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BUILDING A

SUSTAINABLE FOOD

FUTURE

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BUILDING A SUSTAINABLE FOOD FUTURE

This handbook explores strategies for building a sustainable food future by addressing the entire food cycle, from responsible production practices to mindful consumption habits. Minimising food waste throughout this cycle is crucial to achieving sustainability goals and ensuring food security for future generations.

Objectives and Goals:

1) To empower Public with the knowledge to make informed choices and take meaningful action towards building a sustainable food future.

2) To provide comprehensive understanding of sustainable food production and consumption practices.



Focus Areas:

This handbook explores three key areas crucial for

creating sustainable food systems:

- 1. Education
- 2. Social Responsibility
- 3. Artificial Intelligence (AI)

EDUCATION ON SUSTAINABLE FOOD PRODUCTION AND CONSUMPTION

Education plays a crucial role in promoting sustainable food production and responsible consumption. By educating people about where their food comes from, how it is grown, and the environmental impact of food choices, we empower individuals to make informed decisions.



Individual Roles in Education on Sustainable Food Practices

- (1) Learning to Choose Healthier Food Options: Understanding what your body needs can help to identify the best options for a balanced diet while reducing harmful chemicals or practices that impact environments.
- (2) Healthier Consumption Habits at Home: Teaching children healthy eating habits starts at home. It's important to provide nutritious meals and encourage them to finish their food, promoting a "no waste" mindset.

DID YOU KNOW?

Not only potato chips are often considered unhealthy food due to excessive salts and fats, but the plastic bags that are used to contain the chips are also generally not recyclable as the bags are made up of multilayers of plastics, and factory plants are unable to separate the layers!

Retrieved from: https://www.youtube.com/watch?v=NLGoWEdZy 2c&ab_channel=BusinessInsider

Corporate Roles in Education on Sustainable Food Practices

- (1) Recyclable or Reusable Packaging: Companies can play a big role in reducing waste by offering recyclable or reusable packaging options.
- (2) Sustainable vendors & suppliers: Businesses have a responsibility to work with suppliers who follow sustainable practices. By implementing a code of conduct that ensures responsible sourcing, companies can support ethical farming, and environmental protection.
- (3) Greenwashing: Greenwashing should be eliminated in promoting food sustainability because it misleads consumers and undermines genuine environmental efforts.

Government Roles in Education on Sustainable Food Practices

- (1) School Feeding Programs: Government oversight of school canteens is essential to ensure children receive nutritious meals. By setting standards for school meals, governments can help to encourage a better eating habit.
- (2) School Farming: School farming educates and empowers the younger generation on food sustainability by promoting sustainable agriculture, reducing waste, encouraging healthy eating, fostering self-sufficiency, and inspiring future farmers.

A study found that food in Primary School mainly contains carbohydrate and high-fat content. In other words, there is a severe lack of fruits and vegetables.

Retrieved from: https://www.researchgate.net/publication/314116103 How Healthy Is Competitive Food Served at Primary School Cant een in Malaysia

SOCIAL RESPONSIBILIY ON FOOD PRODUCTION AND CONSUMPTION

Social Responsibility is an ethical focus for individuals, companies, and government to take action that benefit the society in building sustainable food future.

INDIVIDUAL SOCIAL RESPONSIBILITY

Take 6R's Actions:



- (1) Refuse: Refuse food waste. For example, plan meals before shopping to avoid buying more food than you consume.
- (2) Reduce: Reduce consumption of food. For example, cook the right amount of food.
- (3) Reuse: Reuse food scraps. For example, citrus peels can be used for cake flavourings
- (4) **Repurpose:** Repurpose food scraps. For example, the used teabag can be placed in the refrigerator to absorb odour.
- (5) Recycle: Recycle food scraps. For example, recycle the used cooking oil for biofuels productions.
- (6) Rot: Compost food scraps. For example, coffee grounds can be used as fertilisers.



- The luffa can become an eco-friendly vegetable sponge to wash dishes.
- The vegetable scraps such as beet, carrot, celery, cabbage, garlic, lettuce, onion, and turnip can be regrown.

Retrieved from: https://m.youtube.com/watch?v=uR2FiRoO_-g

CORPORATE SOCIAL RESPONSIBILITY

(1) Provide proper food labels for consumers:



- (2) Extend food shelf life in a sustainable manner.
- (3) Conduct a waste audit to determine an effective food waste management in the company.
- (4) Organise the eco-conscious activity, such as cleaning beaches or planting trees.

GOVERNMENT SOCIAL RESPONSIBILITY

 Implement national policies and guidelines for sustainable production and consumption.



ARTIFICIAL INTELLIGENCE (AI) ON FOOD PRODUCTION AND CONSUMPTION

Artificial Intelligence (AI) is transforming the food system from how it's grown to how we consume it. Businesses and governments must work together to harness AI's potential for a sustainable food future.

Businesses' Role in Al on Sustainable Food Practices

1. Food Producers and Manufacturers:

- (1) Implement AI-powered visual inspection systems to identify defects and contaminants in real-time, improving food safety and quality.
- (2) Utilize AI-powered forecasting to predict demand fluctuations and optimize production planning.
- (3) Integrate AI for smart packaging, such as QR codes with personalized nutrition and product tracking.



2. Retailers and Restaurants:

- Implement AI-powered inventory systems to forecast demand, prevent overstocking, and minimize waste from spoilage.
- (2) Utilize AI to adjust pricing on perishable goods nearing expiration, reducing food waste.

3. Food Delivery:

- (1) Integrate AI to monitor real-time conditions and automatically adjust delivery parameters or cancel orders to prevent food spoilage during transit.
- (2) Offer surplus food through convenient pick-up options using apps that connect businesses with consumers looking for discounted meals.

Malaysia has unveiled the world's first AI-driven smart palm oil mill. The AI system uses sensors, CCTV cameras, and data analysis to automate and optimize palm oil mill operations.

Retrieved from: https://www.asia-palmoil.com/post/malaysiaunveils-the-world-s-first-ai-driven-smart-palm-oil-mill-pioneeringefficiency-and-sustainab

Governments' Role in Al on Sustainable Food Practices

1. Offering Incentives:

- (1) Provide grants, subsidies, and tax breaks to businesses that invest in AI technologies for sustainable food production and processing.
- (2) Support research and development of responsible and ethical AI applications in the food sector.

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2. Establishing Regulatory Frameworks:

- (1) Address potential biases and ethical concerns related to the use of AI in food systems.
- (2) Establish clear standards and guidelines for the development of responsible and ethical AI technologies in the food sector.



Malaysia is leveraging AI technologies such as drones, AIbased irrigation systems, and machine vision to enhance soil fertility, improve crop quality, and monitor livestock health.

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