DEVELOPING LIVESTOCK PRODUCTION AND FISHERY TO FOSTER FOOD SECURITY FOR A SUSTAINABLE AGRICULTURAL DEVELOPMENT IN OIC COUNTRIES

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Objectives of the Report

- Literature review on the development of livestock production and fisheries to support food security for sustainable agricultural development in OIC member countries

- Good/best practices of well-functioning livestock production and fishery sector worldwide and in the OIC Member Countries through desk reviews, surveys, and field visits

- Analysis of existing policies, institutional frameworks, strategies, regulations and best practices

- Establishment of practical and actionable recommendations

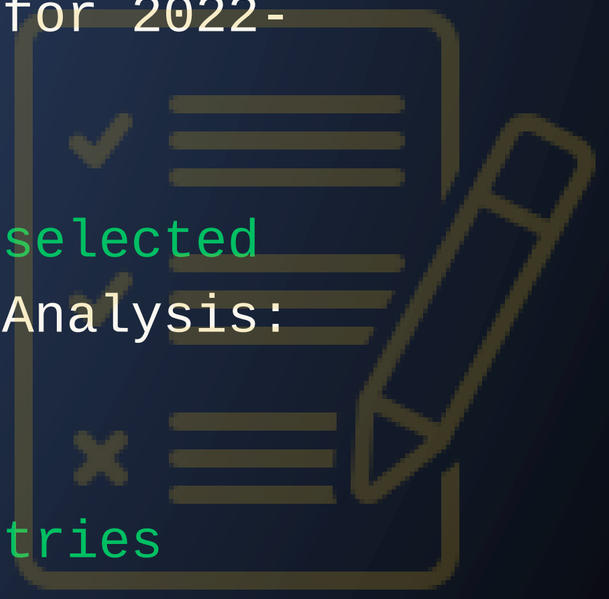
Scope of the Report

- Conceptual Framework and Methodology

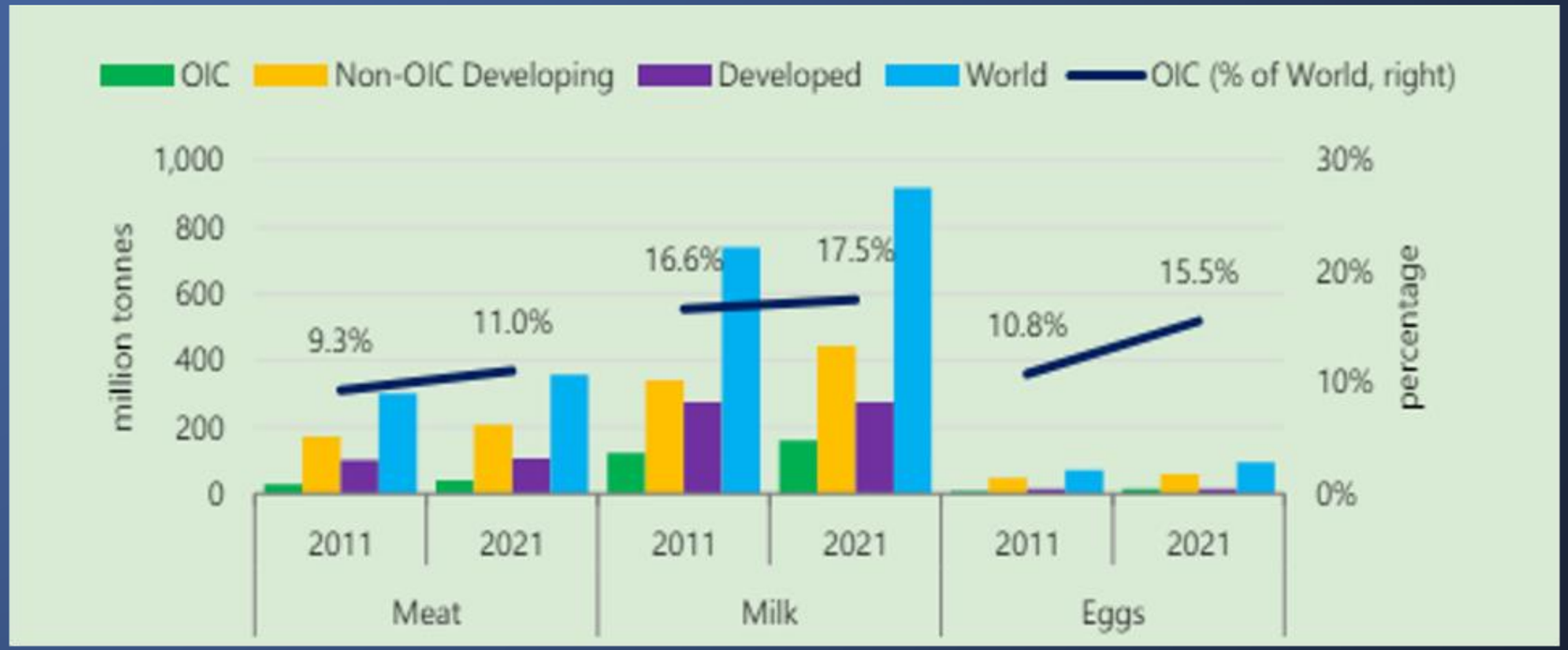
- Overview and Analysis of object across the globe and in the OIC Member Countries (Survey and Forecasting Analysis for 2022-2030)

- In-depth assessment of the subject practices in six selected countries (Field Visits: Malaysia, Senegal Desk Based Analysis: Nigeria, Sudan, USA, and Brazil)

- Policy Recommendations/Guideline for OIC Member Countries



Production of Livestock Products from 2011 to 2021



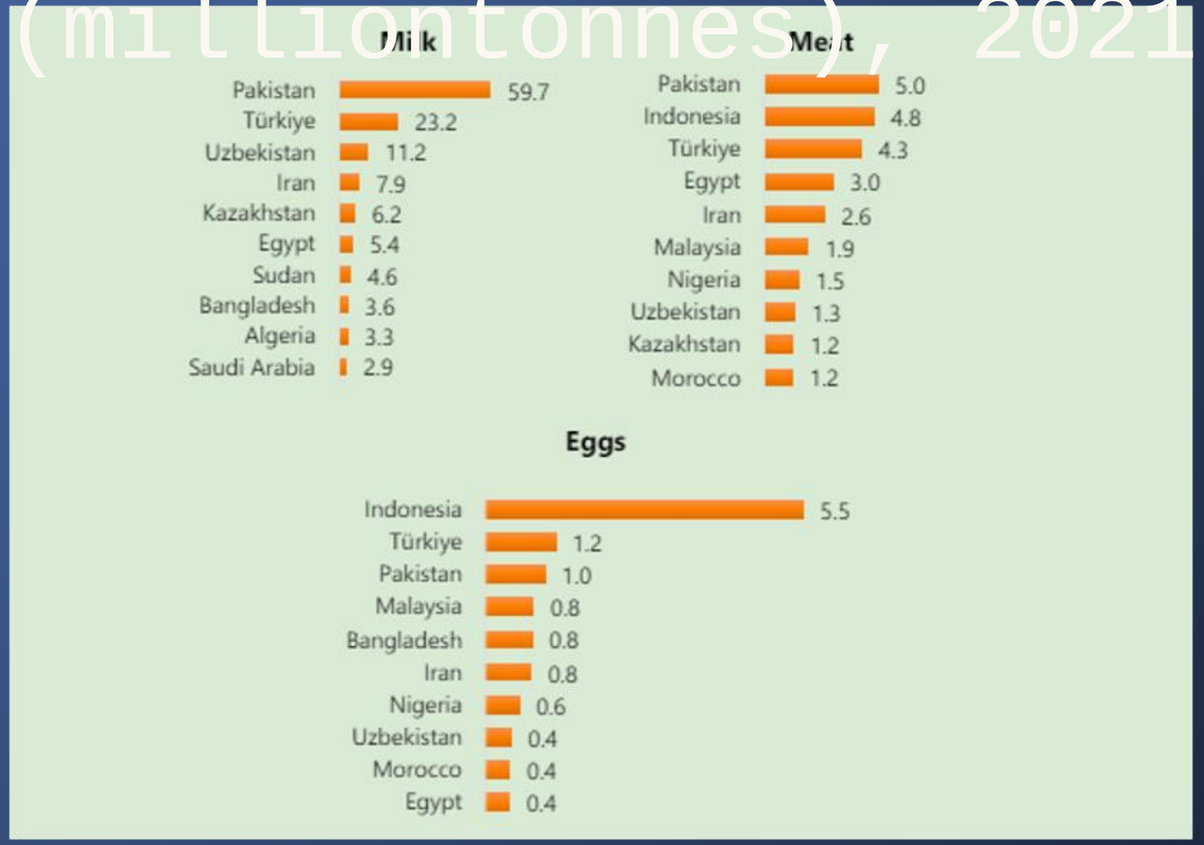
Source: SESRIC, 2021

OIC Member Countries among Top 20 Global Producers of Livestock Products, 2021

Commodity	Country (World Rank)
Meat of Chickens	Indonesia (5), Türkiye (10), Egypt (11), Iran (13), Pakistan (16), Malaysia (20)
Meat of Cattle	Türkiye (9), Pakistan (12), Uzbekistan (15)
Meat of Goat	Pakistan (3), Nigeria (4), Bangladesh (5), Chad (7), Sudan (8), Türkiye (10), Yemen (12), United Arab Emirates (17), Indonesia (18), Saudi Arabia (19), Burkina Faso (20)
Meat of Sheep	Türkiye (4), Algeria (5), Sudan (7), Pakistan (9), Iran (10), Chad (11), Morocco (13), Uzbekistan (14), Syria (15), Kazakhstan (16), Nigeria (17)
Meat of Camels	Sudan (1), Saudi Arabia (2), Somalia (3), United Arab Emirates (4), Mauritania (8), Oman (9), Niger (10), Turkmenistan (12), Egypt (13), Chad (14), Kazakhstan (15), Algeria (16), Pakistan (17), Libya (18), Iran (19), Afghanistan (20)
Meat of Buffalo	Pakistan (2), Turkmenistan (5), Egypt (6), Indonesia (11), Türkiye (14), Bangladesh (18), Iran (19), Iraq (20)
Eggs	Indonesia (4), Türkiye (9), Pakistan (11), Malaysia (15), Bangladesh (18), Iran (19)
Raw Milk of Cattle	Pakistan (8), Türkiye (10), Uzbekistan (17)
Raw Milk of Sheep	Türkiye (2), Syria (4), Algeria (6), Sudan (9), Somalia (10), Iran (11), Afghanistan (14), Mali (15), Indonesia (16), Niger (17), Jordan (19), Saudi Arabia (20)
Raw Milk of Goats	Bangladesh (2), Sudan (3), Pakistan (4), Türkiye (6), Somalia (10), Indonesia (11), Niger (13), Algeria (14), Iran (15), Mali (17)
Raw Milk of Camel	Somalia (2), Mali (3), Saudi Arabia (5), Niger (6), United Arab Emirates (7), Sudan (8), Chad (9), Mauritania (10), Qatar (11), Algeria (13), Morocco (16), Afghanistan (17), Djibouti (19), Libya (20)
Raw Milk of Buffalo	Pakistan (2), Egypt (4), Iran (8), Indonesia (9), Türkiye (12), Iraq (13), Bangladesh (14), Syria (18), Malaysia (19)

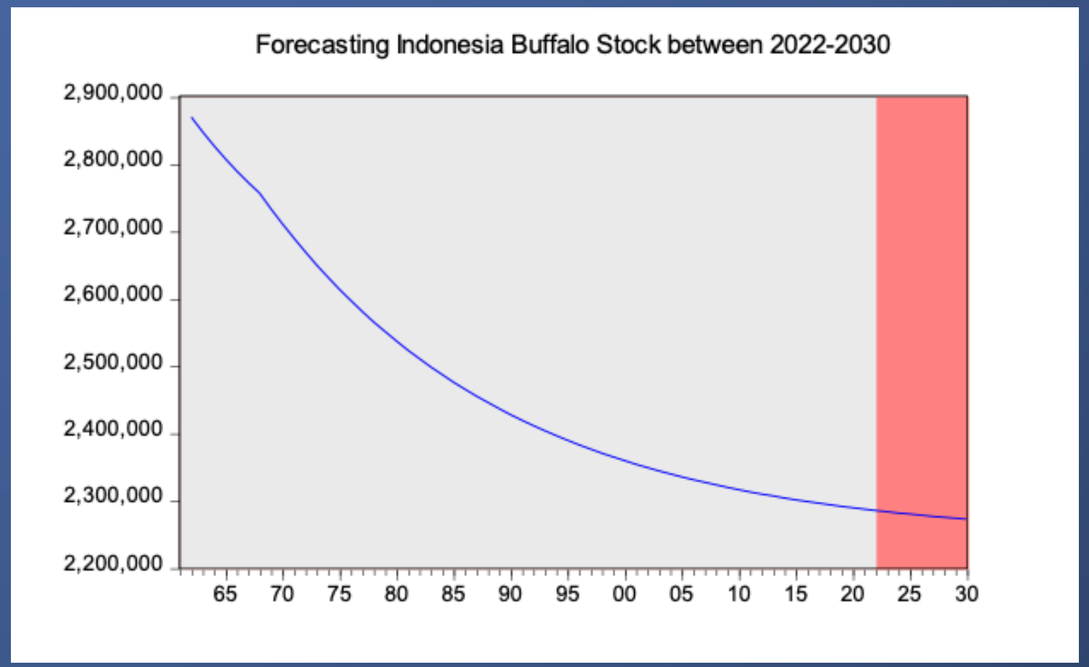
Source: SESRIC, 2021

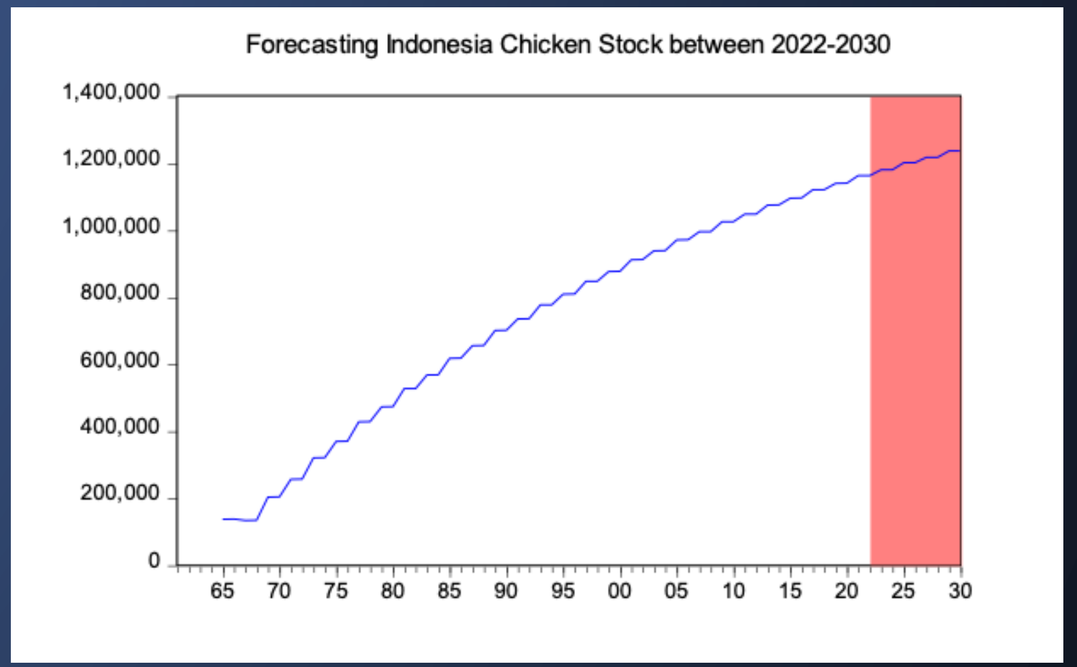
MajorProducers of LivestockProducts in OIC (milliontonnes), 2021



Source: SESRIC, 2021

Forecasting Analysis based on the period of 1961-2022





Source: Author’s Calculation

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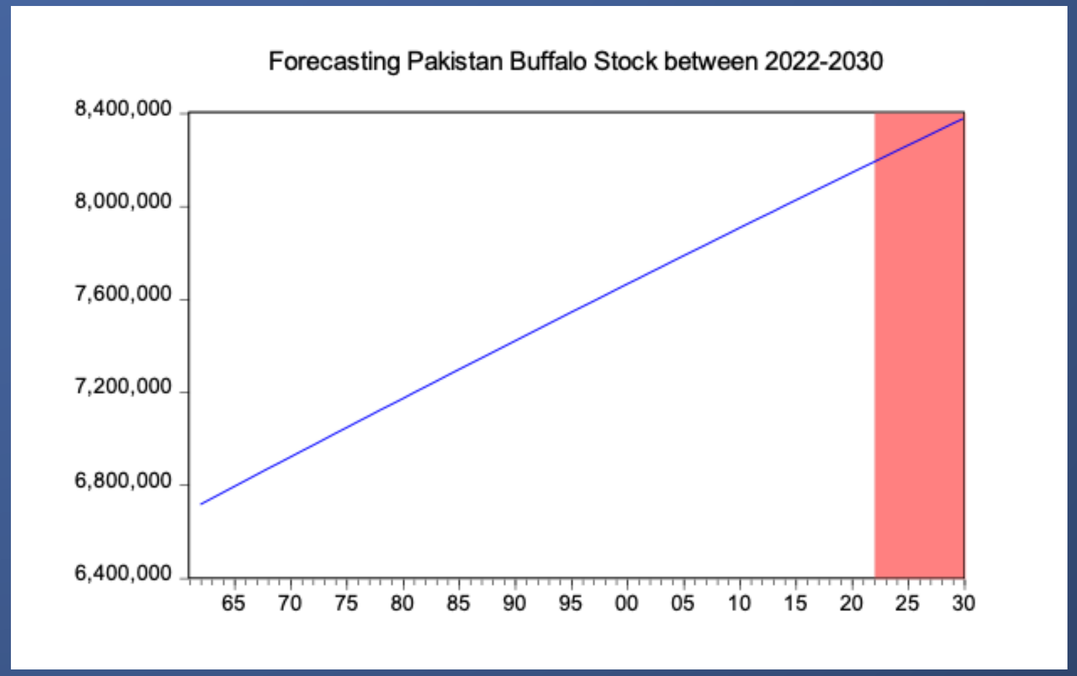
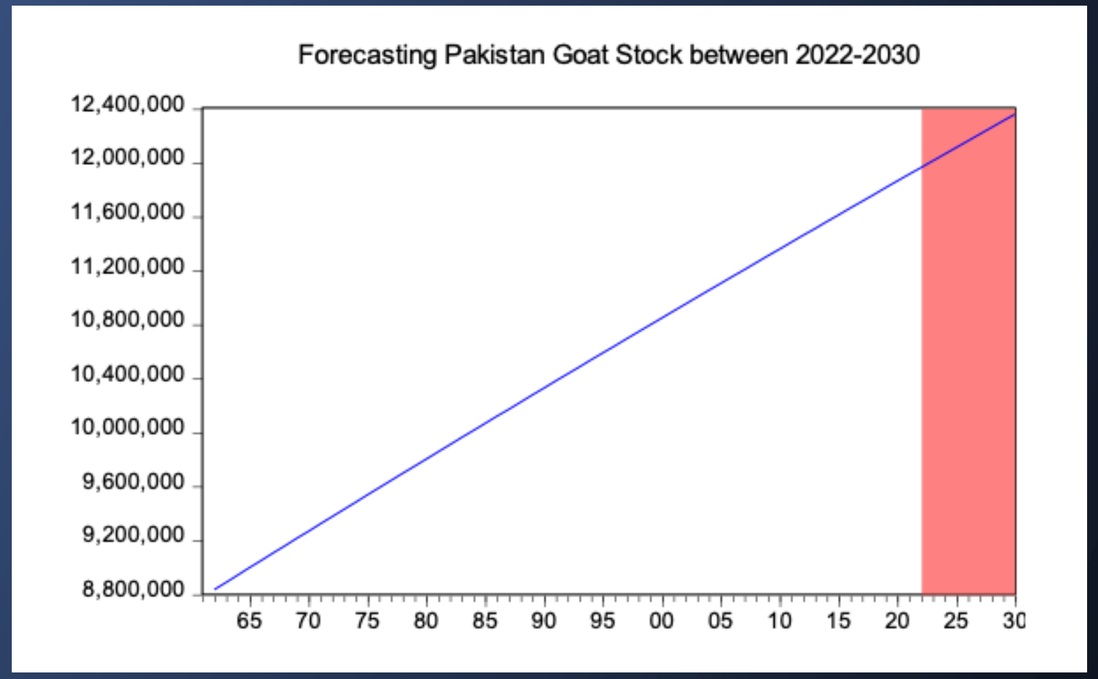




Source: Author’s Calculation

Kick-Off for Future Design

Key Strategies for Developing Livestock and Fisheries in OIC

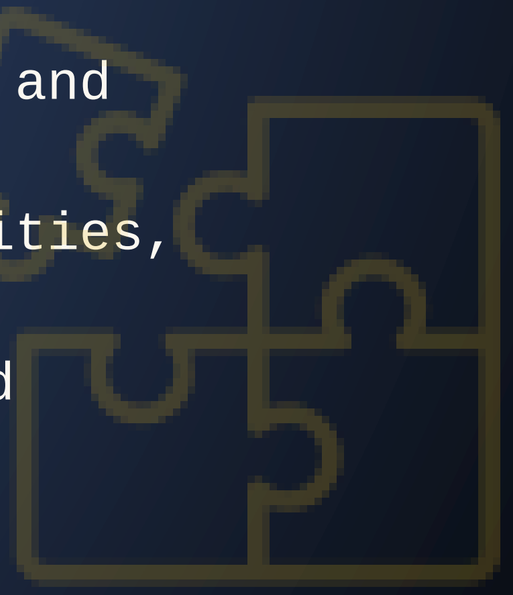
- Investment in Infrastructure and Technology
- Capacity Building and Knowledge Transfer
- Promotion of Sustainable Practices
- Diversification and Value Addition
- Market Access and Trade Facilitation
- Policy Support and Institutional Strengthening

Challenges in Livestock and Fisheries Infrastructure in OIC

- Insufficient infrastructure for production, processing, and distribution
- Lack of cold storage, processing facilities, and market infrastructure
- Inadequate transportation networks for product distribution

Strategies

- Development of cold storage facilities, processing plants, and market infrastructure
- Improvement of transportation networks (roads, ports, and logistics)
- Establishment of veterinary clinics, quarantine facilities, and animal health centers
- Collaboration between governments, private sector, and development partners

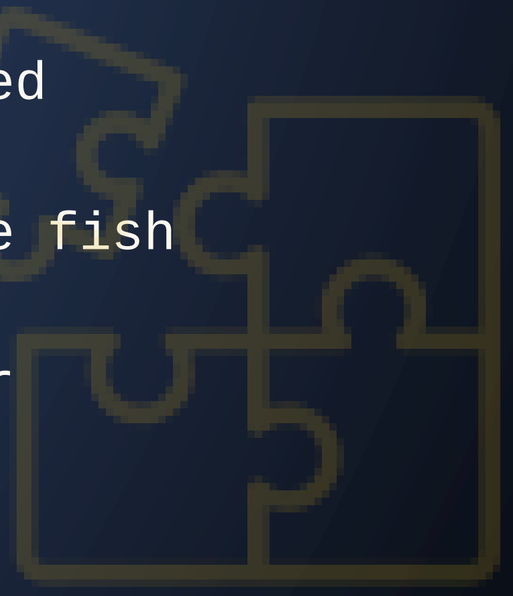


Challenges in Livestock and Fisheries for Technology in OIC

- Limited access to modern technology and equipment
- Low levels of mechanization and automation
- Lack of research and development initiatives and technology transfer mechanisms

Strategies

- Promotion of research and development in livestock breeding, genetics, and nutrition
- Adoption of precision farming technologies for improved productivity and resource management
- Introduction of aquaculture technology for sustainable fish farming practices
- Leveraging private sector expertise and investment for infrastructure development and technology transfer

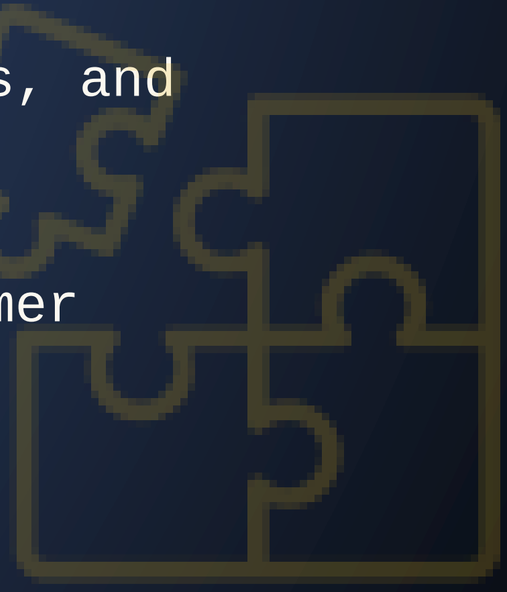


Challenges in Capacity Building

- Limited technical skills and knowledge among farmers, fishers, and extension workers
- Inadequate access to training and education opportunities
- Weak institutional capacity and extension services in rural areas

Strategies

- Establishment of training programs and vocational schools for farmers and fishers
- Collaboration with universities, research institutions, and international organizations for technical training and education
- Strengthening of extension services and farmer-to-farmer knowledge exchange programs



Challenges in Knowledge Transfer

- Limited dissemination of research findings and best practices
- Language and cultural barriers to knowledge sharing
- Lack of effective communication channels and extension networks

Strategies

- Development of knowledge sharing platforms and digital extension tools
- Translation of research findings and technical materials into local languages
- Promotion of participatory approaches, such as farmer field schools and community-based learning initiatives

Challenges in Market Access and Trade Facilitation

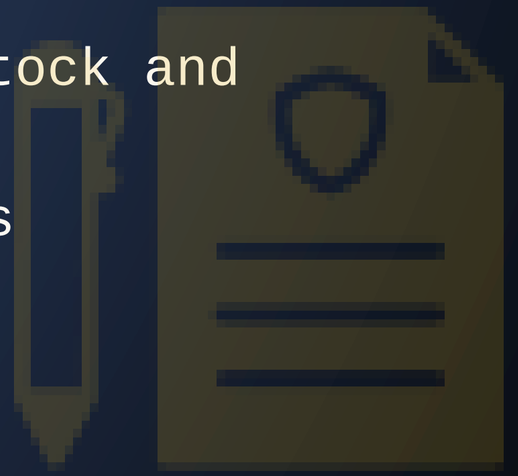
- Limited access to domestic and international markets for livestock and fisheries products
- Trade barriers and tariffs affecting exports and imports
- Inefficient transportation and logistics networks hindering market access
- Complex trade regulations and bureaucratic procedures
- Lack of harmonized standards and certification requirements
- Inadequate trade infrastructure (ports, customs facilities, inspection services)

Strategies

- Promotion of trade agreements and regional integration initiatives
- Reduction of tariffs and trade barriers through negotiations and trade liberalization
- Improvement of transportation infrastructure (roads, ports, airports) to facilitate product distribution
- Simplification and harmonization of trade procedures and documentation
- Establishment of one-stop border posts and electronic customs systems
- Capacity building for customs officials and trade facilitation agencies

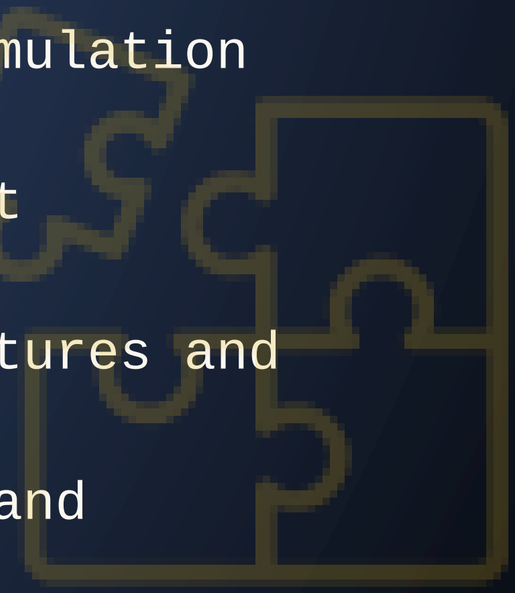
Challenges in Policy Support and Institutional Strengthening

- Inadequate policy frameworks and regulatory frameworks
- Lack of coordination and coherence among government agencies
- Weak enforcement mechanisms and monitoring systems
- Limited institutional capacity and expertise in livestock and fisheries sectors
- Fragmentation of institutions and overlapping mandates
- Insufficient resources and funding for institutional development



Strategies

- Development of comprehensive policy frameworks and strategies for livestock and fisheries sectors
- Alignment of policies with national development goals and international commitments
- Stakeholder engagement and consultation in policy formulation and decision-making processes
- Capacity building and training programs for government officials and sector stakeholders
- Consolidation and streamlining of institutional structures and mandates
- Enhancement of institutional coordination mechanisms and inter-agency collaboration



Challenges in Livestock and Fisheries Sustainability

- Overfishing and depletion of fish stocks
- Land degradation and deforestation associated with livestock production
- Water pollution and habitat destruction from intensive aquaculture practices

Principles of Sustainable Practices

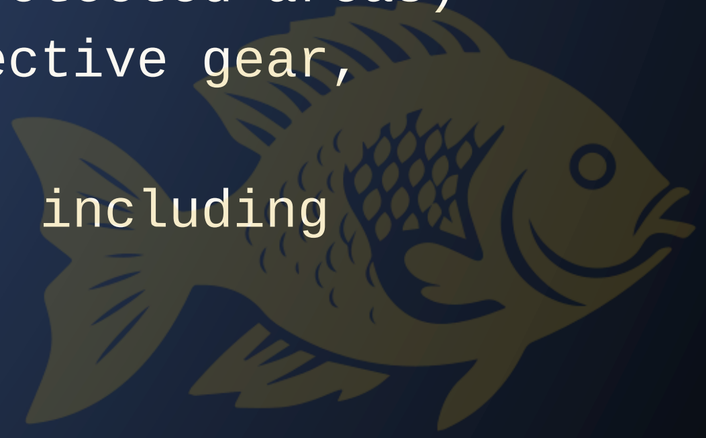
- Conservation of natural resources (water, land, biodiversity)
- Reduction of greenhouse gas emissions and carbon footprint
- Respect for animal welfare and ethical treatment
- Promotion of social equity and community participation

Sustainable Practices in Livestock Production

- Adoption of agroecological farming methods (pasture management, agroforestry)
- Implementation of sustainable grazing practices and rotational grazing systems
- Integration of livestock with cropping systems for nutrient cycling and soil fertility

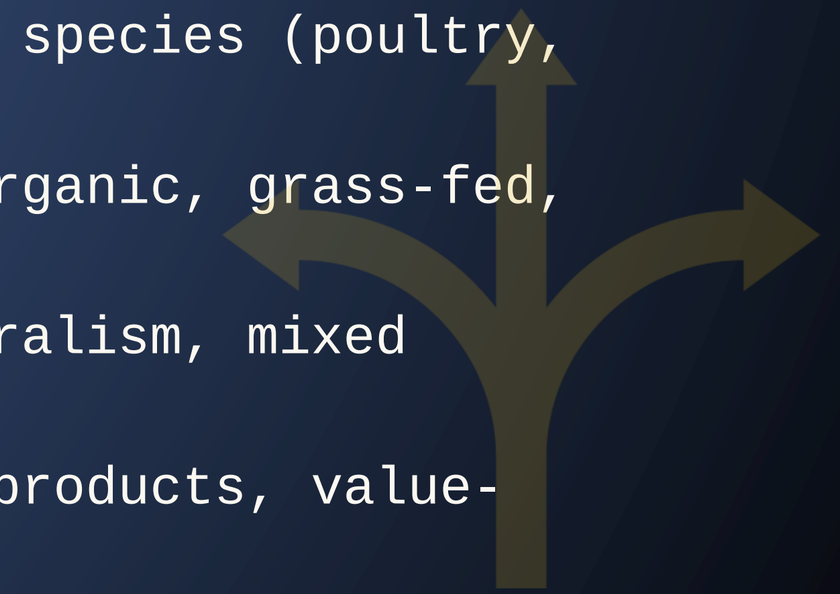
Sustainable Practices in Fisheries Management

- Implementation of science-based fisheries management strategies (quota systems, size limits, marine protected areas)
- Promotion of responsible fishing practices (selective gear, bycatch reduction, ecosystem-based management)
- Support for small-scale and artisanal fisheries, including community-based management approaches



Diversification in Livestock Production and Fisheries

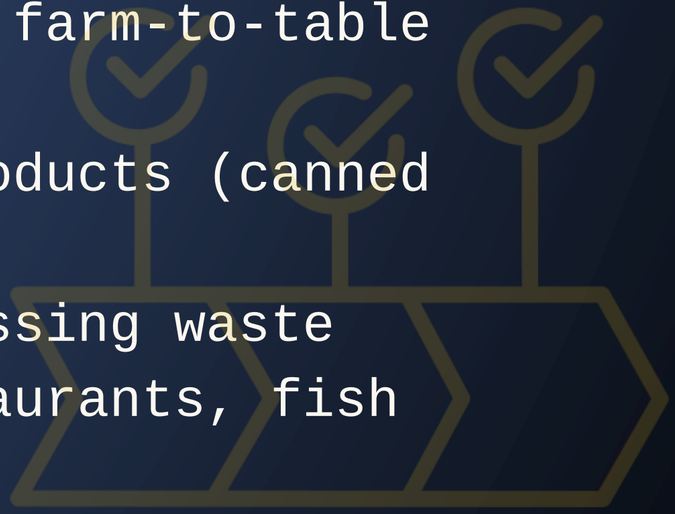
- Expansion of livestock species beyond traditional ones (cattle, sheep, goats) to include alternative species (poultry, rabbits, aquaculture)
- Introduction of high-value niche products (organic, grass-fed, halal-certified)
- Diversification of production systems (pastoralism, mixed farming, integrated crop-livestock systems)
- Diversification of products (processed fish products, value-added seafood)



- Promotion of alternative fishing methods (aquaculture, mariculture, inland fisheries)

Value Addition in Livestock Production and Fisheries

- Processing and packaging of meat and dairy products (sausages, cheese, yogurt)
- Development of by-products (leather, wool, hides)
- Promotion of value-added services (agritourism, farm-to-table experiences)
- Processing and packaging of fish and seafood products (canned fish, smoked fish, fish fillets)
- Development of fishmeal and fish oil from processing waste
- Promotion of value-added services (seafood restaurants, fish markets, culinary tourism)



Thanks for your participation