



RESEARCH PROGRAM ON  
**Climate Change,  
Agriculture and  
Food Security**



# ADB ESLAP case study outputs and synthesis of results: Sustainable livestock

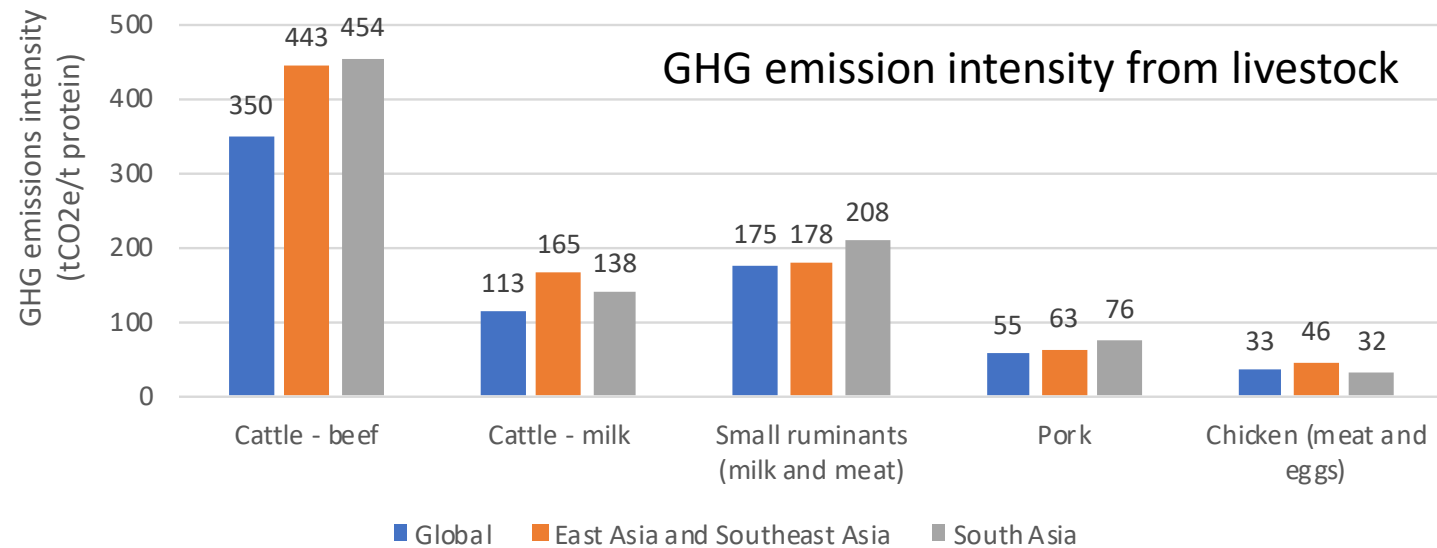
## Livestock sustainability guidance review and framework

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# Introduction

- Asia accounts for 25-57% of global meat and dairy production.
- GHG emissions from livestock in EA&SA and SA have higher levels than global average.




- Promoting sustainable livestock production is critical to securing food security consistently with global environmental goals.
- Sector-wide guidance and assessment frameworks have been developed to address this challenge.



# Sustainable livestock: Principles and criteria

## Frameworks reviewed


**IFC**  
 International Finance Corporation  
 World Bank Group  
 Environmental, Health, and Safety Guidelines  
 MAMMALIAN LIVESTOCK PRODUCTION  
 ANNUAL CROP PRODUCTION  
 GOOD PRACTICE NOTE Improving Animal Welfare in Livestock Operations


**INVESTING IN SUSTAINABLE LIVESTOCK (ISL) GUIDE**

  
**dsf**  
 Dairy Sustainability Framework


**GLOBAL ROUNDTABLE FOR SUSTAINABLE BEEF**

### Domain

Climate

Soil, water and air

Biodiversity

Feed

Energy

Socioeconomic

Food

Animal Welfare

### Principle

- GHG emission reduction
- Carbon sequestration

- Nutrient management (inc. manure and other waste)

- Maintain/enhance biodiversity

- Source and use sustainably

- Minimize fossil fuel use

#### Improve

- Rural economies and market develop.
- Working conditions
- Product safety and quality
- Food waste

- Ensure animal care (inc. value chain procedures)

Criteria  
~25

Indicators  
~80

# Simplified sustainable livestock investment framework



Livestock value-chain sustainability principles

## Environment

### Climate

- Reduce greenhouse gas emissions and climate vulnerability

### Water, air and soil

- Maintain or improve quality

### Biodiversity

- Maintain or improve protected areas and biodiversity in agroecosystems



## Society and economy

### Production

- Increase productivity, nutrition, safety and animal welfare; and avoid food/feed land competition

### Income

- Reduce poverty and strengthen socioeconomic resilience



# Examples of sustainable livestock value-chain practices

| Core interventions      | Examples of practices | Mitigation | Carbon removal | Synergies and trade-offs |                   |                            |
|-------------------------|-----------------------|------------|----------------|--------------------------|-------------------|----------------------------|
|                         |                       |            |                | <i>Productivity</i>      | <i>Adaptation</i> | <i>Other environmental</i> |
| <b>On-farm</b>          |                       |            |                |                          |                   |                            |
| Pasture management      | Rotational grazing    | +          | +              | +++                      | ++                | ++                         |
|                         | Agroforestry          | +++        | +++            | ++                       | +++               | +++                        |
| Animal management       | Improved feeding      | +++        | -              | +++                      | ++                | +                          |
| Manure management       | Anaerobic digesters   | ++         | -              | +                        | +                 | +++                        |
|                         | Composting            | +          | -              |                          |                   |                            |
| <b>Feed production</b>  |                       |            |                |                          |                   |                            |
| Soil management         | Reduced/No-tillage    | ++         | +              | ++                       | ++                | ++                         |
| Nutrient management     | 4Rs                   | ++         | +              | +++                      | +                 | +++                        |
| <b>Land use change</b>  |                       |            |                |                          |                   |                            |
| Avoid land conversion   |                       | +++        | -              | -                        | +++               | +++                        |
| Avoid peat. cultivation |                       | +++        | -              | -                        | +++               | +++                        |
| Land restoration; R/A   |                       | +++        | +++            | -                        | +++               | +++                        |
| <b>Off-farm</b>         |                       |            |                |                          |                   |                            |
| Renewable energy        | Solar panels          | +          | -              | -                        | +++               | +++                        |
|                         | Biogas                | +          | -              | -                        | +++               | +++                        |
| Transport               | Biogas                | +          | -              | -                        | +++               | +++                        |
|                         | Biofuel               | +          | -              | -                        | -                 | -                          |
| Reduce food loss        | Post-harvest          | ++         | -              | +++                      | +++               | +++                        |





**Thank you!**

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<https://www.flickr.com/photos/ciat/albums/72157645784599310/with/14648059137/>