Galen Centre for Health and Social Policy

UNIVERSITI TEKNOLOGI MARA | Fakulti Pergigian

SUKU-SUKU SEPARUH

Is it affordable for everyday Malaysians?

UiTM DrInDPH

8 September 2025

SUKU-SUKU SEPARUH

- Introduced by the **MOH Malaysia in 2016**.
- It is a **visual dietary guide** based on the tagline Suku-suku Separuh.
- It translates the principles outlined in the Malaysian Dietary Guideline and the Malaysian Food Pyramid into a **practicable visual format.**

RATIONALE OF SUKU² SEPARUH

Rising trend in the prevalence of NCD: diabetes mellitus 11.6% (2006) 13.4% (2015) and 18.3% (2019)

50.1% of the adult population was reported to be either overweight or obese

High consumption of unhealthy food

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WHAT OTHER COUNTRIES ARE DOING

✅ USA: Divides the plate into food groups: fruits, vegetables, grains, proteins, and emphasizes dairy.

✅ UK's Eatwell Guide: offers a detailed visual that includes healthy fats, hydration, and advice on limiting sugar and salt intake.

✅ Canada: 1/2 plate be fruits and vegetables, 1/4 for whole grains, and 1/4 for protein, emphasizing plant-based proteins and water as the preferred drink.

✅ Singapore's My Healthy Plate: uses a similar plate division while emphasizing lifestyle messages like physical activity, hydration, and healthy oil usage.

SUKU-SUKU SEPARUH OBJECTIVES

To **combat malnutrition and diet-related NCD**s.

To translate complex nutritional guidelines into a practical, **easy-to-understand format** that can be applied in daily life, whether at home or when eating out.

To focus on **reducing high portions of staple foods** and protein, by **maximising the amount of vegetables** in a main meal

MY SUKU2SEPARUH

A nationwide informal survey, recently conducted by postgraduate students from UiTM's Doctor in Dental Public Health programme on behalf of the Galen Centre for Health and Social Policy, exploring the **affordability and practicality** of the Suku-Suku Separuh (Malaysian Healthy Plate)

OBJECTIVES OF MY SUKU² SEPARUH

- To determine the **average cost** and **calorie intake** of a balanced meal in different Malaysian states.
- To **assess the affordability** of *Suku-suku Separuh* meals relative to state-level median incomes.
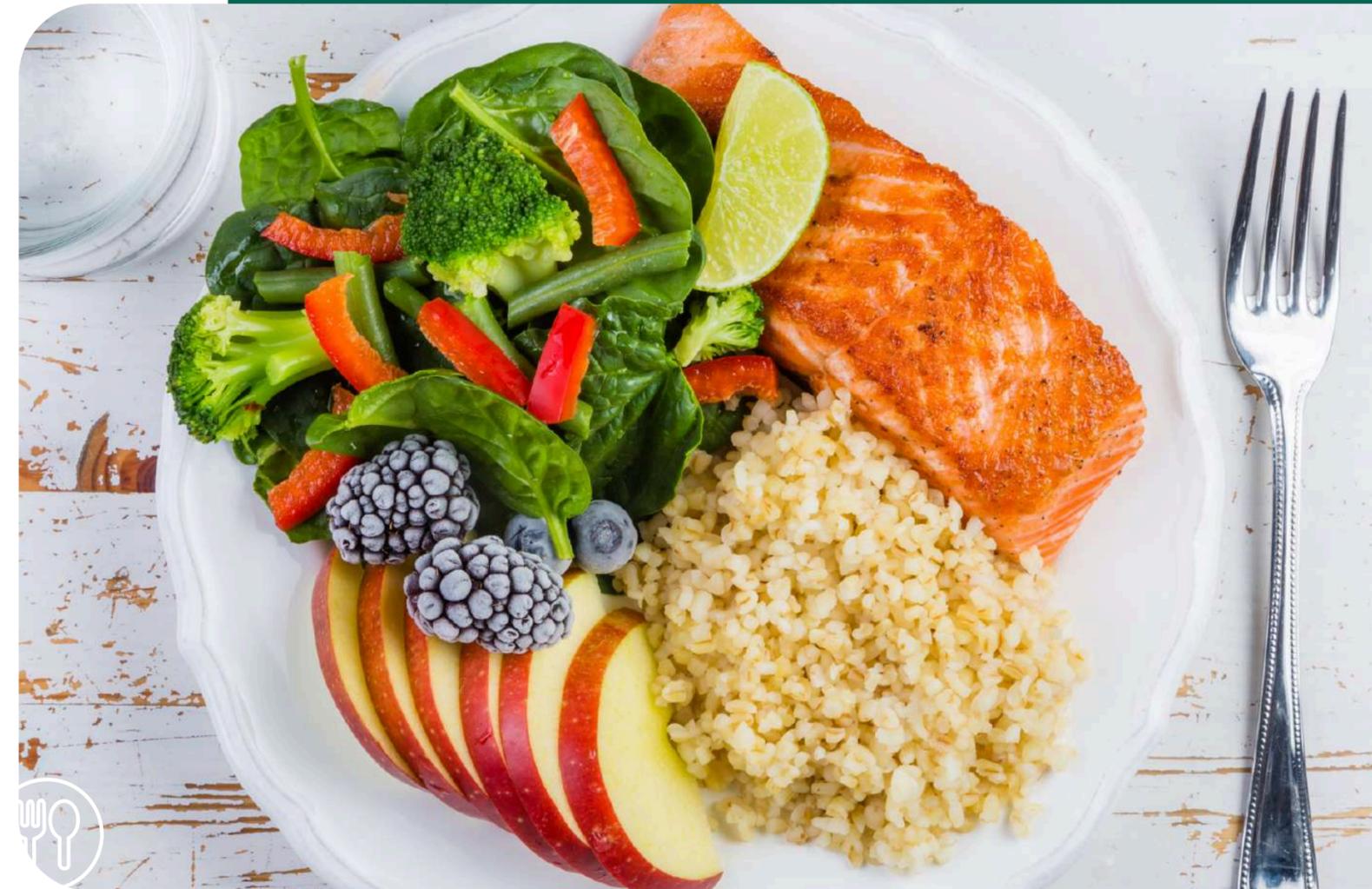
TARGET POPULATION

- Malaysians aged **18 years and above,** across all states and federal territories.
- Both urban and rural populations, working adults, students, and retirees.
- Target:
  - Minimum: 30 participants/state
  - Total participants: 687 participants

DATA COLLECTION METHOD

An **online-based campaign** spanning **two weeks** (8 - 28 July 2025) data collected through Google Form

Participants were invited to share:
- a **photo** of their lunch meal
- a digital **receipt** OR handwritten receipts OR the estimated cost (for a self-prepared dish) of the meal
- **location** of the meal purchase
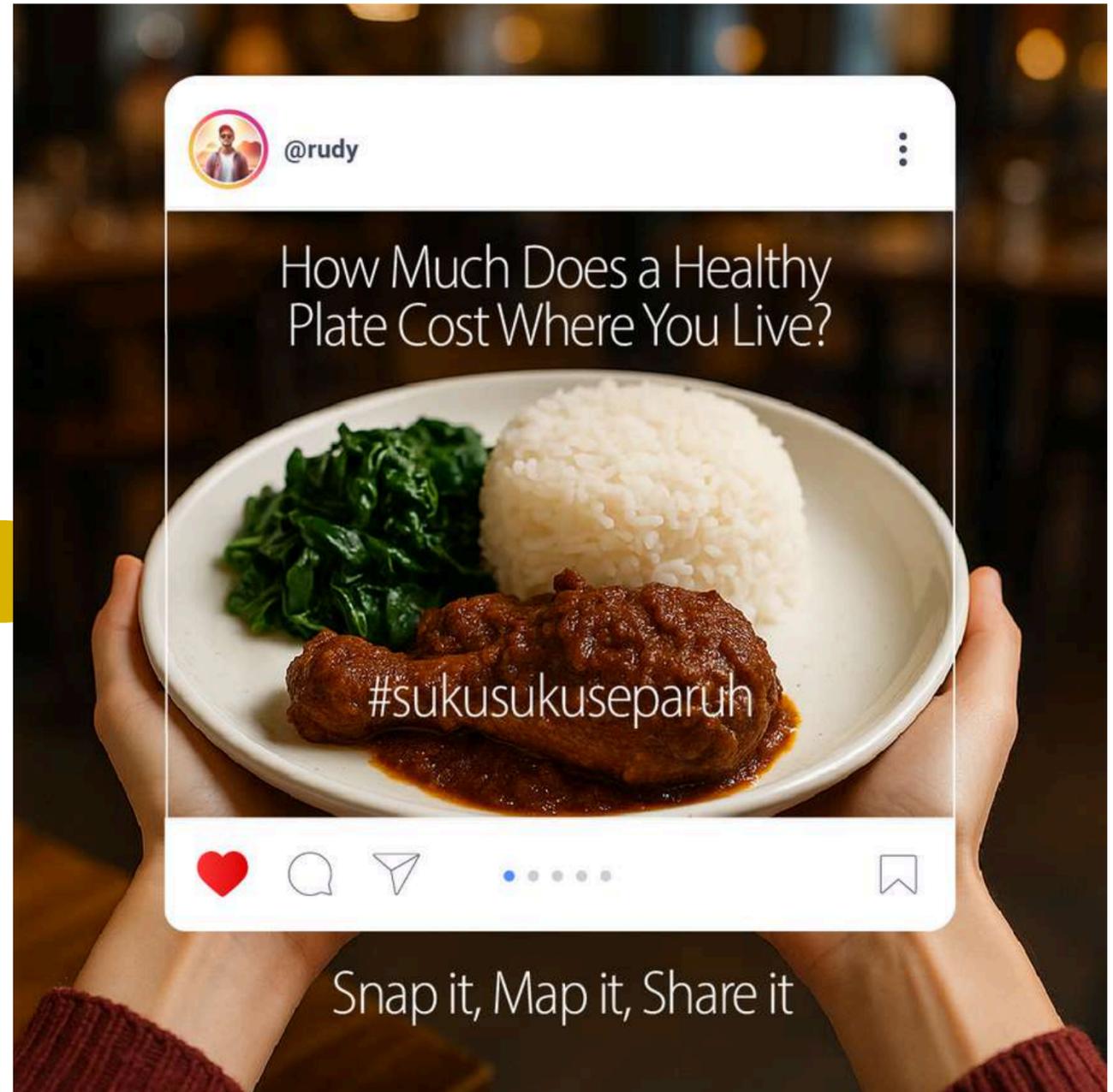- **sociodemographic** information

SOCIAL MEDIA PROMOTION

CALORIE ESTIMATION: HEALTIFY AI CALORIE TRACKER

- Calorie estimation was conducted using the **Healthify mobile app**, which provides **nutritional breakdowns** based on **food images - features a database of over 900 Southeast Asian cuisines, including those popular in Malaysia, with detailed information on their nutritional content**

- This method was used to approximate **energy intake** and assess whether the meals aligned with the **balanced nutrition** promoted by the "Suku-Suku Separuh" campaign.

- The calorie data was categorised into **3 zones**:
  (i) Low (<400 kcal)
  (ii) Moderate (400–600 kcal)
  (iii) High (>600 kcal)

Healthify: AI Calorie Tracker app was used to estimate calorie content from food images

Healthify: AI Calorie Track...
Weight loss, diet, fitness app
Open
★★★★★ 5.5K   HealthifyMe Pr...   No. 32   Health & Fitn...

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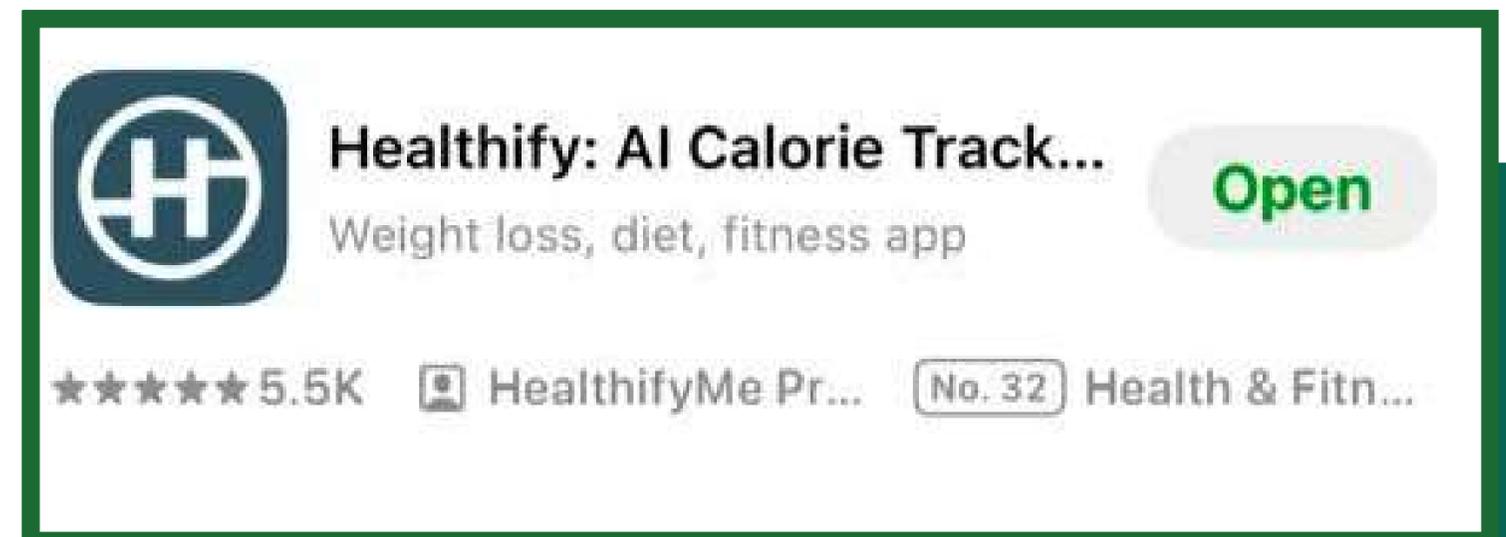
RESULTS

PARTICIPATION

RESPONSE RATE

364 respondents

53.0%

target: 687

AVERAGE MEAL PRICE

MYR
12.57

Highest: MYR 45

Selangor
101

Perlis
27

Johor
18

Kelantan
18

Terengganu
18

Penang
16

FT Kuala Lum...
49

Kedah
28

15

Pah...
12

Sab...
12

Sarawak
14

FT P...
12

Perak
11

Melaka
12
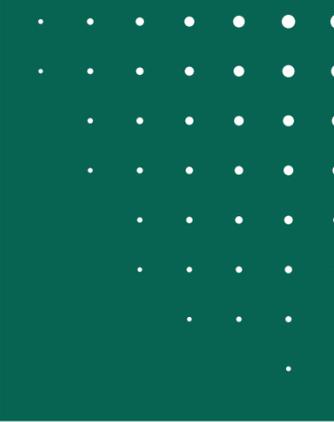
WHERE DID YOU BUY MEALS (%)

		%	Average Price (MYR)
👨‍🍳	Restaurant	45.9	15.53
🍽️	Food court	8.0	12.02
🛖	Stalls	12.1	9.52
🏥	Hospital café	3.6	9.41
🏫	School / university/ work cafeteria	4.9	8.28
🏠	I cook them	22.8	9.67
🛵	Others (Grabfood, Food Panda)	2.7	14.30

MEAL PURCHASE LOCATION

1 **Restaurant (45.9%)**
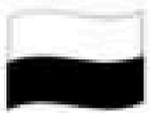
- -

2 Home-cooked (22.8%)

- -

3 Stalls (12.1%)

🏴	14.84	🏳	8.78	🏴	14.20
🚩	8.53	🏳	9.95	🏴	14.60
🚩	8.90	🏴	9.68	🏴	8.71
🏴	11.62	🏴	10.22	WP KL	16.27
🏴	11.78	🏴	10.33	WP Labuan	9.50
		WP Putrajaya	16.24		

AVERAGE MEAL COST BY STATE

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DISCUSSION

Rising food cost

| Increase input cost | Urbanisation - sharper hikes | Consumer demand - more diverse food |

🇲🇾 **AVERAGE: MYR 12.57 (USD 3)**

100 THB **IDR 30k-50k**

USD 12-40 **£10-30**

EXPENDITURE BASED ON ANNUAL HOUSEHOLD INCOME

Assumption: Meal consumed 2x per day

Median household income: DOSM, 2022

Average Malaysian household size = 3.8 (DOSM, 2022)

States	Average price/ meal (MYR)	Average meal (2x)/ household (x3.8)/ year (MYR)	Median household income/year (MYR)	% of household income used for meals (2x)/ year
Johor	14.84	41,163.08	82,548.00	49.87%
Kedah	8.53	23,668.16	52,824.00	44.81%
Kelantan	8.9	24,688.60	43,368.00	56.93%
Melaka	11.62	32,224.63	74,520.00	43.24%
Negeri Sembilan	11.78	32,677.72	62,712.00	52.11%
Pahang	8.78	24,341.85	57,036.00	42.68%
Perak	9.95	27,613.91	53,928.00	51.21%
Perlis	9.68	26,841.02	56,556.00	47.46%
Pulau Pinang	10.22	28,336.41	78,024.00	36.32%
Sabah	10.33	28,641.55	54,924.00	52.15%
Sarawak	14.2	39,390.80	59,736.00	65.94%
Selangor	14.6	40,496.55	119,796.00	33.80%
Terengganu	8.71	24,149.21	70,536.00	34.24%
FT Kuala Lumpur	16.27	45,133.55	122,808.00	36.75%
FT Labuan	9.5	26,353.00	82,848.00	31.81%
FT Putrajaya	16.24	45,054.38	120,672.00	37.34%
Malaysia	**12.57**	**34,882.97**	**76,056.00**	**45.86%**

EXPENDITURE BASED ON HOUSEHOLD INCOME

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% OF MEAL EXPENDITURE PER HOUSEHOLD BY STATE

State	%
Johor	50
Kedah	45
Kelantan	57
Melaka	43
N. Sembilan	52
Pahang	43
Perak	51
Perlis	47
Penang	36
Sabah	52
Sarawak	66
Selangor	34
Terengganu	34
FT K. Lumpur	37
FT Labuan	32
FT Putrajaya	37
MALAYSIA	46
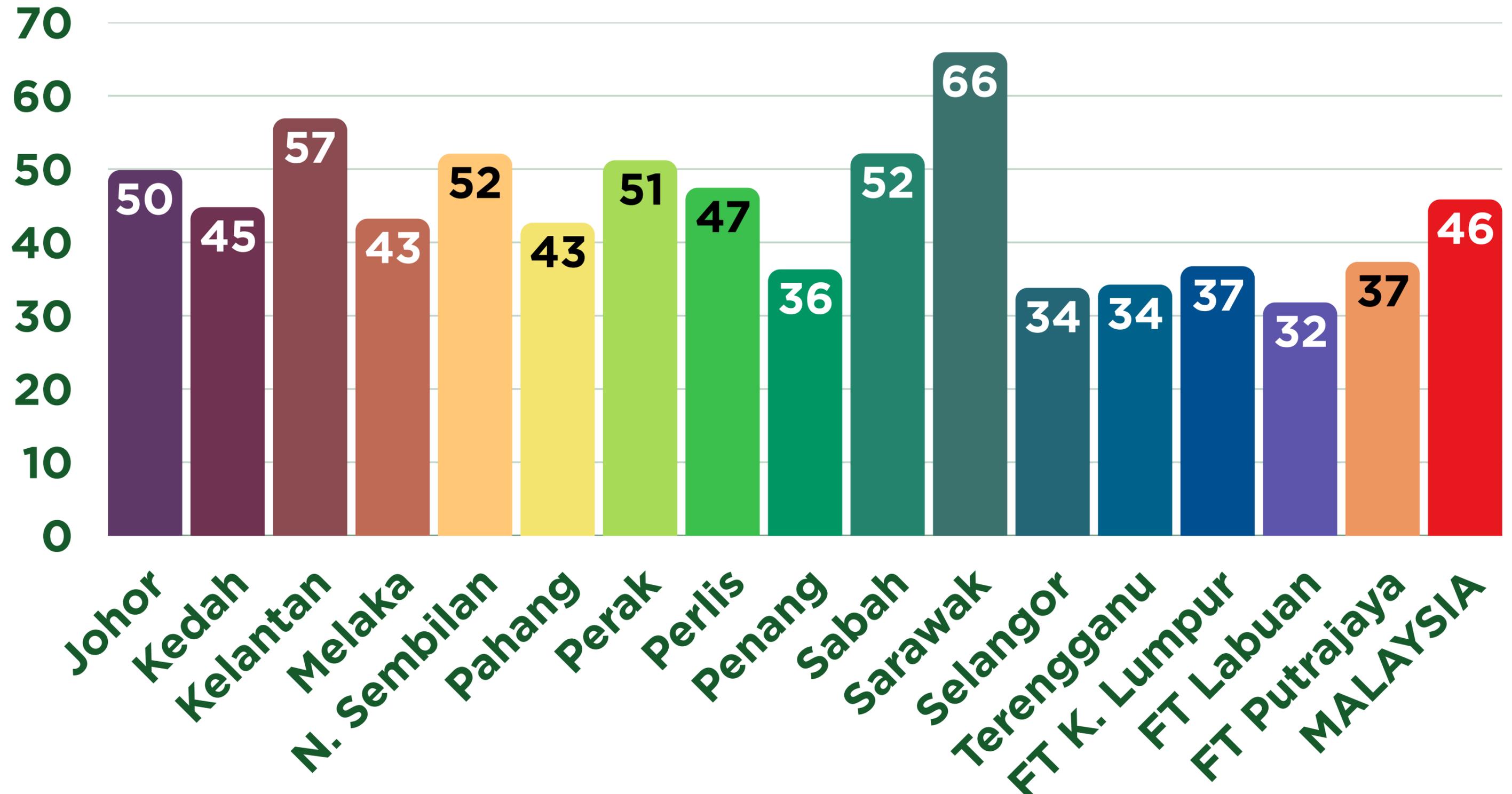
STANDARD MACRONUTRIENT ENERGY VALUES (PER GRAM)

Calories come from three energy sources: carbohydrates, proteins and fats.

Macronutrient Calories per Gram:

1 Carbohydrates: 4 calories per gram
55-70% of total energy intake

2 Fats: 9 calories per gram
20-30% of total energy intake

3 Protein: 4 calories per gram
10-15% of total energy intake

Calorie values are based on standard macronutrient conversions from Food and Agriculture Organization of the United Nations (FAO), United States Department of Agriculture (USDA) guidelines and MDG (2020)

WHAT IS "NORMAL"?

Mealtimes	Calorie (kcal)	
	Male adult (2000 kcal)	**Female adult** (1500 kcal)
Breakfast	550	450
Morning tea break	200	100
Lunch	550	450
Afternoon tea break	200	100
Dinner	500	400

Table: Examples of calorie intake for one meal/day for sedentary adults

- The amount of energy in food or drink is measured in calories.
- Calorie information is often given in kcals, which is short for kilocalories.
- The calorie intake recommendations by the **Malaysian Dietary Guidelines 2020 for adults (aged 18-59 years)** who are **sedentary** are:
  a) **Male : 2,000 kcal / day**
  b) **Female: 1,500 kcal / day**
- This could be different based on: **age, weight, height and level of physical activity.**

CALORIE ESTIMATION AT A GLANCE

- Tool Used: **HealthifyMe AI Calorie Tracker**
- Method: Estimated calories via **food image analysis**
- Purpose: Assess alignment with "Suku-Suku Separuh" nutrition goals
- Meal Categories:
  - Low: **<400** kcal
  - Moderate: **400–600** kcal
  - High: **>600** kcal
- Reference Benchmarks:
  - Males: **550** kcal/meal
  - Females: **450** kcal/meal

CALORIE AND NUTRIENT PROFILES

- **24% of meals in this dataset exceed 600 kcal -** clearly surpassing both calorie targets.

- Implication: **Portion control** and **menu adjustments** to better match ideal energy intake levels.

CALORIE COUNTS

HIGH
>600kcal; 86

LOW
<400kcal; 70

23.6%

19.2%

57.1%

MODERATE
400-600kcal;
208
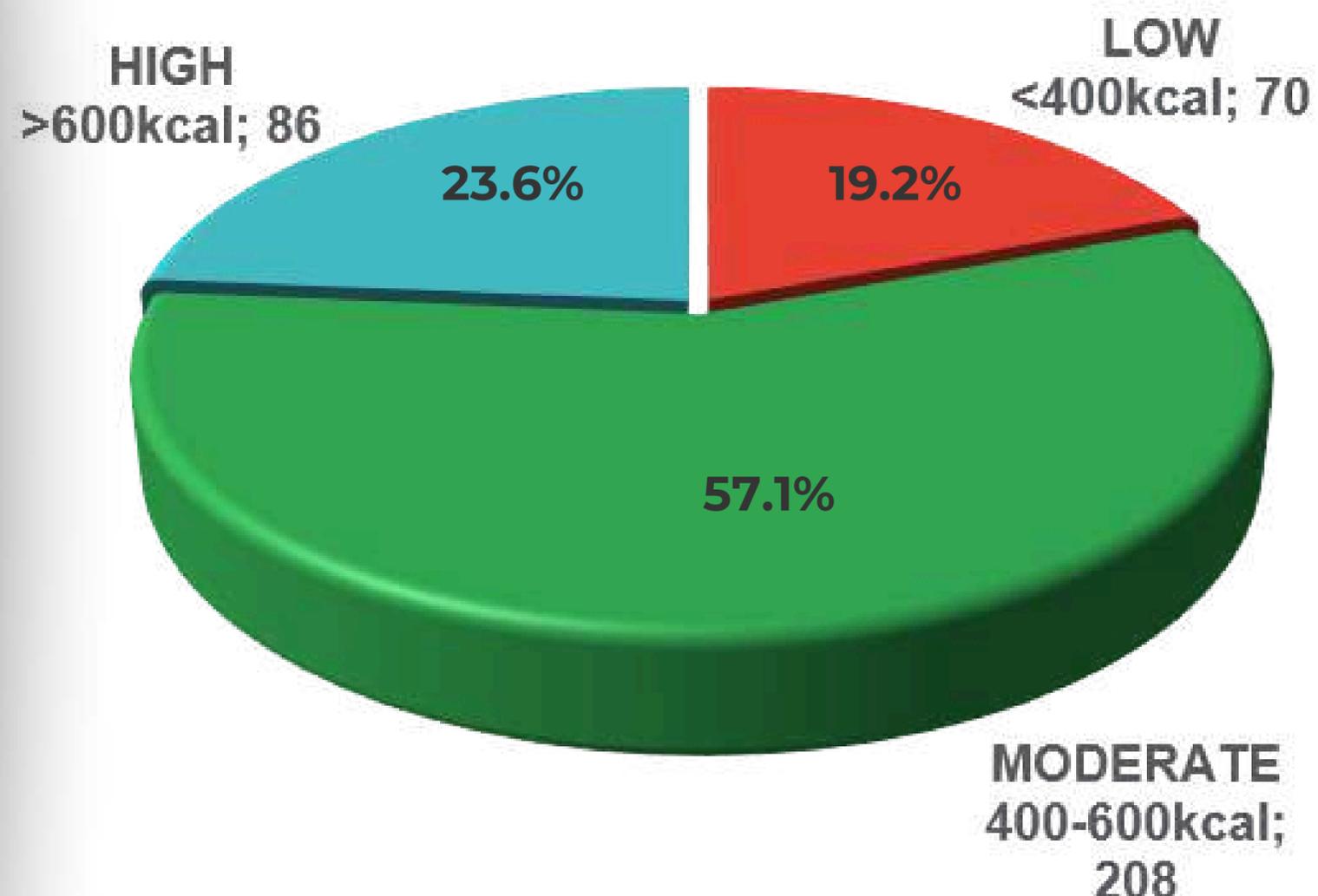
Calorie Distribution of Lunch Meals by Category

MEAN CALORIE COUNT: STATES

- Mean lunch calorie intake is shown for all Malaysian states and federal territories.
- The highest intake is in **FT Labuan** (551 kcal), **slightly above** the **male target.**
- **Johor** (545 kcal) and **Sabah** (532 kcal) also approach the upper limit.
- **Sarawak** (444 kcal) is **the only state** falling below the **female target.**
- Most other states cluster between **460** and **520** kcal, indicating a fairly consistent pattern.
- Targeted portion adjustments could help optimize alignment with dietary recommendations.
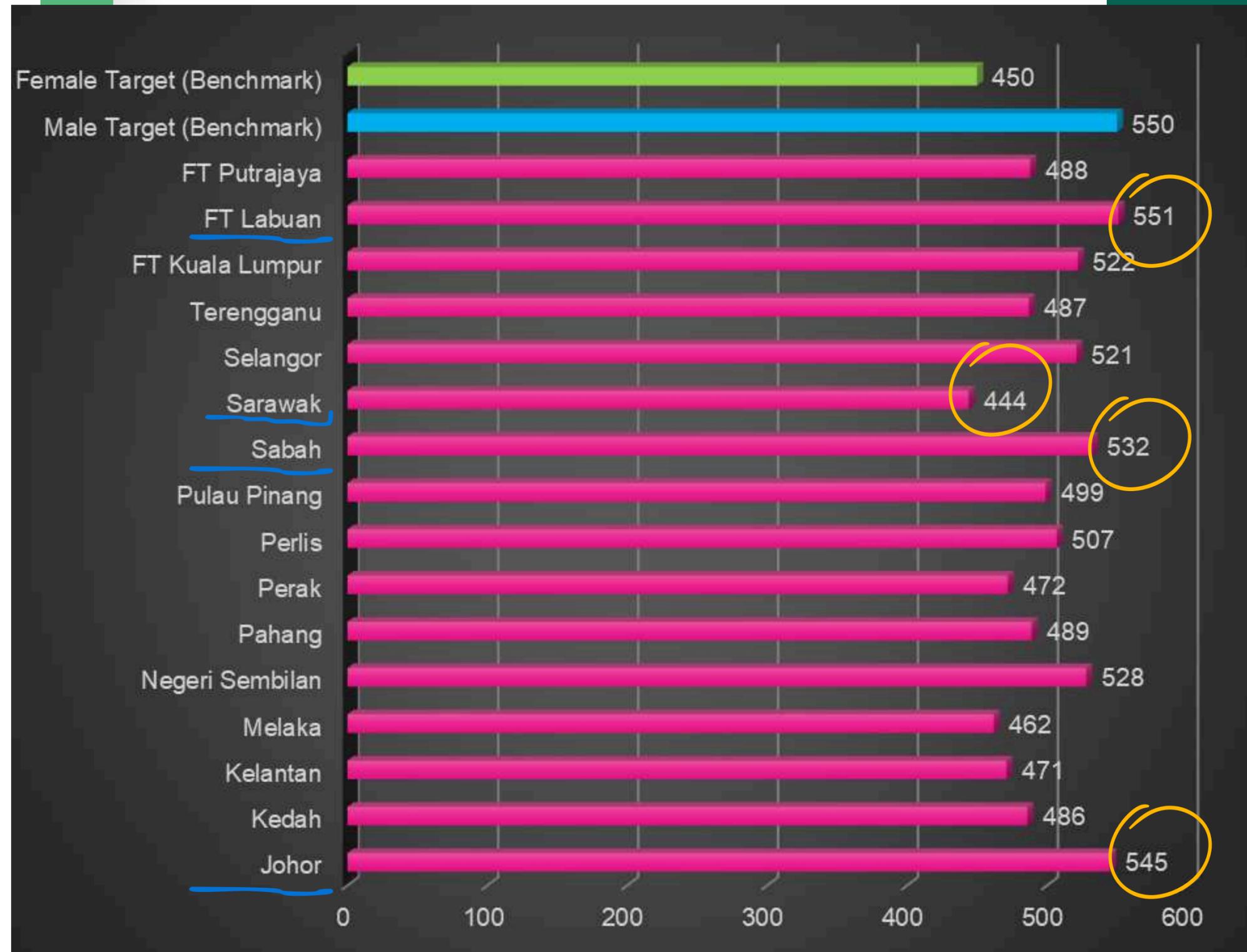

Figure: Mean lunch calorie intake across Malaysian states, benchmarked against targets for sedentary adults (550 kcal for males; 450 kcal for females).
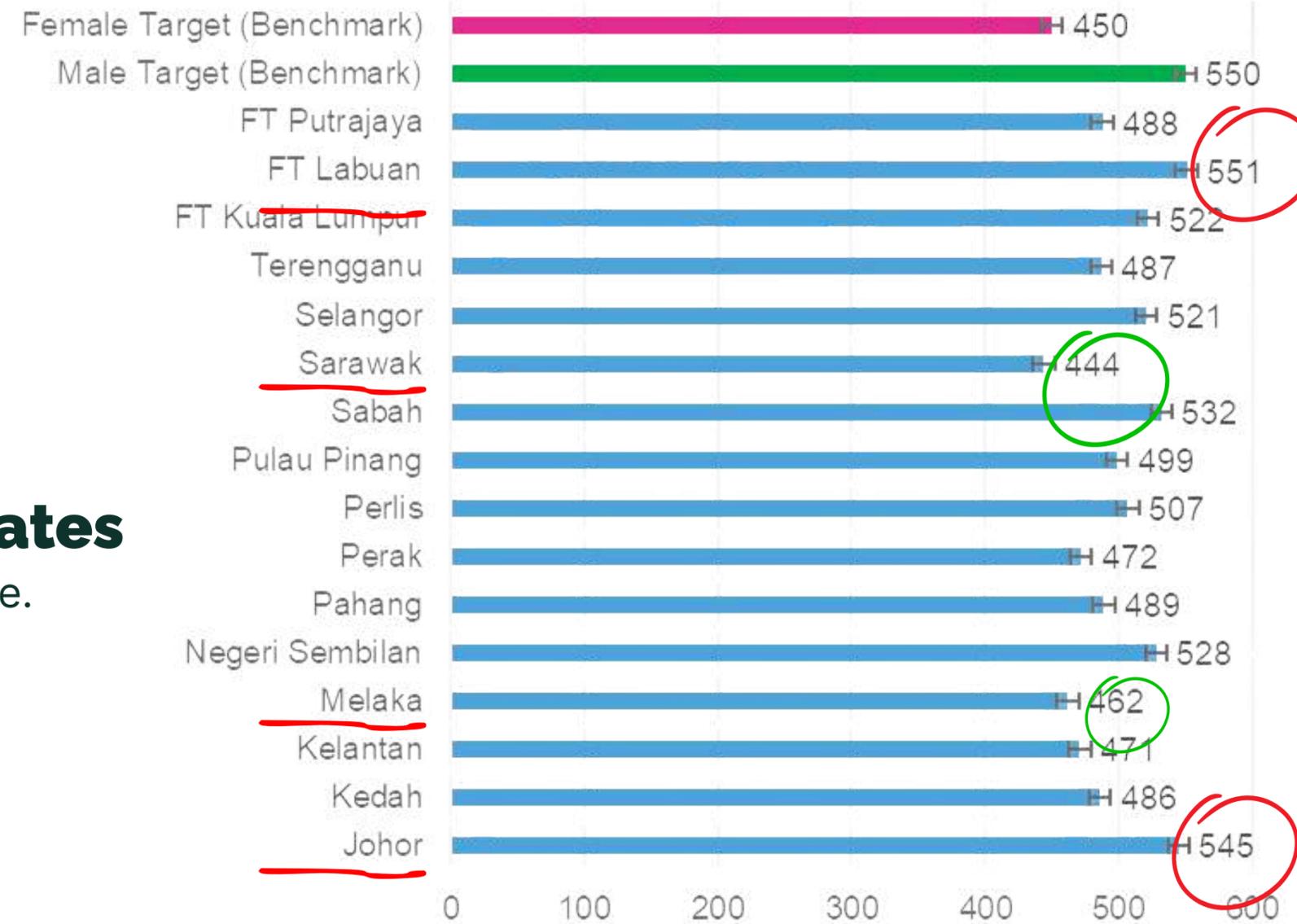
WHAT THE DATA TELLS US: MEAL, COST & CALORIES

AVERAGE COST BASED ON STATES (MYR)

🏴	14.84	🏴	8.78	🏴	14.20
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Mean Calorie Count (kcal)

State	kcal
Female Target (Benchmark)	450
Male Target (Benchmark)	550
FT Putrajaya	488
FT Labuan	551
FT Kuala Lumpur	522
Terengganu	487
Selangor	521
Sarawak	444
Sabah	532
Pulau Pinang	499
Perlis	507
Perak	472
Pahang	489
Negeri Sembilan	528
Melaka	462
Kelantan	471
Kedah	486
Johor	545

AVERAGE MEAL PRICE (MYR)	12.57

Objective 1: Cost & Calorie Intake Across States

- Meal costs and calorie counts vary significantly from state to state.
- **Findings:**
  - Highest Cost: WPKL (RM16.27), Putrajaya (RM16.24)
  - Lowest Cost: Kelantan (RM8.53), Terengganu (RM8.78)
  - Highest Calories: Johor (545 kcal), FT Labuan (551 kcal)
  - Lowest Calories: Sarawak (444 kcal), Melaka (462 kcal)
- **Implication:**
  - High price doesn't always equal high nutritional value. **Sarawak,** despite a higher cost, delivers the **lowest calories.**
  - This indicates that cost-effective meals in some states may still lack adequate nutritional content or fail to meet the "Suku-Suku Separuh" targets.

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AVERAGE COST BASED ON STATES (MYR)
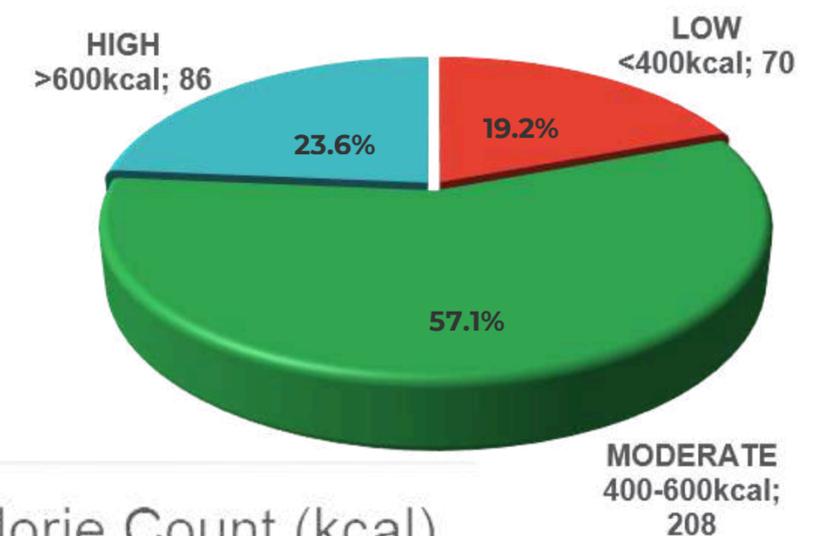
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AVERAGE MEAL PRICE (MYR) — 12.57

CALORIE COUNTS

HIGH >600kcal; 86 — 23.6%
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MODERATE 400-600kcal; 208 — 57.1%

Mean Calorie Count (kcal)

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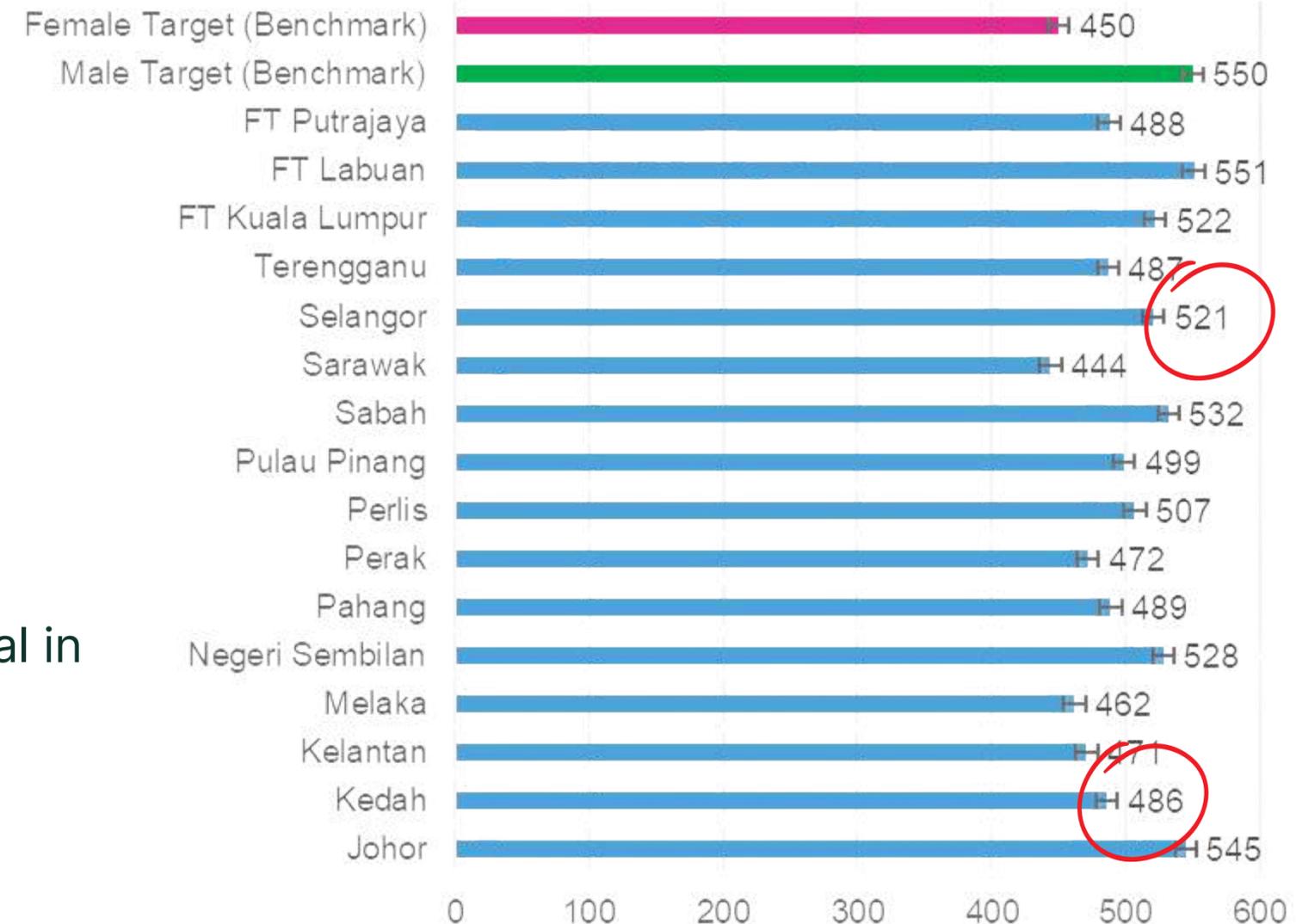
Objective 2: Affordability of "Suku-Suku Separuh" (SSS) Meals

- Nutritionally balanced meals may still be unaffordable in certain states.
- **Findings:**
  - Over **57%** of meals fall within the moderate **400–600 kcal** range (pie chart).
  - Yet, many meals priced **above RM10**
  - Example: a **521** kcal meal in **Selangor (RM14.60)** vs **486** kcal in **Kedah (RM8.90)**
- **Implication:**
  - Affordability must be considered alongside calorie targets. Nutritionally balanced does not mean financially accessible.

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KEY INSIGHTS

OBJECTIVES	LINKED KEY INSIGHT
Cost & Calorie	Meals with similar price differ in nutrition (e.g., Sarawak: low kcal, high cost)
Affordability	Moderate-calorie meals could be unaffordable for lower-income groups despite SSS compliance

AVERAGE MEAL PRICE (MYR) **12.57**

Mealtimes	Calorie (kcal)	
	Male adult (2000 kcal)	**Female adult (1500 kcal)**
Breakfast	550	450
Morning tea break	200	100
Lunch	550	450
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Dinner	500	400

RECOMMENDATIONS

POLICY-LEVEL

01 Strengthen Subsidies and Incentives for Healthy Food

02 Integrate Suku-suku Separuh into Broader Policy Frameworks

03 Engage the Food Service Industry in Policy and Practice

04 Establish a Centralised Data Platform

05 Prioritise Research and Sustainable Funding

CONCLUSION

The Suku-suku Separuh (SSS) campaign is a **well-intentioned public health initiative** that emphasizes portion control, balanced nutrition, and the prevention of non-communicable diseases (NCDs). However, **this study shows that while the model is nutritionally sound, its practical adoption faces major barriers (affordibility).**

In essence, **healthy eating in Malaysia** is not just about knowledge or willpower—it is about **creating an environment where nutritious meals are practical, affordable, and accessible** for all.

Thanks