

# Sustainable Food System



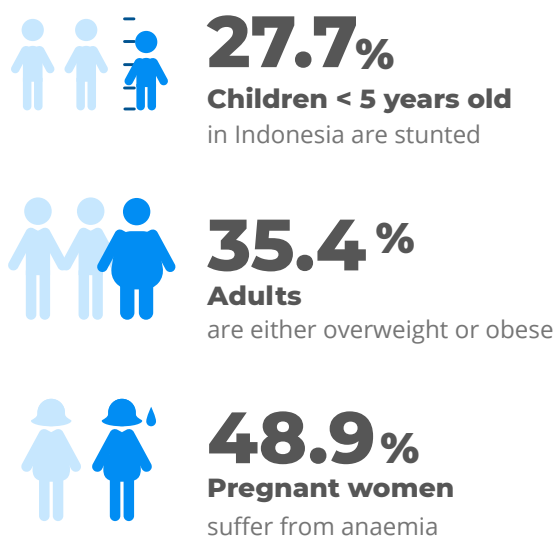
Indonesia requires food systems that are more sustainable in the context of rapid population growth, urbanization, economic development, changing consumption patterns, climate change, and the depletion of natural resources. **Sustainable food systems** aim to achieve food security and nutrition for all while improving socioeconomic welfare and limiting negative environmental impacts.

## COUNTRY FACTS



Source: Food Security Agency 2018, BPS 2018 and 2019, Economist Intelligence Unit 2016

## TRIPLE BURDEN OF MALNUTRITION



Source: Riskesdas 2018, SSGBI 2019

## CONSUMPTION & EXPENDITURE DATA



Source: SUSENAS 2019, BPS 2019, Riskesdas 2018



<sup>1</sup> The Desirable Dietary Pattern (DDP) is an indicator used to measure the quality of food consumption. An ideal diet will have a DDP score of 100.

<sup>2</sup> The Prevalence of Undernourishment (PoU) is an estimate of the proportion of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life (FAO).

# Example of Dietary Pattern Map



## DKI JAKARTA

- Rice contributes to **58% of total energy**  
↑ more than the recommendation
- Animal source protein contributes to **15% of total energy**  
↑ more than the recommendation
- Consumption of fruits & vegetables contributes to **5% of total energy**  
↓ less than the recommendation

## NUSA TENGGARA BARAT (NTB)

- Rice contributes to **67% of total energy**  
↑ more than the recommendation
- Animal source protein contributes to **9% of total energy**  
↓ less than the recommendation
- Consumption of fruits & vegetables contributes to **5% of total energy**  
↓ less than the recommendation

## PAPUA

- Tubers contribute to **26% of total energy**  
↑ more than the recommendation
- Animal source protein contributes to **9% of total energy**  
↓ less than the recommendation
- Consumption of fruits & vegetables contributes to **4% of total energy**  
↓ less than the recommendation

## IDEAL CONTRIBUTION OF TYPE OF FOOD TO TOTAL ENERGY (INDONESIA)

- Rice/cereals **50%**
- Fruits & vegetables **6%**

- Tubers **6%**
- Animal source protein **12%**

Source: Food Security Agency 2019

The map represents the differences in dietary variety and food combination across Indonesia. Food diversity may be directly and/or indirectly influenced by the diversity of ethnic groups and communities in the country.

**Limited dietary variety may lead to underconsumption of specific nutrients.**

# Remaining Challenges in Indonesia's Food System

The *Food System Wheel* below depicts the components of a food system and is centered around the **goals of achieving poverty reduction, food security, and nutrition for all**. To attain these goals, Indonesia would need to address several remaining challenges that currently exist across different elements of the food system.

## THE FOOD SYSTEM WHEEL

**Small and decreasing land ownership** of farmers leads to reduced efficiency

There is **limited availability of premium-quality seeds, fertilizers, feeds, pesticides, and machinery** at the farmer level

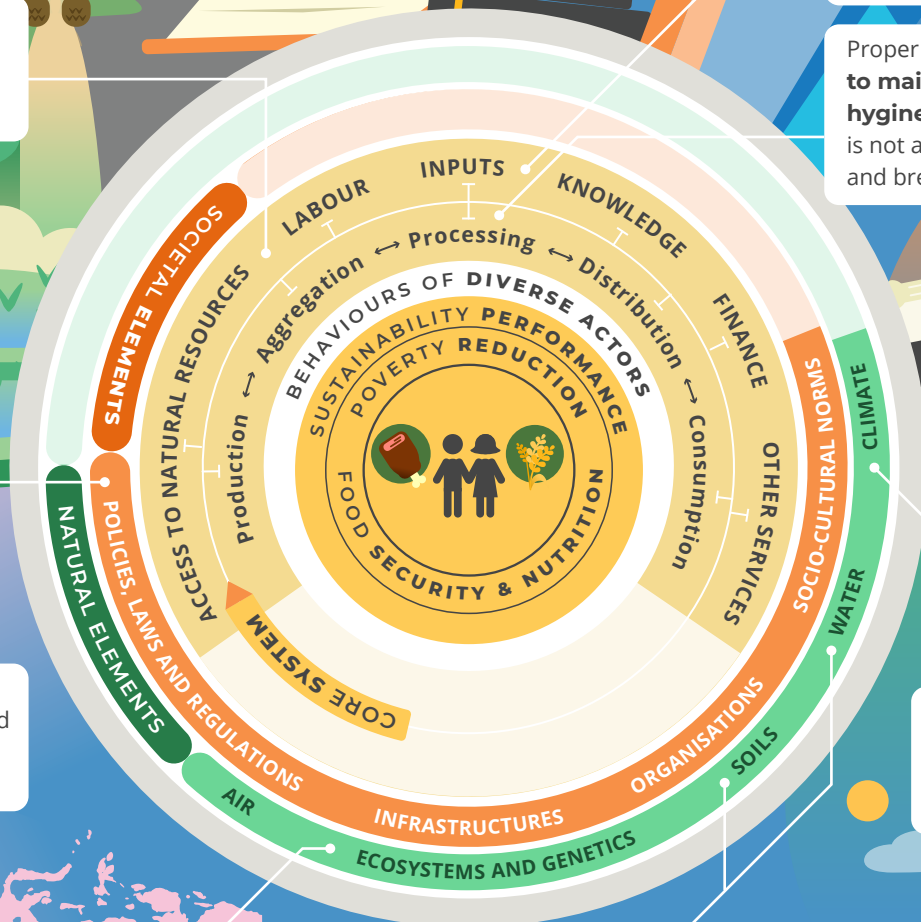
Proper **post-harvest handling to maintain quality, ensure hygiene, and minimize losses** is not always practiced by farmers and breeders

Existing **food laws** mostly address prioritised commodities that affect inflation

Indonesia is facing **severe climate change** that affects agricultural production

**Limited logistics infrastructure** – particularly roads, warehouses, and cold chain storages – remain a **bottleneck for Indonesia**, whose unique and vast geography makes distributing items from farm to plate with minimal loss challenging

**Contamination of agricultural land as well as surface and irrigation water by fertilizers and pesticides**, likely caused by applications far beyond the recommended dosages



## HOW IS THE FOOD SYSTEM STRUCTURED?

Source: FAO and Bogor Agricultural University

The **Food System Wheel Framework** is centred around the main goals of **POVERTY REDUCTION, FOOD SECURITY AND NUTRITION**. These are embedded in the broader **PERFORMANCE** of the system, referring to the three dimensions of **SUSTAINABILITY**, economic, social, and environmental. Such performance is determined by the **BEHAVIOUR OF DIVERSE ACTORS**, or the conduct of stakeholders in the food system (people-centric). This conduct in turn take place in the structure of the system, which consists of a **CORE SYSTEM**, **SOCIETAL ELEMENTS** and **NATURAL ELEMENTS**. The core system includes a layer of activities through which food products flow (production, aggregation, processing, distribution and consumption, including waste disposal) and a layer of services supporting the flow. These activities are embedded in a **societal context** and a **natural environment**. The former includes all related policies, laws and regulations, socio-cultural norms, infrastructures and organizations. The latter includes water, soils, air, climate, and ecosystems and genetics.

# How can Indonesia's food system be more productive, inclusive and resilient?

## RECOMMENDATION FOR ACTION FOR GOVERNMENT

### ADDRESSING THE CORE OF THE FOOD SYSTEM WHEEL



Promote diversified and climate-smart farming systems that produce affordable and accessible food for rural and urban communities



Develop and implement targeted social protection mechanisms that ensure access to sufficient food that constitutes a healthy diet



Develop the capacities of youth to engage in food systems, including in planning, production and processing



Develop behavioural change communication systems around healthy and sustainable diets involving local communities and women's groups



Encourage private sector to improve quality of post-harvest handling to conserve nutritional value, improve food safety, and reduce food loss

### IMPROVING THE ENABLING ENVIRONMENT



Enhance national coordination bodies (such as Food Security Council (*Dewan Ketahanan Pangan*)) to improve understanding and promote new pathways for sustainable food systems



Invest in public infrastructure, logistics, and other facilities to maintain adequate food stocks and reserves to be mobilized in crises/emergencies



Mainstream dietary guideline into all sector policies, aligning health, food, agriculture, environment and trade across government



Improve enabling environment for small businesses involved in food systems to increase employment



Collect high quality data on food systems from traditional (surveys) and innovative (social media) sources and develop capacities to use the data for decision-making



Develop policies to mobilize local Government agencies to engage with stakeholders to improve food safety