Webinar on "Addressing Risks and Prevention Measures of Livestock Sector", 12 June 2024

IMPOSING GREEN FARMING POLICY AND REGULATORY FRAMEWORKS ON THE NATIONAL DEVELOPMENT OF THE LIVESTOCK SECTOR

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LIVESTOCK INDUSTRY IN MALAYSIA

- Livestock industry accounts for 1/10 of agriculture sector Gross Domestic Product (GDP)
- whole sector contributing 8.9% of national GDP
- employs about 20% of labor in the national agriculture sector
- Livestock in Malaysia : ruminants (buffalo, cattle, goat, and sheep) and non-ruminants (swine and poultry: chicken and duck).
- Livestock producers : ruminants –smallholders, non-ruminants - commercial enterprises

LIVESTOCK STATISTICS 2022/2023

KEMENTERIAN PERTANIAN DAN KETERJAMINAN MAKANAN

PENUNJUK UTAMA
KEY INDICATORS

PENGELUARAN
PRODUCTION

Daging Lembu / Kerbau
Beef

36,800.57
35,934.09

*M.Tan / *M.Tonne*

Daging Babi
Pork

197,371.59
181,853.23

*M.Tan / *M.Tonne*

Telur Ayam / Itik
Chicken / Duck Eggs

13,995.00
14,403.47

*Juta Biji / *Mil. Eggs*

Daging Kambing / Bebiri
Mutton

3,502.46
4,095.58

*M.Tan / *M.Tonne*

Daging Ayam / Itik
Poultry Meat

1,652.98
1,611.44

*000 M.Tan / '000 *M.Tonne*

Susu Segar
Milk

38.73
38.95

*Juta Liter / *Mil. Liters*

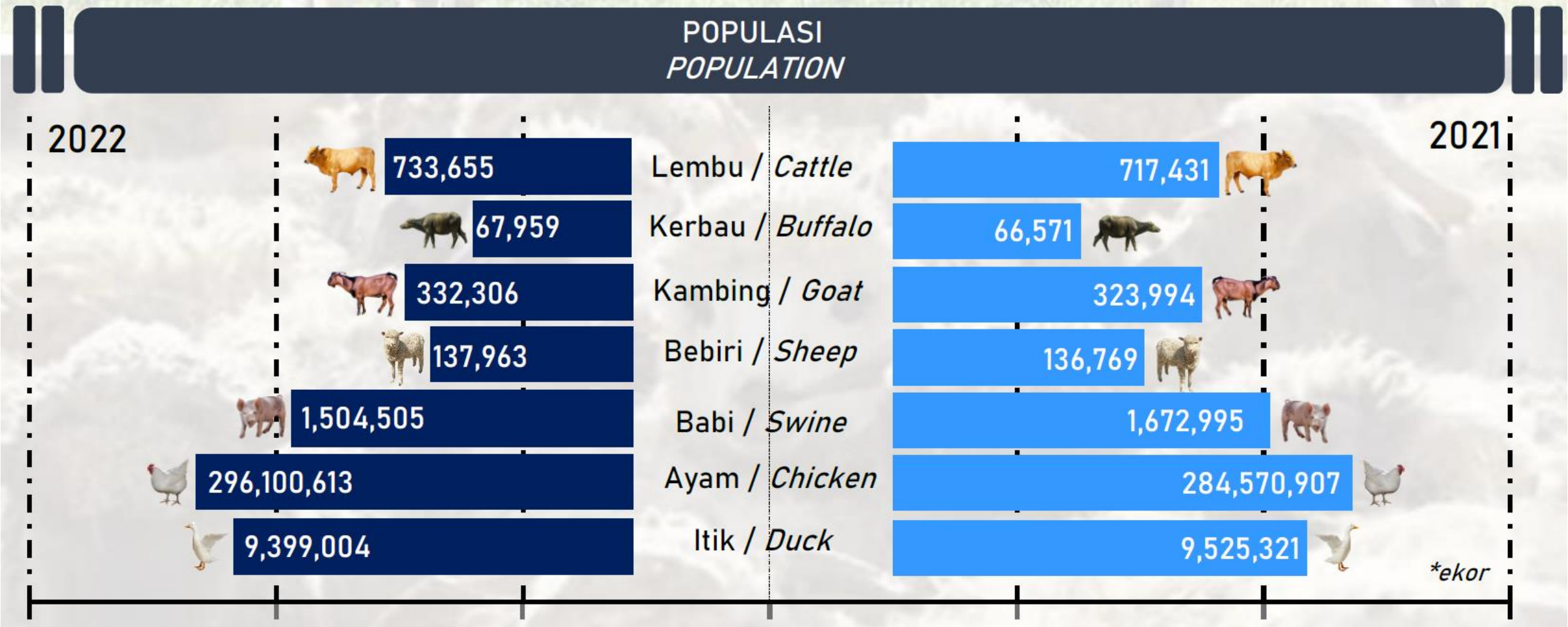
Nota / *Notes*:

2021

2022

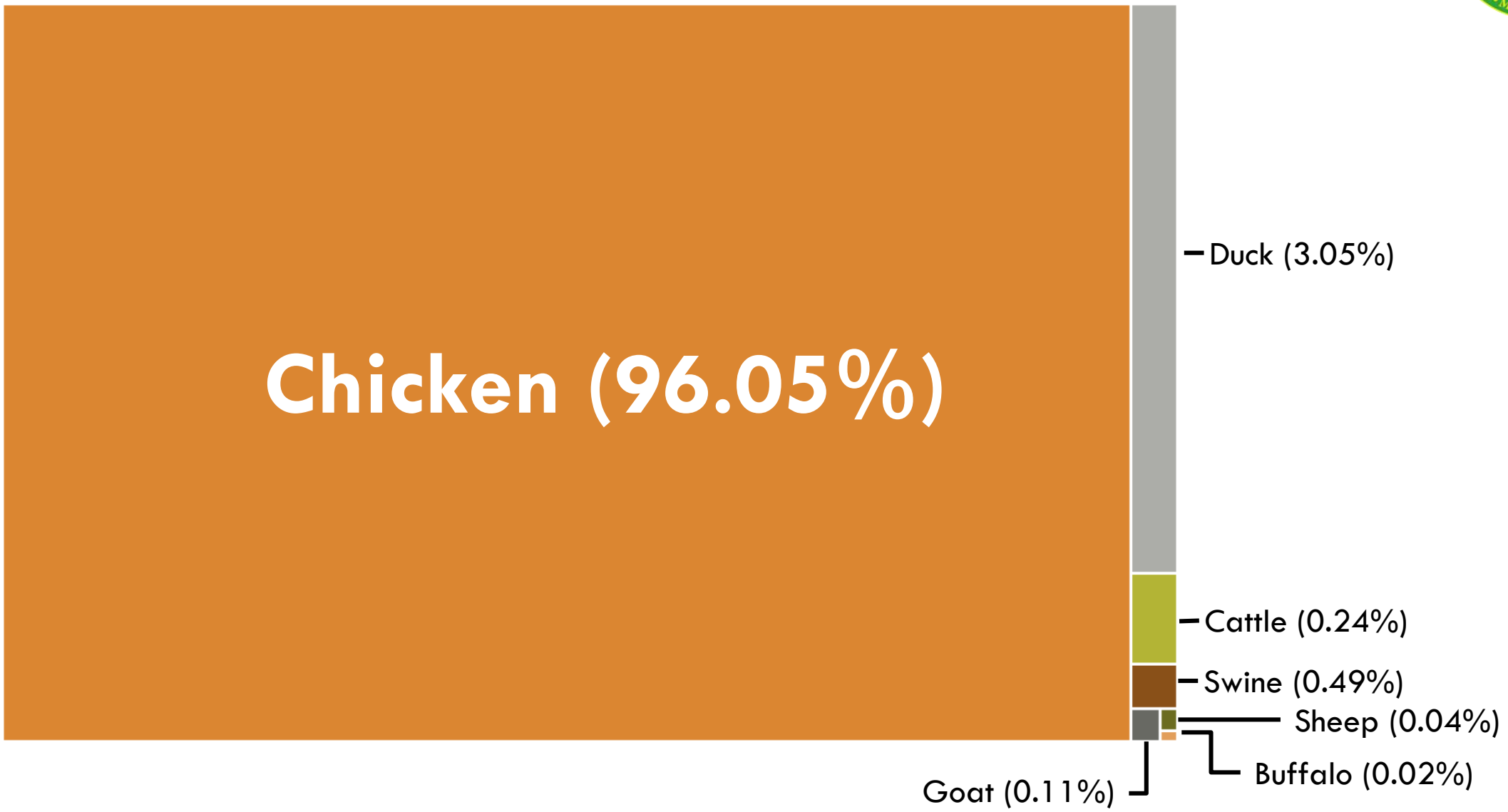
DVS (2024)

LIVESTOCK STATISTICS 2022/2023



DVS (2024)

TREEMAP OF LIVESTOCK POPULATION IN MALAYSIA FOR 2023



DVS (2024)

According to Malaysian Breeding Policy (2013), the indigenous breed of livestock in Malaysia are

(i) Kedah-Kelantan (cattle),
(ii) Swamp Buffalo (buffalo),
(iii) Katjang (goat)
(iv) Malin (sheep), and
(v) Ayam Kampong (village chicken)

Today, the common breeds of livestock found in Malaysia are

(i) Kedah-Kelantan, Yellow Cattle Kedah-Kelantan, Nelore and Brahman for cattle;
(ii) Katjang and Boer for goat;
(iii) Barbados Black Belly and Damara for sheep; and
(iv) (iv) Large White Yorkshire, Landrace and Duroc for swine

Zayadi (2021)

CHALLENGES IN THE LIVESTOCK SECTOR

Issues	Details	Solution
Lack of quality breeds	Local cattle and goats are relatively small-sized, resulting in lower meat production	Enhancing breed quality through selective breeding and genetic improvement programmes
High cost of animal feed	Use imported feedstuffs	Finding cost-effective alternatives for animal feed and promoting sustainable feed sourcing practices
Low availability of arable land for grazing	• With competition from other industries for land use • difficulties in securing adequate land for grazing livestock.	comprehensive land-use planning and innovative livestock production systems that optimise land utilisation and maximise productivity within limited land resources.

Diseases, supply chains, environmental concerns/climate change, and policies are also significant challenges faced by the livestock industry

EXISTING NATIONAL POLICIES & GUIDELINES FOR LIVESTOCK PRODUCTION

The livestock sector in Malaysia operates within a framework of national policies and guidelines that **promote sustainable development** and **ensure the protection of animal welfare** and **the environment.** These regulations and standards provide a regulatory foundation for responsible livestock management practices

1. Livestock Waste Management
2. Economic Contribution
3. Rural Development Focus
4. Good Animal Husbandry Practices
5. Malaysia Good Agricultural Practices (MyGAP)
6. Supply Chain Supervision by The Department of Veterinary Services

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LIVESTOCK WASTE MANAGEMENT PRACTICES IN MALAYSIA

- The Ruminant Farming Waste Management Guideline (DVS, 2019)
- The Chicken Farming Waste Management Guideline (DVS, 2019)
- Malaysian Standard MS 2027:2006 Good Animal Husbandry Practice (MyGAP)

a biogas potential of 4,589.49 million m3/year generate 8.27 × 109 kWh/year of electricity

3R (Reduce, Reuse and Recovery) concept

Zayadi (2021)

ECONOMIC CONTRIBUTION

Shared Prosperity Vision 2030 (Wawasan Kemakmuran Bersama 2030; WKB)

- a commitment to make Malaysia a nation that **achieves sustainable growth and equitable wealth distribution across income groups, ethnicities, regions, and supply chains**
- One of the Key Economic Growth Activities (KEGA) proposed in WKB is **smart and high-value farming**.
- It aims to integrate environmental friendly and high technology in farming activities such as drones and Internet of Things.

National Agrofood Policy 2.0 (Dasar Agromakanan Negara 2.0; DAN2.0) was launched on October 2021

- three principles - economy, social and environment.
- One of the objective is **to encourage sustainable food consumption and production practices**.
- enable the agrofood sector in Malaysia to remain competitive, thus contributing to national economic growth while ensuring environmental sustainability.

Both of these policies can serve as **<u>the catalyst to drive the national livestock industry towards sustainability</u>**. Therefore, this industry can expand to meet the demand and SSR without causing adverse effect to the environment.

Zayadi (2021)

SUSTAINABLE PRACTICES IN LIVESTOCK FARMING

SCOPE	OBJECTIVES	PRACTICES (EXAMPLES)
1. **ENVIRONMENTAL STEWARDSHIP**	Minimises ecological impact, preserves biodiversity, and safeguards natural resources	Adopting responsible water management, Implementing soil conservation techniques, and promoting sustainable grazing practices.
2. **COST SAVINGS AND EFFICIENCY**	Reduce input costs and enhance resource efficiency, resulting in increased profitability.	Utilising precision farming techniques, optimising feed utilisation, and implementing energy efficient systems
3. **MARKET DEMAND AND REPUTATION**	Meet market demands for ethically produced and environmentally friendly livestock products.	Animal welfare standards, responsible antibiotic use, and efficient feed management
4. **REGULATORY COMPLIANCE AND MARKET ACCESS**	Enable livestock companies to meet regulatory requirements and access markets with stringent sustainability criteria.	Adhering to sustainability regulations and standards ensures compliance and facilitates market access. Following environmental regulations, managing waste responsibly, and adopting sustainable feed sourcing practices
5. **INNOVATION AND COMPETITIVENESS**	Leads to the development and adoption of new technologies and practices, enhances competitiveness and positions companies as leaders in the industry	Precision livestock farming technologies, renewable energy applications, and sustainable packaging solutions.
6. **EMPLOYEE ENGAGEMENT AND PRODUCTIVITY**	Boosts employee morale and satisfaction. Offering training and educational programmes on sustainable livestock farming empowers employees to contribute to environmental goals	• Creating a work environment that values sustainability and supports responsible livestock practices. • Offering training and educational programmes on sustainable livestock farming
7. **RESILIENCE TO CLIMATE RISKS**	By adapting to climate change and mitigating its impacts, the livestock sector ensures long-term viability and supports the resilience of farming communities	Incorporating sustainable practices in livestock farming This involves implementing climate-smart livestock Management practices, such as heat stress mitigation, manure management, and carbon sequestration.

INITIATIVES AND ACTIONS TO MITIGATE THE IMPACTS OF CLIMATE CHANGE.

INITIATIVES	ACTIONS (EXAMPLES)
1. Sustainable Livestock Management	Improving feed efficiency, adopting methane capture technologies from manure, and practicing responsible grazing management
2. Energy Efficiency	Use energy efficient lighting, ventilation systems, and water heating, can reduce energy consumption and associated GHG emissions
3. Manure Management	Develop efficient and environmentally friendly manure management systems, such as anaerobic digesters or composting facilities, can help capture and utilise methane and reduce emissions from manure storage and application
4. Feed Sourcing	Utilising locally grown and environmentally friendly feed ingredients, can reduce the environmental footprint of the livestock sector
5. Conservation and Restoration of Natural Resources	Protecting and restoring natural resources, such as forests and wetlands, can contribute to carbon sequestration, enhance biodiversity, and mitigate the impacts of climate change.
6. Knowledge Sharing and Capacity Building	Empower livestock farmers to make informed decisions and drive sustainable agricultural development

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CIRCULAR ECONOMY

Circular Economy (CE) - an economic tool that works on a closed-loop system of reducing, reuse and recycle (3R) to allow for efficient utilisation of the resources through repair, remanufacturing, refurbishment and recycling.

CE in livestock production system implies reducing the amount of waste generated in the production system, through the utilization of agriculture and agro-industrial by-products and waste, and nutrient recycling by farmers and processors.

By adopting CE principles, livestock operators can optimise resource utilisation, minimise waste generation, and promote sustainable practices throughout the livestock value chain and enhance the economic viability of livestock farming.

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Key aspects and initiatives relevant to the livestock sector in Malaysia

1

POLICY AND REGULATORY FRAMEWORK:

The Malaysian government has implemented policies and regulations to support the shift towards a circular economy in the livestock sector. These policies aim to transform the linear economy model into a sustainable circular model, reducing environmental impacts associated with livestock operations.

2

WASTE MANAGEMENT AND RECYCLING:

Efficient waste management and recycling systems are essential for achieving a circular economy in the livestock sector. Livestock operators can adopt waste reduction strategies, promote the recycling of animal waste and by-products, and explore innovative methods for managing livestock waste.

3

PRODUCT DESIGN AND EXTENDED PRODUCER RESPONSIBILITY (EPR):

Promoting sustainable product design and implementing extended producer responsibility schemes are crucial in the transition to a circular economy. Guidelines integrating eco-design principles into livestock products and animal husbandry practices are being established to minimise waste and optimise resource use. Exploring EPR policies ensures that producers take responsibility for the entire lifecycle of livestock products, including their disposal and recycling.

4

SUSTAINABLE CONSUMPTION AND PRODUCTION:

Encouraging sustainable consumption and production patterns is essential for advancing the circular economy in the livestock sector. Livestock operators can adopt sustainable livestock management practices, promote the use of certified feed and animal welfare standards, and explore ways to minimise resource consumption and waste generation during livestock operations.

5

INNOVATION AND TECHNOLOGY:

Innovation and the adoption of advanced technologies play a significant role in the transition to a circular economy. Research and development efforts in Malaysia focus on sustainable livestock management practices, eco-friendly animal feed technologies, and the utilisation of livestock biomass for renewable energy. Collaborating with research institutions and industry partners facilitates the adoption of innovative solutions in the livestock sector.

6

COLLABORATION AND STAKEHOLDER ENGAGEMENT:

Collaboration among stakeholders is essential for the successful implementation of a circular economy in the livestock sector. Livestock operators can engage with government agencies, livestock associations, local communities, and veterinary experts to foster partnerships, share knowledge and best practices, and promote sustainable livestock management initiatives.

IMPACTS OF ESG TOWARDS LIVESTOCK INDUSTRY

By embracing ESG (Environmental, Social, and Governance) principles, livestock companies in Malaysia can enhance their environmental performance, social responsibility, and governance practices. This contributes to;

- long-term sustainability of livestock industry
- aligns with global sustainability goals and
- meets the expectations of responsible investors and consumers.
- ensures the livestock sector's resilience and competitiveness in a sustainable-focused global landscape
- safeguarding animal welfare, supporting rural communities, and addressing the challenges of food security and climate change.

IMPACTS OF ESG TOWARDS LIVESTOCK INDUSTRY

ENVIRONMENTAL RESPONSIBILITY:

Livestock companies can prioritise environmental responsibility by implementing sustainable livestock management practices that minimise the impact on ecosystems. This includes promoting sustainable feed sourcing, reducing the use of antibiotics and growth hormones, and implementing manure management systems to minimise pollution and promote nutrient recycling. Investing in renewable energy sources, such as solar panels for powering livestock facilities, can also contribute to environmental sustainability.

SOCIAL RESPONSIBILITY:

ESG principles in the livestock sector encompass social responsibility, which involves ensuring fair labor practices, supporting the well-being of livestock farmers and workers, and respecting human rights. This can be achieved by providing safe and humane working conditions for employees, promoting animal welfare practices, and supporting local communities through initiatives that enhance their social and economic development. Engaging with stakeholders such as farmers' associations, veterinary experts, and community organisations can further enhance social sustainability in the livestock sector.

GOVERNANCE PRACTICES:

Good governance practices are essential for the sustainable management of livestock operations. This includes transparent and accountable decision-making processes, compliance with regulations and animal welfare standards, and effective monitoring and reporting systems. Implementing traceability systems to track the origin and quality of livestock products can enhance governance practices and ensure responsible sourcing. Engaging with relevant stakeholders, such as industry associations and government agencies, can strengthen governance mechanisms and promote sustainable livestock practices.

SUSTAINABLE FINANCING:

Access to sustainable financing is crucial for the growth and development of the livestock sector. Companies can explore funding options aligned with ESG principles, such as impact investment funds that specifically support sustainable livestock projects. Green bonds and loans can be utilised to finance initiatives that promote sustainable feed production, animal welfare improvements, and renewable energy integration in livestock operations. Investing in research and innovation for sustainable livestock practices can also attract financing and contribute to the sector's long-term viability.

STAKEHOLDER ENGAGEMENT:

Engaging stakeholders is key to the successful implementation of ESG principles in the livestock sector. This includes collaborating with livestock farmers, local communities, NGOs, government agencies, and consumers. Stakeholder engagement can foster knowledge sharing, capacity building, and the development of collaborative initiatives that promote sustainable livestock management practices, responsible sourcing, and support for rural development. Engaging with consumers and providing transparent information about the environmental and social impact of livestock products can build trust and support sustainable consumption patterns.

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CONTRIBUTION OF LIVESTOCK INDUSTRY TO SDGS

By aligning with the SDGs, the livestock sector in Malaysia can contribute to the country's progress in achieving sustainable development, addressing social and environmental challenges, and ensuring the long-term viability of livestock farming.

SDG 2:
ZERO HUNGER -
The livestock sector can contribute to eradicating hunger by promoting sustainable livestock farming practices. This includes implementing efficient feed management, improving animal health and productivity, and supporting small-scale livestock farmers to enhance food security and nutrition for all.

SDG 17:
PARTNERSHIPS FOR THE GOALS -
Collaboration among stakeholders is vital for achieving the SDGs in the livestock sector. By fostering partnerships with government agencies, research institutions, veterinary experts, and local communities, the sector can share knowledge, leverage resources, and develop innovative solutions to address sustainability challenges and promote sustainable livestock practices.

SDG 15:
LIFE ON LAND -
Sustainable land management practices in the livestock sector can contribute to SDG 15. This involves implementing responsible grazing management, preserving natural habitats for livestock, and reducing land degradation. By promoting biodiversity conservation and sustainable land use, the sector can contribute to preserving terrestrial ecosystems.

SDG 12:
RESPONSIBLE CONSUMPTION AND PRODUCTION -
The livestock sector can contribute to SDG 12 by promoting responsible livestock production practices. This includes reducing the use of antibiotics and growth hormones, implementing animal welfare standards, and adopting sustainable feed sourcing practices. Promoting responsible consumption of livestock products and educating consumers about sustainable choices can further enhance the sector's contribution to this goal.

SDG 6:
CLEAN WATER AND SANITATION -
The livestock sector plays a role in water resource management. By adopting water-efficient livestock watering systems, implementing proper manure management to prevent water pollution, and promoting best practices in water use, the sector can contribute to SDG 6 and ensure the availability and sustainable management of water resources.

SDG 13:
CLIMATE ACTION -
The livestock sector is both impacted by and contributes to climate change. By adopting climate-smart livestock management practices, such as improving feed efficiency, implementing methane capture systems from manure, and exploring renewable energy options for livestock operations, the sector can reduce greenhouse gas emissions and build resilience to climate change impacts.

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GREEN PRACTICES FOR LIVESTOCK PRODUCTION

The Green Practices Guidelines for the Livestock Sector have been specifically developed to promote sustainable practices and overcome these challenges.

By incorporating the green practices into the livestock sector, Malaysia can

- improve its environmental sustainability
- enhance animal welfare, and
- contribute to the goals of the Green Technology Master Plan.

The Green Practices Guidelines provide a roadmap for livestock farmers, industry stakeholders, and policymakers **to adopt and implement sustainable practices**, ensuring a resilient and environmentally responsible livestock sector for the future.

Examples of Green Practices in Livestock	MGTC-GG (2023)
Resource Efficiency	to minimise waste and optimise production
Waste Management	to minimise the environmental impact of livestock waste.
Emissions Reduction	to reduce greenhouse gas emissions from livestock farming
Animal Welfare	to emphase the well-being of livestock
Sustainable Feed Sourcing	to promote the use of sustainable and locally sourced feed ingredients and reducing the reliance on imported feed
Responsible Antibiotic Use	to minimise the risk of antimicrobial resistance and promote animal healt
Efficient Energy Use	to reduce energy consumption and environmental impact.

THE GOALS OF GREEN PRACTICES IN THE LIVESTOCK SECTOR

RESOURCE CONSERVATION:

The industry aims to conserve valuable resources such as water, land, and energy. By implementing sustainable farming practices, including efficient water management, responsible land use, and energy-efficient facilities, livestock farmers can minimise resource waste, protect natural habitats, and reduce the environmental footprint of their operations.

REDUCTION OF HARMFUL PRACTICES:

Green practices focus on minimising the use of harmful practices that can negatively impact animal welfare, environmental health, and public safety. This includes measures such as implementing proper waste management systems to minimise pollution, reducing the use of antibiotics and other chemicals, and promoting responsible animal husbandry practices that prioritise animal welfare and health.

SUSTAINABLE FEED AND NUTRITION:

The livestock sector can embrace sustainable feed and nutrition practices to reduce its environmental impact. This includes promoting the use of locally sourced feed ingredients, reducing reliance on imported feed, and exploring alternative protein sources. Sustainable feed practices aim to minimise deforestation, promote responsible agricultural practices, and reduce greenhouse gas emissions associated with feed production.

THE NEED FOR GREEN PRACTICES

- *The livestock industry in Malaysia is taking proactive measures to embrace environmentally friendly practices, aiming to ensure the long-term sustainability of its operations and make a positive impact on global conservation endeavors.*
- *Alongside the adoption of cleaner production, lean manufacturing, and circular economy principles, the livestock sector is also integrating various other well-established approaches. These efforts underscore the unwavering dedication of Malaysia's livestock industry to responsible environmental management.*

1 SUSTAINABLE LIVESTOCK CERTIFICATION:

Malaysia's livestock sector is embracing internationally recognised certification programmes that ensure responsible and sustainable livestock production. These certifications focus on animal welfare, environmental impact, and responsible use of resources. By obtaining certifications such as Animal Welfare Approved or Global Animal Partnership, livestock farmers demonstrate their commitment to ethical practices and gain access to markets that prioritise animal welfare and sustainability.

2 AGROFORESTRY INTEGRATION:

Livestock farming can be combined with agroforestry practices, where trees and shrubs are integrated into grazing lands. This approach provides shade for livestock, improves soil health, and contributes to carbon sequestration. Agroforestry systems offer multiple benefits, including enhanced biodiversity, reduced soil erosion, and improved water management.

3 PRECISION LIVESTOCK FARMING:

Precision farming technologies can also be applied in the livestock sector to optimise resource use and reduce environmental impact. Sensors, data analytics, and automation can monitor and manage aspects such as feed consumption, water usage, and animal health. Precision livestock farming enables more efficient resource allocation, reduces waste, and minimises the environmental footprint of livestock operations.

4 MANURE MANAGEMENT AND BIOGAS PRODUCTION:

Livestock manure management is a critical aspect of sustainable livestock farming. Implementing anaerobic digestion systems can convert manure into biogas, a renewable energy source. This reduces greenhouse gas emissions, improves waste management, and provides an additional source of income through the generation of biogas for onfarm energy use or for sale to the grid.

5 GRAZING MANAGEMENT AND ROTATIONAL GRAZING:

Effective grazing management practices can optimise livestock grazing patterns to improve soil health, prevent overgrazing, and promote vegetation regrowth. Rotational grazing systems involve moving livestock between different grazing areas, allowing for better pasture management, nutrient distribution, and the regeneration of vegetation.

6 FARMER EDUCATION AND KNOWLEDGE EXCHANGE:

Farmer education programs and knowledge exchange platforms facilitate the adoption of sustainable livestock practices. These initiatives provide training on animal welfare, responsible antibiotic use, feed management, and sustainable land management. Farmers learn from experts and share experiences, fostering the dissemination of sustainable livestock techniques and promoting continuous improvement in the sector.

IMPLEMENTATION OF THE GREEN PRACTICES GUIDELINES FOR THE LIVESTOCK SECTOR

1. Understanding the Assessment Requirements
2. Gathering Relevant Documents
3. Conducting the Assessment

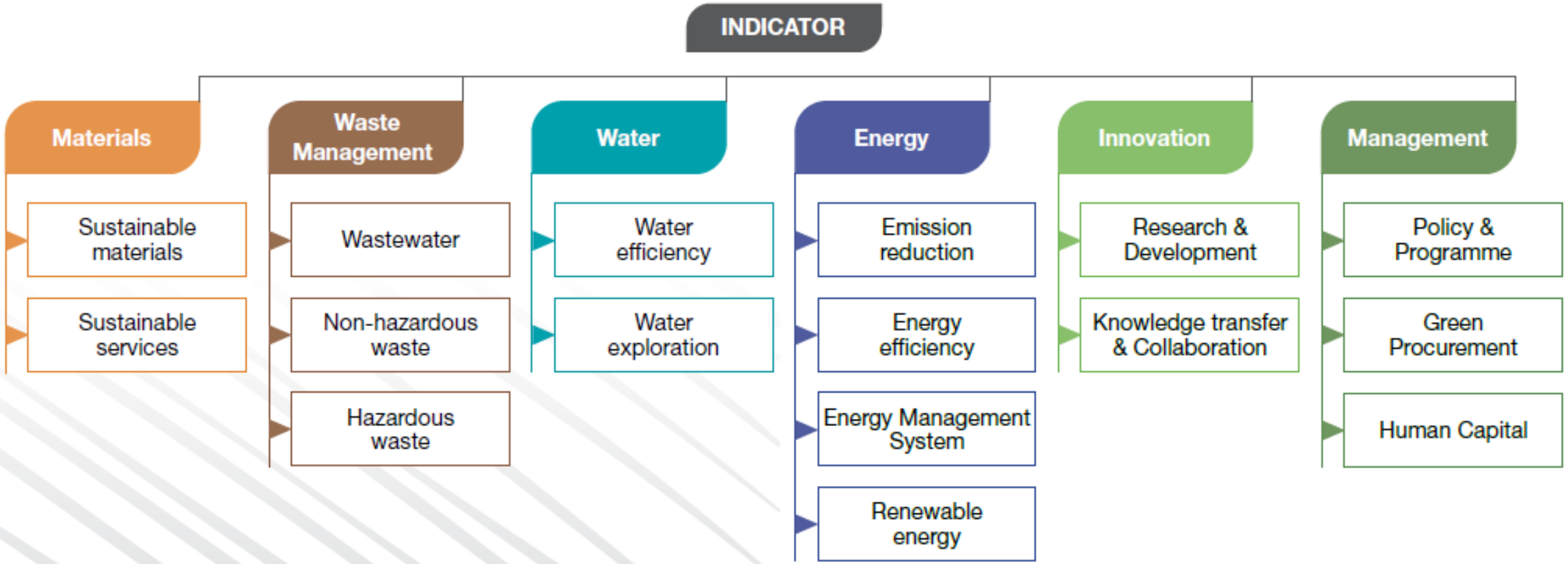
By these steps, livestock companies, farmers, and stakeholders can effectively integrate green practices into their operations

1. Defining Clear Objectives
2. Setting Realistic and Attainable Targets

1. Formulating an Action Plan
2. Engaging Livestock Farmers and Stakeholders
3. Collaborating with Suppliers and Buyers
4. Measuring, Evaluating, and Improving

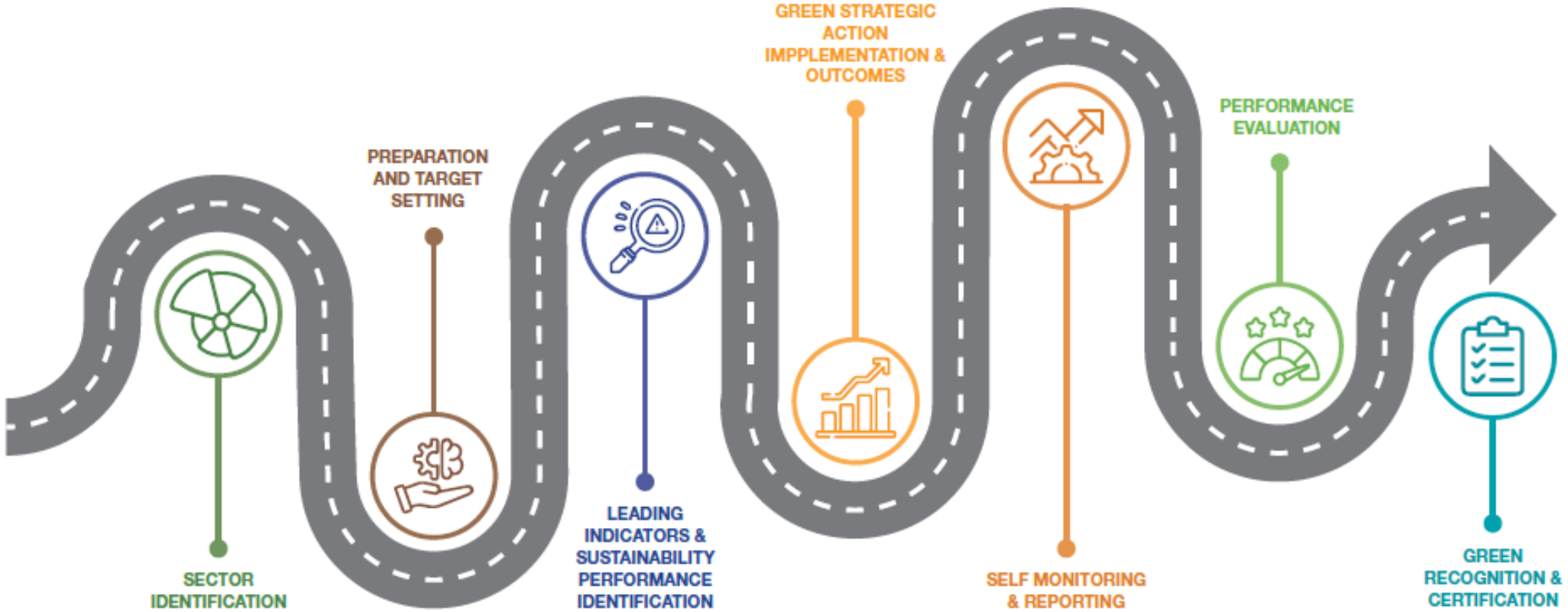
INDICATORS

- *Indicators are crucial for evaluating and comparing the performance of industries in adopting green practices.*
- *These indicators provide a standardised framework for assessing the environmental sustainability efforts across various sectors.*



COMPREHENSIVE SUSTAINABLE LIVESTOCK CERTIFICATION ROADMAP

- *It is to support the livestock industry in implementing green practices*
- *It serves as a strategic guide, assisting livestock farmers and businesses in adopting and implementing sustainable practices within their operations.*
- *It provides a structured approach to ensure that the industry is equipped with the necessary knowledge and resources to effectively integrate green practices.*



By adopting green practices and integrating ESG factors, the livestock sector can;

- enhance environmental sustainability
- promote animal welfare, conserve natural resources
- support rural communities and
- contribute to the achievement of national and global sustainability goals

THANK YOU