Developing sustainable feed sources and improving forage management practices are vital for ensuring adequate feed supply.

## Climate Change

Climate change poses significant challenges for livestock production, including extreme weather events, droughts, and increased temperatures. Adapting farming practices to mitigate these challenges is vital for ensuring the resilience of the sector.

## 1

### **Population growth**

Rapid population growth, which is driving an increased demand for Animal Source Food (ASF) . This growth requires innovative and sustainable solutions to meet the increasing demand.

## 2

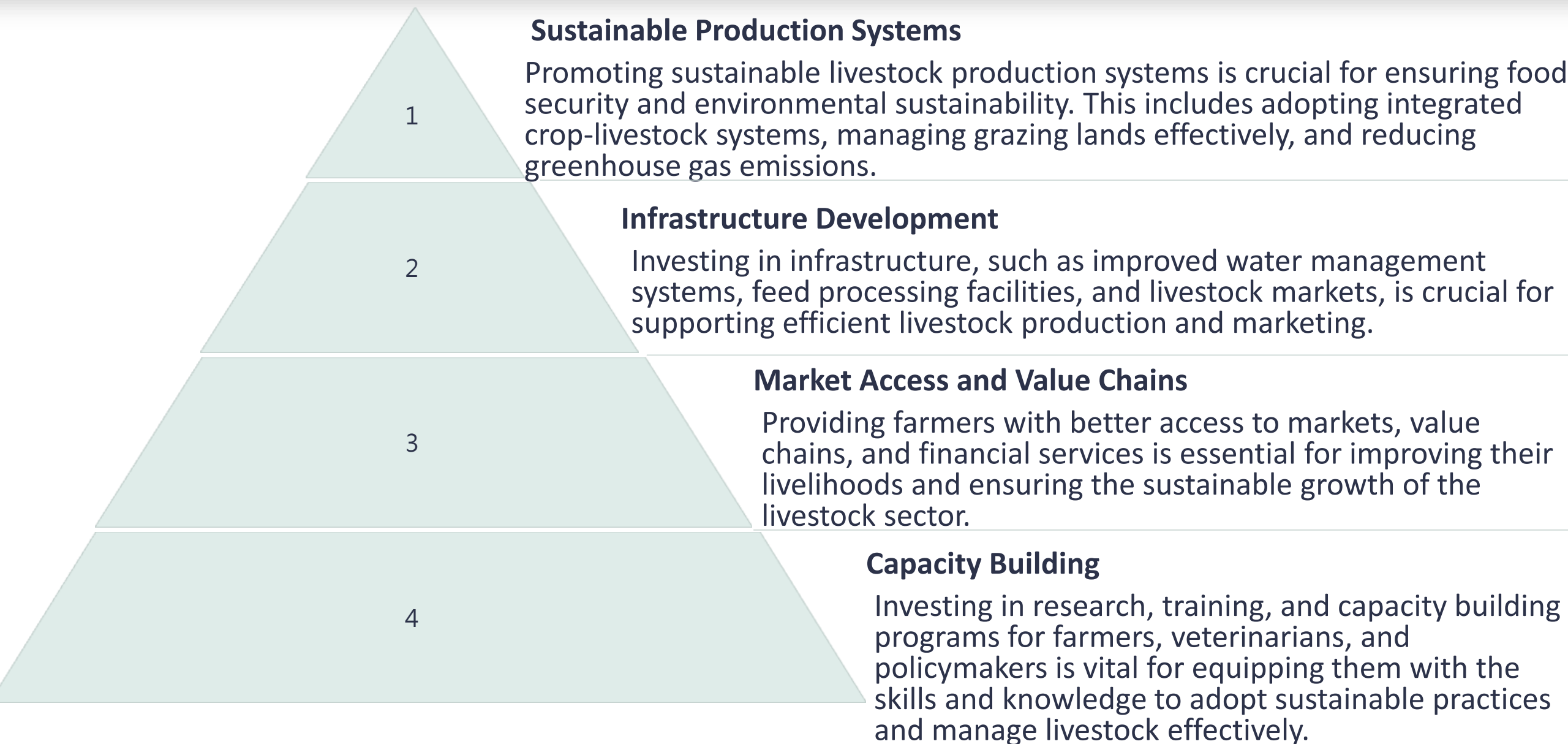
### **Rising income levels**

Consumers are increasingly demanding higher quality and more diverse livestock products, shifting their preferences towards meat and dairy. This change in consumption patterns requires adapting production systems to meet these demands.

## 3

### **Urbanization**

Urbanization is leading to a change in dietary habits and a preference for processed food products, presenting opportunities for the livestock sector to develop value-added products to meet these evolving needs.



1

## Improve Breeding Practices

Investing in genetic improvement programs and utilizing advanced breeding techniques to enhance animal productivity and resilience.

2

## Promote Feed Efficiency

Encouraging the use of high-quality feeds and optimizing feeding practices can significantly improve feed efficiency and reduce environmental impacts.

3

## Enhance Animal Welfare

Prioritizing animal welfare by implementing humane handling practices, providing adequate housing, and minimizing stress can lead to improved animal health and productivity.

4

## Strengthen Market Infrastructure

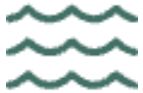
Including cold chain facilities, transportation networks, and efficient marketing systems, is essential for facilitating the flow of livestock products from farm to consumer.





## Reforestation and Afforestation

Planting trees and restoring degraded rangelands can enhance soil fertility, reduce desertification, and provide shade and fodder for livestock, contributing to a more sustainable ecosystem.



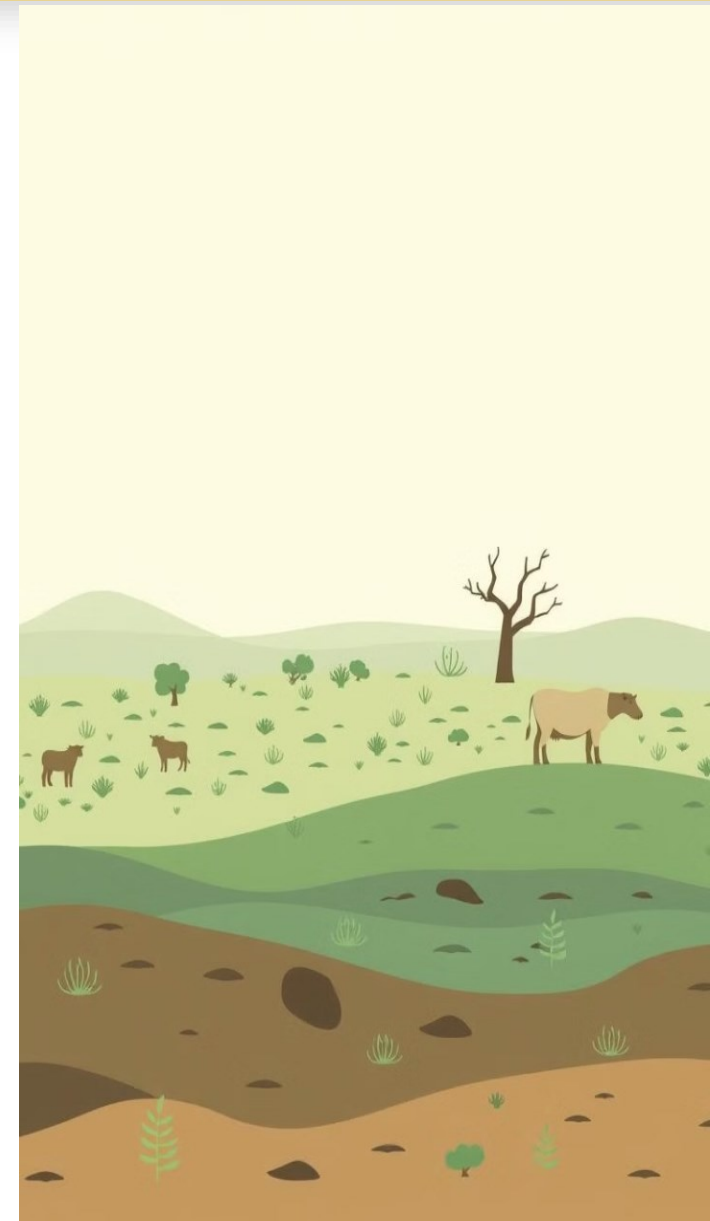
## Water Conservation

Implementing water-saving technologies, such as drip irrigation and rainwater harvesting, can improve water management and ensure sufficient water availability for livestock and other rangeland ecosystems.



## Sustainable Grazing Practices

Adopting rotational grazing and controlled stocking rates can help prevent overgrazing, allowing rangelands to recover and maintain their ecological integrity.





**THANK YOU**