



**UNIVERSITI PUTRA MALAYSIA**  
AGRICULTURE • INNOVATION • LIFE

# **ADDRESSING FOOD AND NUTRITION SECURITY IN MALAYSIA**

**BY:**

**PROF. DR. NORHASMAH SULAIMAN  
HEAD DEPARTMENT  
DEPARTMENT OF NUTRITION  
FACULTY OF MEDICINE AND HEALTH SCIENCES  
UNIVERSITI PUTRA MALAYSIA  
43400, SERDANG SELANGOR  
MALAYSIA**

# OUTLINE

- ✓ **Food security status:  
Experience from Malaysia**
- ✓ **Approaches/methods in  
assessing food and nutrition  
security**
- ✓ **Approaches/strategies to  
address food and nutrition  
security**



# **FOOD SECURITY STATUS: EXPERIENCE FROM MALAYSIA**

# FOOD INSECURITY IN MALAYSIA

In 2022 Global Hunger Index (GHI), Malaysia scored moderately for hunger, with a small increase in the hunger index from 10.9 in 2014 to 12.5 in 2022.



GHI Score Trend for Malaysia



0 Score (no hunger)  
100 score (worst)

# FOOD INSECURITY: EXPERIENCE FROM MALAYSIA (2000-2020) (46 ARTICLES)



Review

## A Food Insecurity Systematic Review: Experience from Malaysia

Norhasmah Sulaiman <sup>1,2,3,\*</sup>, Heather Yeatman <sup>4</sup>, Joanna Russell <sup>4</sup> and Leh Shii Law <sup>5</sup>

- <sup>1</sup> Department of Nutrition, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang 43400, Selangor, Malaysia
- <sup>2</sup> Malaysian Research Institute on Ageing (MyAgeing), Universiti Putra Malaysia, Serdang 43400, Selangor, Malaysia
- <sup>3</sup> Research Centre of Excellence, Nutrition and Non-Communicable Diseases (NNCD), Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang 43400, Selangor, Malaysia
- <sup>4</sup> Faculty of Social Sciences, School of Health and Society, University of Wollongong, Northfields Avenue, Wollongong, NSW 2522, Australia; hyeatman@uow.edu.au (H.Y.); jrussell@uow.edu.au (J.R.)
- <sup>5</sup> Department of Community Medicine and Public Health, Faculty of Medicine and Health Sciences, University Malaysia Sarawak, Kota Samarahan 94300, Sarawak, Malaysia; lslaw@unimas.my
- \* Correspondence: norhasmah@upm.edu.my; Tel.: +60-3-97692461

**Abstract:** Living free from hunger is a basic human right. However, some communities still experience household food insecurity. This systematic literature review explored different aspects of household food insecurity in Malaysia including vulnerable groups, prevalence, risk factors, coping strategies, and the consequences of food insecurity. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. Thirty-three relevant articles were selected from scientific databases such as CINAHL, Pubmed and Google Scholar, scrutiny of reference lists, and personal communication with experts in the field. The prevalence of household food insecurity in Malaysia was unexpectedly reported as high, with affected groups including *Orang Asli*, low-income household/welfare-recipient households, university students, and the elderly. Demographic risk factors and socioeconomic characteristics included larger household, living in poverty, and low education. Coping strategies were practices to increase the accessibility of food in their households. Consequences of household food insecurity included psychological, dietary (macro- and micronutrient intakes), nutritional status, and health impacts. In conclusion, this review confirmed that household food insecurity in Malaysia continues to exist. Nevertheless, extensive and active investigations are encouraged to obtain a more holistic and comprehensive picture pertaining to household food security in Malaysia.

**Keywords:** household food insecurity; Malaysia; risk factors; coping strategies; consequences

**Citation:** Sulaiman, N.; Yeatman, H.; Russell, J.; Law, L.S. A Food Insecurity Systematic Review: Experience from Malaysia. *Nutrients* **2021**, *13*, 945. <https://doi.org/10.3390/nu13030945>

Academic Editors: Joanne E. Cecil and Samantha Caton

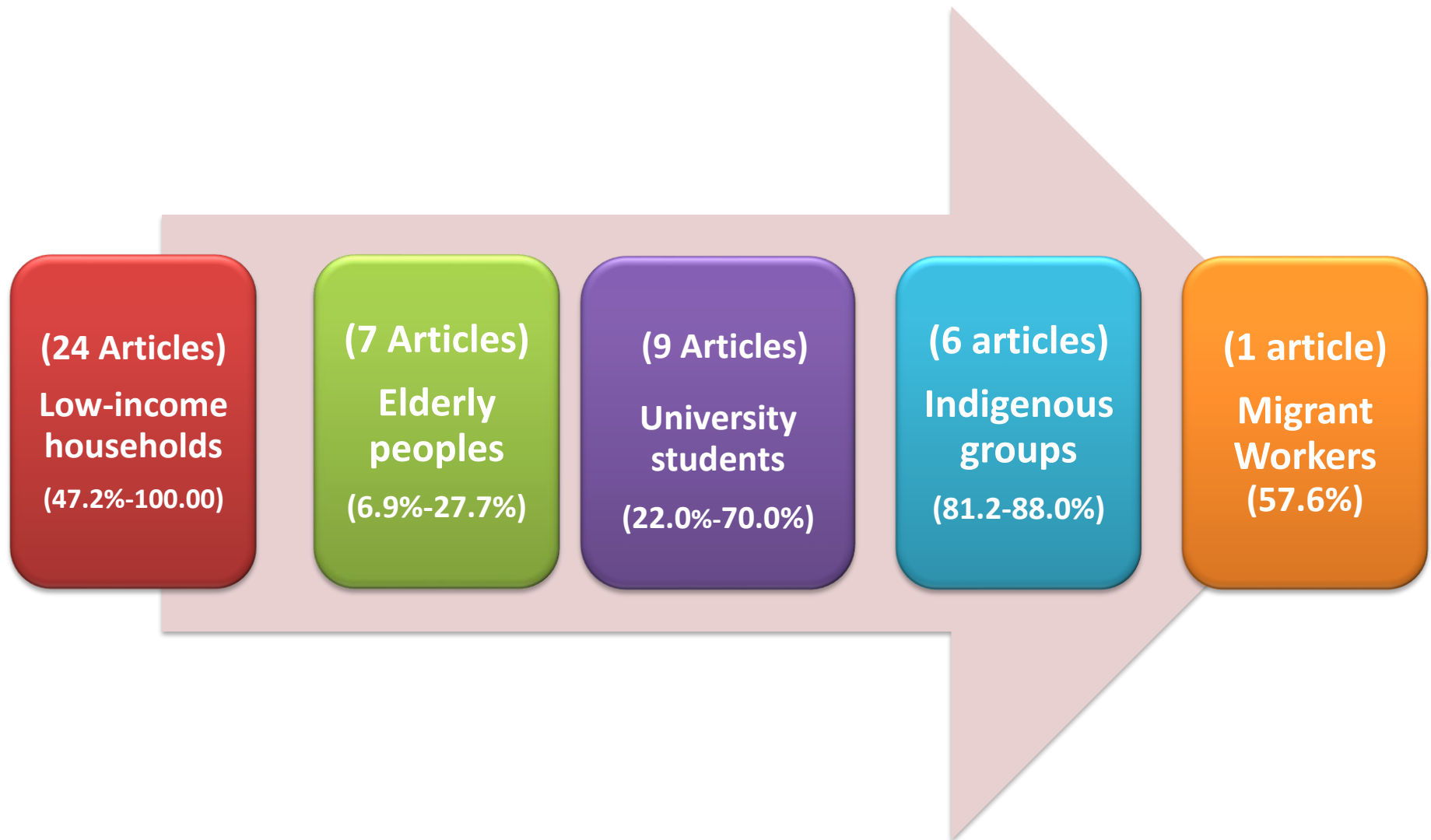
Received: 2 January 2021  
Accepted: 11 March 2021  
Published: 15 March 2021

Systematic review on food insecurity in Malaysia.

- ✓ Prevalence FIS
- ✓ Risk factors
- ✓ Consequences
- ✓ Coping Strategies



# VULNERABLE POPULATIONS OF FOOD INSECURITY IN MALAYSIA (2000-2020)





# RISK FACTORS OF FOOD INSECURITY

## Socio-economic

- Poverty
- Low food expenditure
- Low education
- Depletion of assets
- High cost of living

## Family structure

- Female headed
- Larger household size
- More children of school age
- Rural residential areas
- Disabled household member

## Health Problems

- ELDERLY**
- Mental health
  - Diseases

## Traditional Lifestyle

### INDIGENOUS PEOPLE

- Failure in agriculture
- Ineffectiveness in food-seeking activities
- Weather
- Water issues

## Limited Income

UNIVERSITY STUDENTS

- Cost of living
- Tuition fees

# CONSEQUENCES OF FOOD INSECURITY

## Unhealthy body weight status (Children)

- Underweight
- Stunting
- Low diet quality
- Insufficient intake of nutrients

## Inadequate dietary intakes (Adults)

- Low energy intake
- Low nutrient intake
- Low diet quality

## Health Problems (Adults)

- Higher Body Mass Index
- Higher Abdominal Obesity
- Metabolic syndrome
- Low energy



# **APPROACHES/METHODS IN ASSESSING FOOD AND NUTRITION SECURITY**

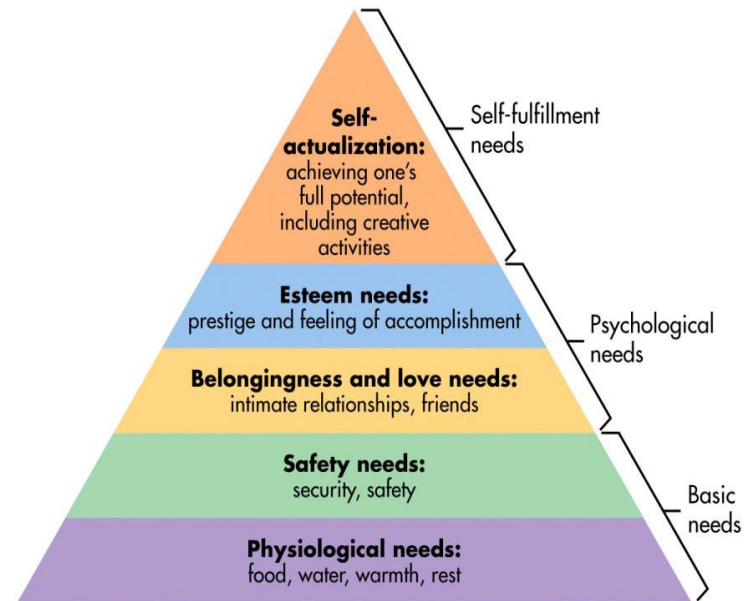
# MEASURING FOOD INSECURITY : WHY IT IS IMPORTANT?

## Fundamental Human right

- Universal Declaration of Human Rights (United Nation, 1948)

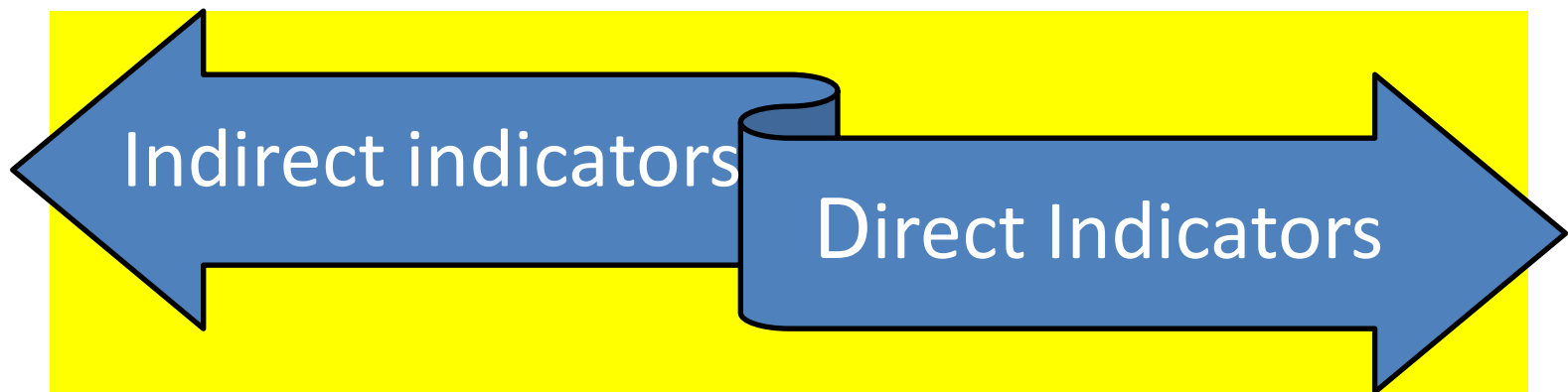
## Sustainable Development Goal

- Goal No 2: Zero Hunger



# METHODS FOR MEASURING FOOD SECURITY

- ✓ A valid and reliable indicator is important for measuring the prevalence and severity of food insecurity.
- ✓ Generally, two (2) methods that are used to measure food security:



# LIMITATION OF INDIRECT INDICATORS

- ✓ Lack of sensitivity and specificity
  - ✓ *Income-based measures of poverty*
    - ✓ **Not account for events** such as price differences in terms of housing, health care and sudden economic changes
- ✓ *Anthropometry measurements*
  - ✓ **Number of errors**, including instrumental errors, investigation errors and recall errors
  - ✓ Overestimate the prevalence of food insecurity
  - ✓ Underestimate the effectiveness of food programs or programs related to poverty eradication



# METHODS FOR MEASURING FOOD SECURITY

- ✓ **Direct Indicators**
- ✓ Designed directly to measure core behaviors and experiences of food insecurity.
- ✓ Individuals adapted sequence of emotional and behavioral changes due to inadequate food access
- ✓ Fundamental compared to indirect indicators





# STRENGTH OF DIRECT INDICATORS



- ✓ **Highly sensitive and specific** to the individual and household food insecurity
  - ✓ Vulnerable groups and at-risk groups
- ✓ **Capture the core behaviors and experiences**
  - ✓ characterize household food insecurity
  - ✓ recognize the stages of its severity
- ✓ **Practical and cost effective** to use for national survey
- ✓ **Complement with indirect indicators** to give accurate picture of food insecurity in the country.





# GLOBAL FOOD INSECURITY EXPERIENCES SCALE - FIES SURVEY MODULE (FIES-SM)

<b>GLOBAL FOOD INSECURITY EXPERIENCE SCALE</b> <i>Individually Referenced</i>	
Now I would like to ask you some questions about food. During the last 12 MONTHS, was there a time when:	
Q1. You were worried you would not have enough food to eat because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q2. Still thinking about the last 12 MONTHS, was there a time when you were unable to eat healthy and nutritious food because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q3. You ate only a few kinds of foods because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q4. You had to skip a meal because there was not enough money or other resources to get food?	0 No 1 Yes 98 Don't Know 99 Refused
Q5. Still thinking about the last 12 MONTHS, was there a time when you ate less than you thought you should because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q6. Your household ran out of food because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q7. You were hungry but did not eat because there was not enough money or other resources for food?	0 No 1 Yes 98 Don't Know 99 Refused
Q8. You went without eating for a whole day because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused

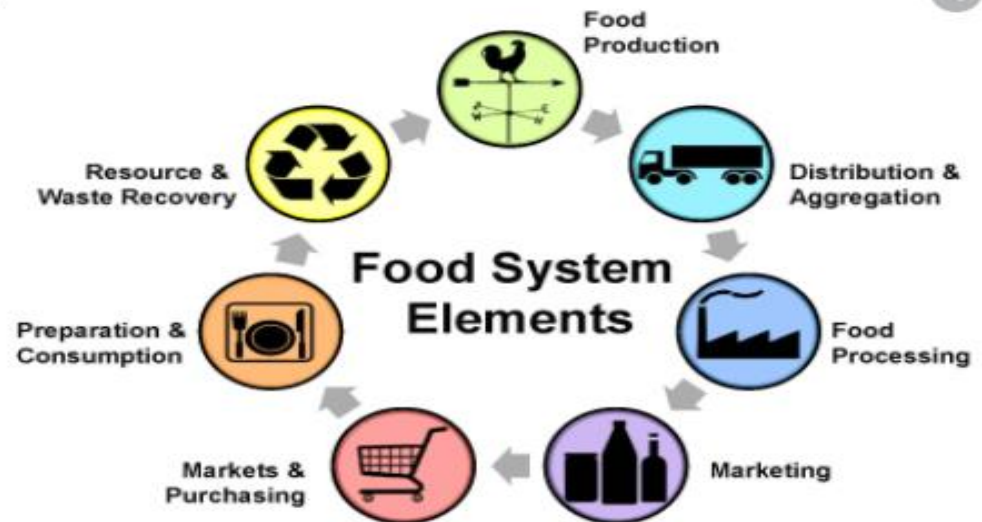
<b>GLOBAL FOOD INSECURITY EXPERIENCE SCALE</b> <i>Household Referenced</i>	
Now I would like to ask you some questions about food. During the last 12 MONTHS, was there a time when:	
Q1. You or others in your household worried about not having enough food to eat because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q2. Still thinking about the last 12 MONTHS, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q3. Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q4. Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food?	0 No 1 Yes 98 Don't Know 99 Refused
Q5. Still thinking about the last 12 MONTHS, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q6. Was there a time when your household ran out of food because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused
Q7. Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food?	0 No 1 Yes 98 Don't Know 99 Refused
Q8. Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources?	0 No 1 Yes 98 Don't Know 99 Refused

# **APPROACHES/STRAEGIES TO ADDRESS FOOD AND NUTRITION SECURITY**

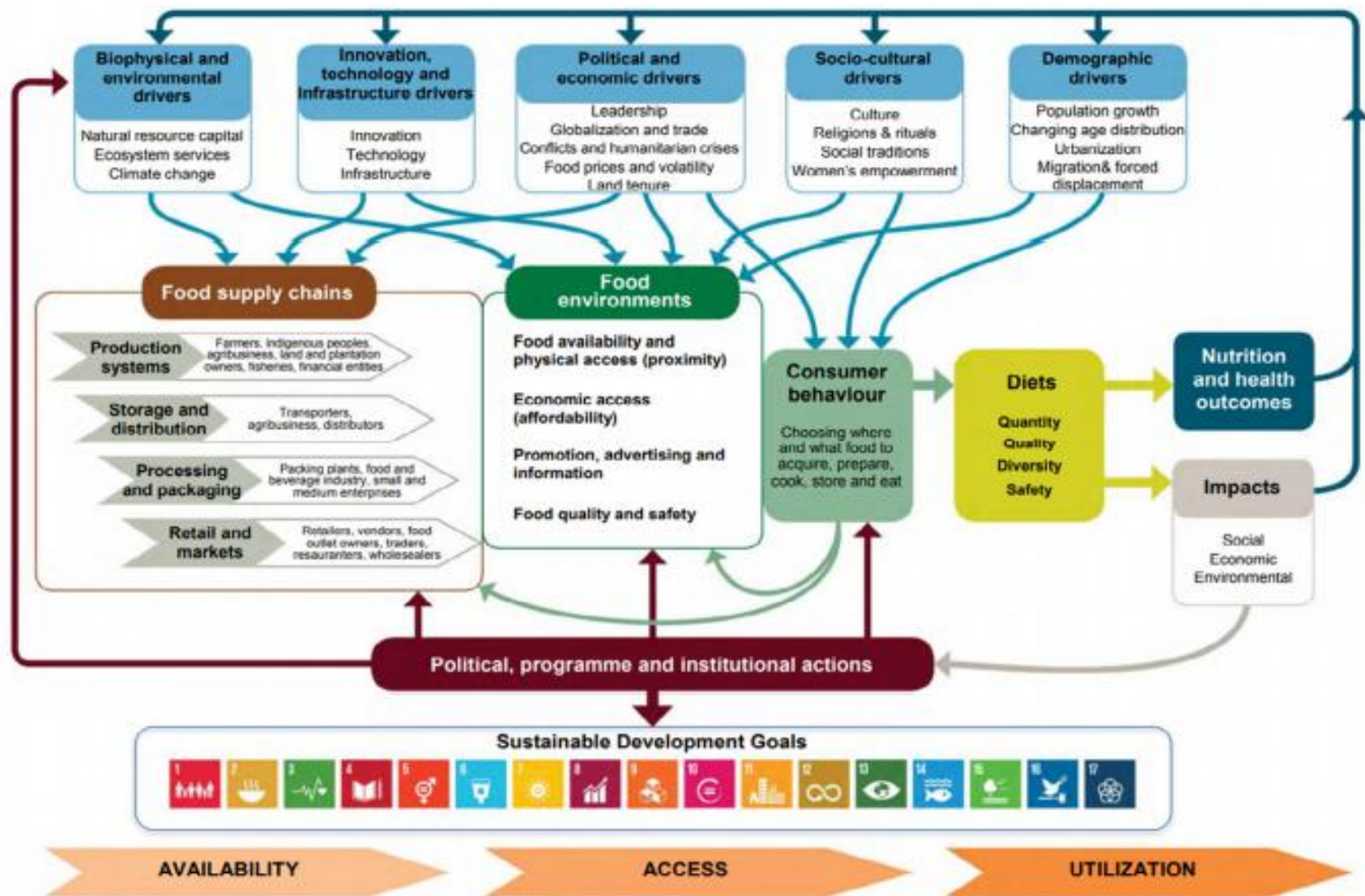
# WHAT IS FOOD SYSTEMS?

**“A processes and interactions involved in growing, processing, distributing, consuming, and disposing of foods, from the provision of inputs and farmer training, to product packaging and marketing to waste recycling”**

- ✓ A holistic food systems is how these processes interact with one another, and with the environmental, social, political and economic context



# CONCEPTUAL FRAMEWORK OF FOOD SYSTEMS FOR DIETS AND NUTRITION





# NATIONAL FOOD SECURITY POLICY ACTION PLAN 2021-2025

A specific action plan to strengthen national food securities has also been developed taking into account issues and challenges along the food supply chain ranging from agricultural inputs to food waste. The National Food Security Policy (DSMN Action Plan) 2021-2025 covering 5 core strategies, 15 strategies and 96 initiatives will ensure the sustainability of the country's food supply at all times, especially in the face of unexpected situations.



# COMMUNITY GARDENING





# NATIONAL AGROFOOD SECURITY - NAP 2.0 (2021-2030)



MINISTRY OF AGRICULTURE AND  
FOOD INDUSTRIES

## EXECUTIVE SUMMARY NATIONAL AGROFOOD POLICY 2021-2030 (NAP 2.0)

Agrofood Modernisation:  
Safeguarding the Future of National Food Security



UNIVERSITI PUTRA MALAYSIA  
AGRICULTURE • INNOVATION • LIFE

### Policy Statement:

*A sustainable, resilient and technology driven agrofood sector that prioritises food security and nutrition while driving economic growth and enhancing the wellbeing of the rakyat*

#### Principles

Economic	Social	Environment
Highly Competitive and Innovative Agrofood Sector	Wellbeing of Food Producers and Inclusivity in Sector Development	Paradigm Shift towards a Sustainable Food System, Adapted to Climate Change

#### Policy Objectives

Drive income growth and facilitate better quality of life for food producers
Raise production output with quality harvest by increasing productivity
Establish more agile and resilient value chains with high value-added activities
Improve food safety and nutritional well-being of Malaysians
Embrace greater economic, social and spatial inclusiveness
Encourage greater adoption of sustainable consumption and production

#### Policy Thrusts

Embrace Modernisation and Smart Agriculture	Strengthen Domestic Market and Produce Demand Driven and Export-oriented Products	Build Talent that Meets Demand of the Industry	Advance towards Sustainable Agricultural Practices and Food Systems	Create Conducive Business Ecosystem and Robust Institutional Framework
STRATEGIES	STRATEGIES	STRATEGIES	STRATEGIES	STRATEGIES

STRATEGIES FOR PADDY & RICE, FRUITS & VEGETABLES, LIVESTOCK AND FISHERIES



# NATIONAL NUTRITION POLICY OF MALAYSIA 2.0



## VISION

**NUTRITIONAL WELL-  
BEING  
FOR A HEALTHY NATION**

## MISSIONS



### **REDUCE DOUBLE BURDEN OF MALNUTRITION**

To reduce the double burden of malnutrition of the population.



### **ENHANCED FOOD AND NUTRITION SECURITY**

To enhance food and nutrition security through sustainable food system.

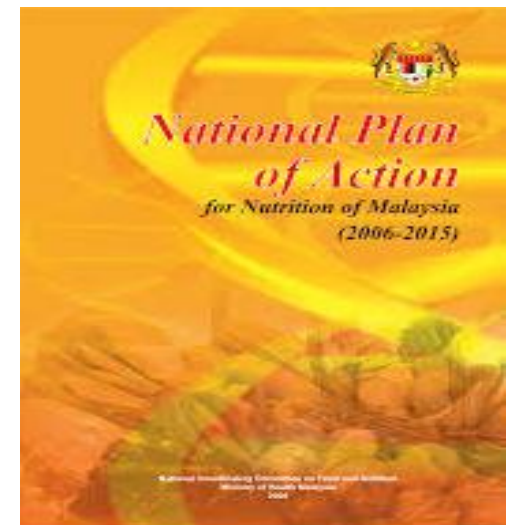
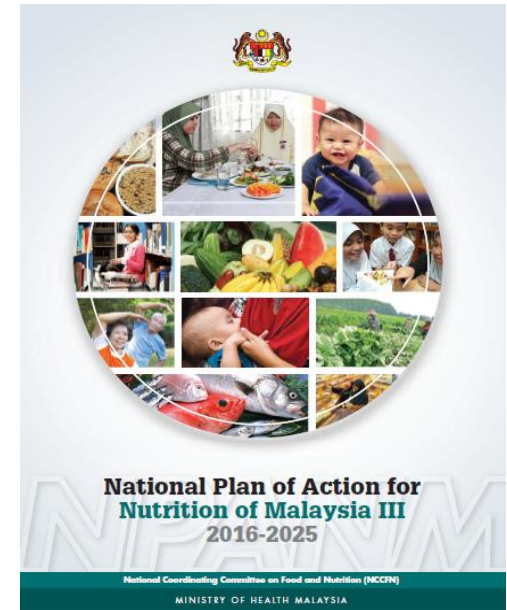


### **STRENGTHEN MULTI- SECTORAL COLLABORATIONS**

To strengthen multi-sectoral collaborations and partnerships in nutrition-specific and nutrition-sensitive strategies and programmes. .

# NATIONAL PLAN OF ACTION FOR NUTRITION OF MALAYSIA (NPANM)

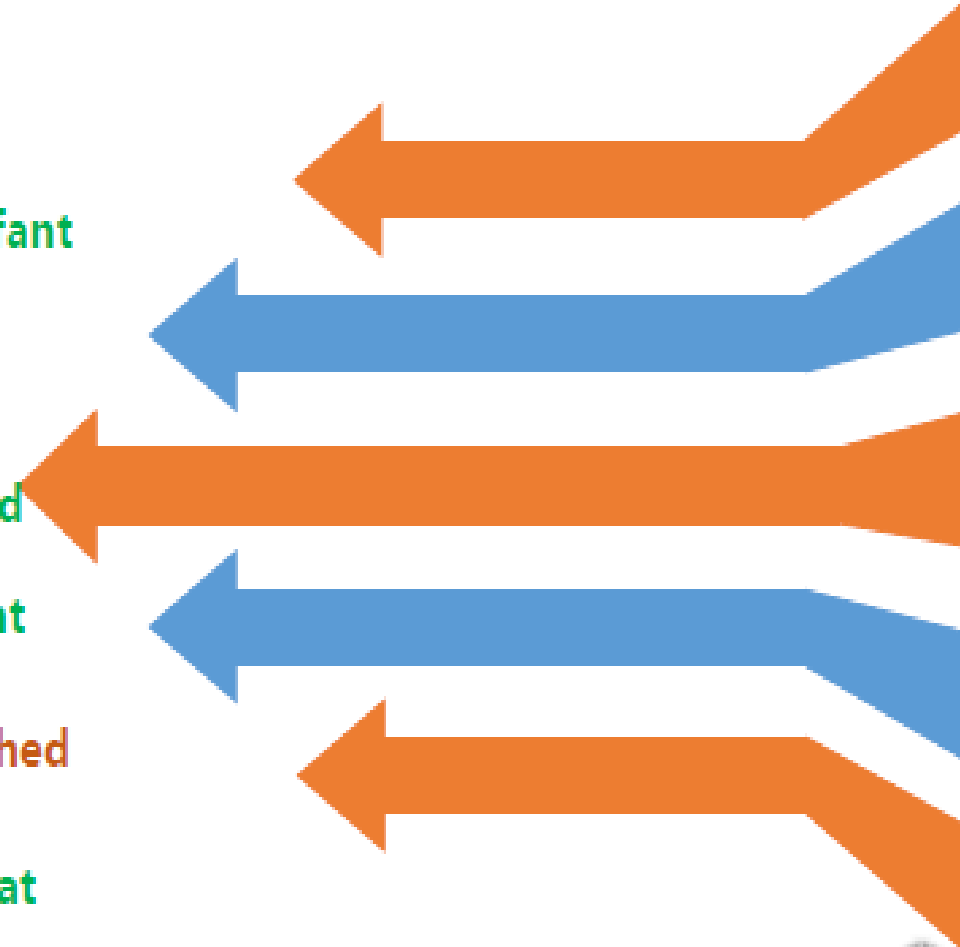
- ✓ The framework for action to address food and nutrition challenges.
  - ✓ **Nation's blueprint to promote optimal nutritional well-being of Malaysians** through a series of strategies and activities.
- ✓ Series of NPANM :
  - NPANM I, 1996-2000
  - NPANM II, 2006-2015
  - NPANM III, 2016-2025
- ✓ The NPANM III has been addressed the persistence of the double burden of Malnutrition.



# Nutrition Intervention Programs/ Activities for Children Under 5 Years

---

1. Breastfeeding Promotion
2. Baby-Friendly Hospital Initiative (BFHI)
3. Baby-Friendly Clinic Initiative (KRB)
4. Code Of Ethics For The Marketing Of Infant Foods And Related Products
5. Promotion Of Infant And Young Child Feeding/ Complementary feeding
6. Training on Child Growth Monitoring and IYCF Counselling (adapted from the Combined Course on Growth Assessment and IYCF Counselling, WHO, 2012)
7. Rehabilitation Program for Undernourished Children (Food Basket)
8. Community Feeding Program (targeted at aborigines)







## Nutrition Intervention Programs/ Activities for **Pregnant Women**

1. **Iron Folate** supplementation
2. **Full Cream Milk Powder Supplementation** Programme
3. **Nutrition education and counselling** for pregnant women.
4. **Cooking demonstration** at clinics and communities





# Nutrition Intervention Programs/ Activities for **Community & others**

1. **Cooking demo** at clinics and community
2. **Healthy menu** at nurseries/preschools
3. **Dissemination of nutritional knowledge** in accordance to target groups such as children, parents, teachers and caregivers of nurseries
4. **Improving skills on healthy food preparation** amongst parents, teachers and caregivers of nurseries through training/ courses





# CONCLUSION

# ADDRESSING FOOD INSECURITY, HUNGER AND MALNUTRITION: *INCREASE FOOD ASSESSIBILITY & NUTRITION*

**Implement more robust targeted social protection programmes to improve access to healthy and nutritious foods**



Provide adequate emergency food aid, wherever possible with local and regional purchase of foods for food assistance

Design food assistance programmes that offer adequate access to healthy food, not just sufficient calories.

Provide alternatives to school lunch programmes when schools are closed.

Allow for adequate access to health care, including access to mental health services in the design.

# ADDRESSING FOOD INSECURITY, HUNGER AND MALNUTRITION FOR BUILDING LONGER-TERM RESILIENCE



Ensure better protections for vulnerable and marginalized food system workers and farmers who are affected by the crisis.

Provide better protections for countries that depend on food imports

Strengthen and coordinate policy responses to the pandemic/disaster that impact on food systems and food security and nutrition

Support more diverse and resilient food distribution systems



**UNIVERSITI PUTRA MALAYSIA**  
AGRICULTURE • INNOVATION • LIFE

**THANK YOU / *TERIMA KASIH***

**[www.upm.edu.my](http://www.upm.edu.my)**

**[norhasmah@upm.edu.my](mailto:norhasmah@upm.edu.my)**