Food Environments in Indonesia: Current Status and Future Directions

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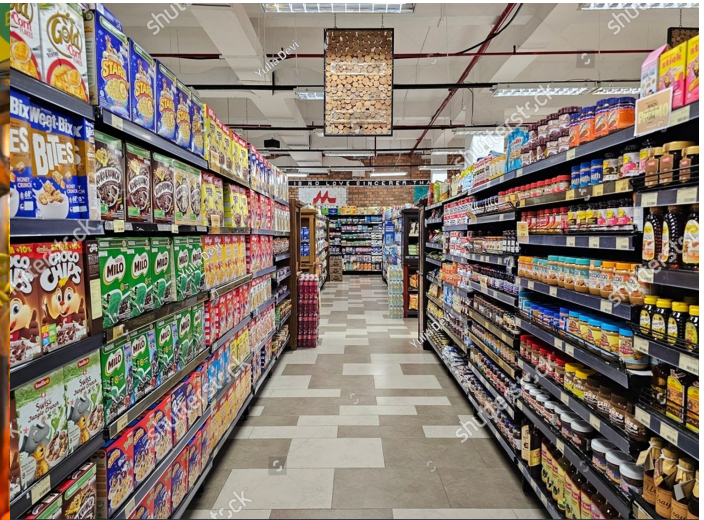
25 September 2024

SEA-PHN Webinar “Improving Food Environments in Southeast Asia Countries: Where Are We Heading?"





“I usually drink packaged sugary drinks. It is always available at home.”

(Boy, urban areas)

Agung, F. H., Sekartini, R., Sudarsono, N. C., Hendarto, A., Dhamayanti, M., Werdhani, R. A., & Sawyer, S. M. (2022). The barriers of home environments for obesity prevention in Indonesian adolescents. *BMC Public Health*, *22*(1), 2348.

"...I visit the traditional market only once in a while because I rarely cook at home. I spend almost IDR 85000 (USD 6) a day if I cook, but I spend only IDR 50000 (USD 3) if I purchase foods"

(obese women, 32 years old, urban slum Jakarta)

Sufyan, D., Februhartanty, J., Bardosono, S., Khusun, H., Ermayani, E., Rachman, P. H., & Worsley, A. (2019). Food purchasing behaviour among urban slum women in East Jakarta: A qualitative study. *Malaysian Journal of Nutrition*, *25*, S33-S46.

Today's Agenda

01 Some Definition and Framework

02 Contextualizing Indonesia

03 Eating Behavior and Food Choice in Indonesia

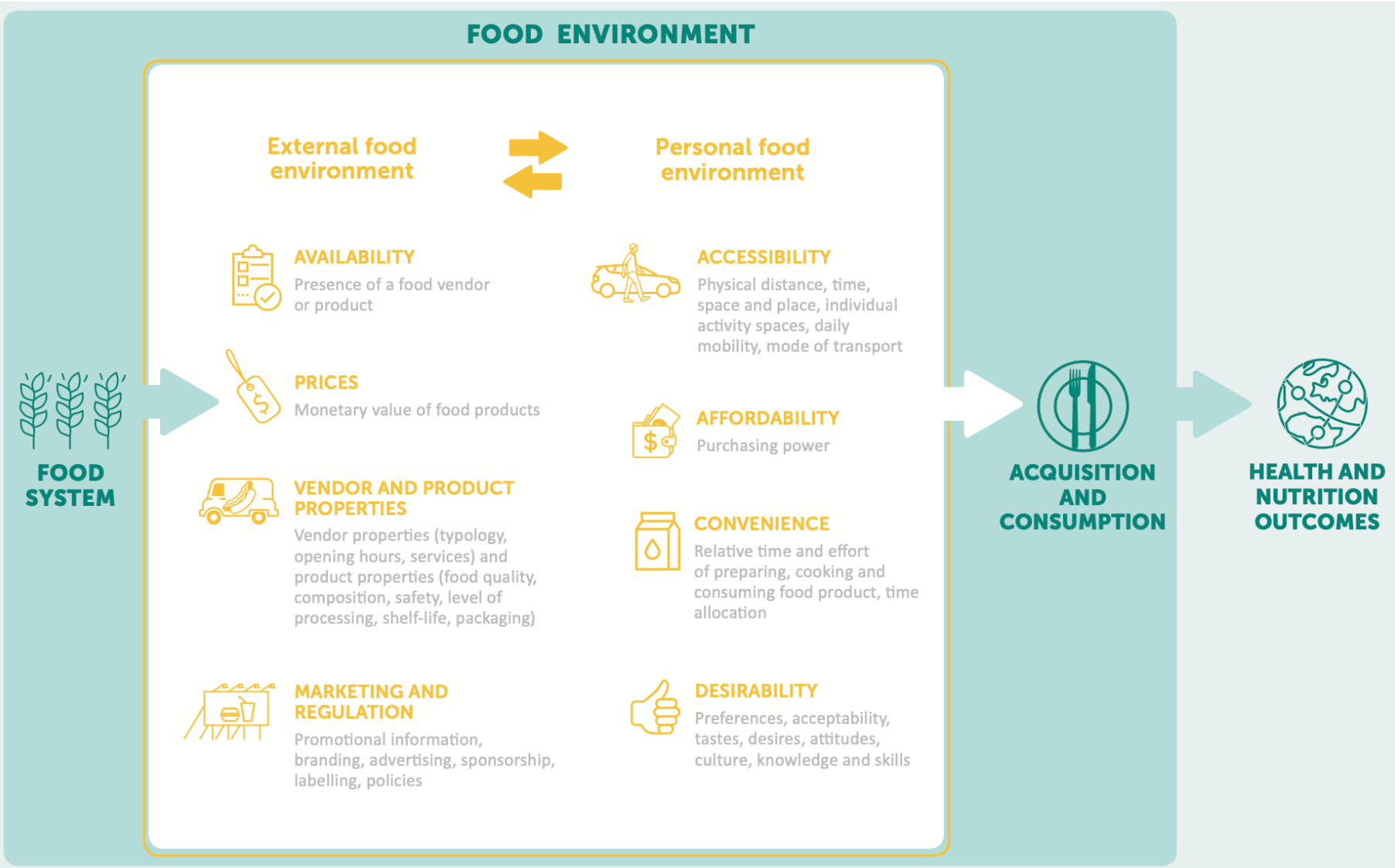
04 Food environment in Indonesia: Gaps in data availability

05 Policy and program to improve Food environment

06 Multistakeholder Involvement for Food Environment Improvement

1. Definition and Framework

Food environment is the context in which people access foods and make decision about what to eat



"The food environment is the interface that mediates one's food acquisition and consumption within the wider food system. It encompasses multiple **dimensions** such as the **availability, accessibility, affordability, desirability, convenience, marketing, and properties of food sources and products**"

The ANH-FEWG Working Definition

Turner, C., Kadiyala, S., Aggarwal, A., Coates, J., Drewnowski, A., Hawkes, C., Herforth, A., Kalamatianou, S., Walls, H. (2017). Concepts and methods for food environment research in low and middle income countries. *Agriculture, Nutrition and Health Academy Food Environments Working Group (ANH-FEWG).* Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA) programme. London, UK.

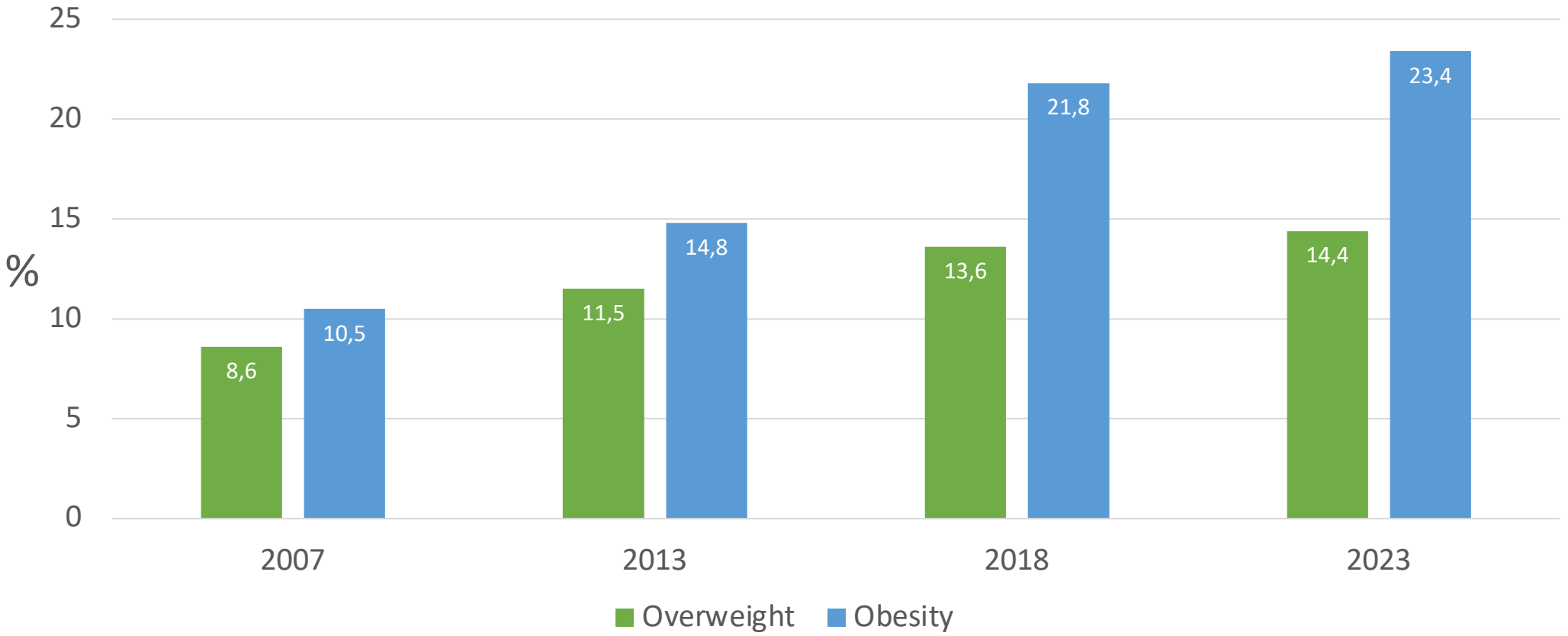
2. Contextualizing Indonesia

Indonesia Population

Urban Population: 55%,
projected to be 63% by 2030

Life Expectancy at birth increase from 69.8 in 2010 to 71.2 in 2018

Proportion of Overweight and Obesity among adult >18 yrs 2007-2023



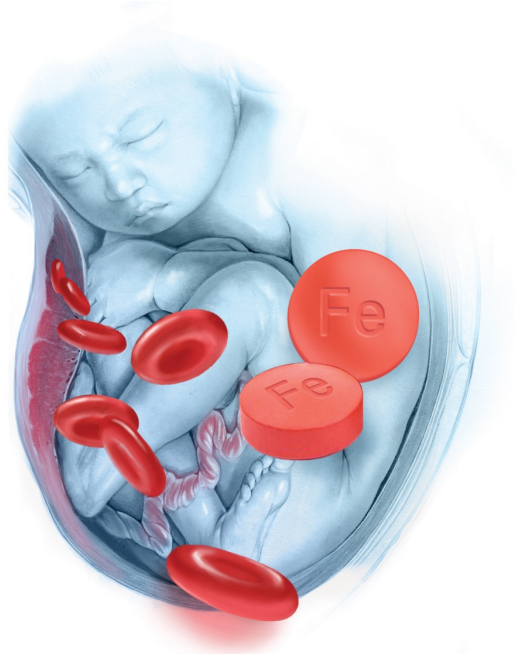
The Prevalence of Overweight/Obesity *rose doubled* in less than two decade

Note: Overweight: BMI >= 25 and < 27 kg/m^2 ; Obesity: BMI >= 27 kg/m^2
Source: Basic Health Research 2007, 2013 and 2018; Indonesia Health Survey 2023

But ……

- Undernutrition, including **micronutrient Deficiency,** was also still widespread

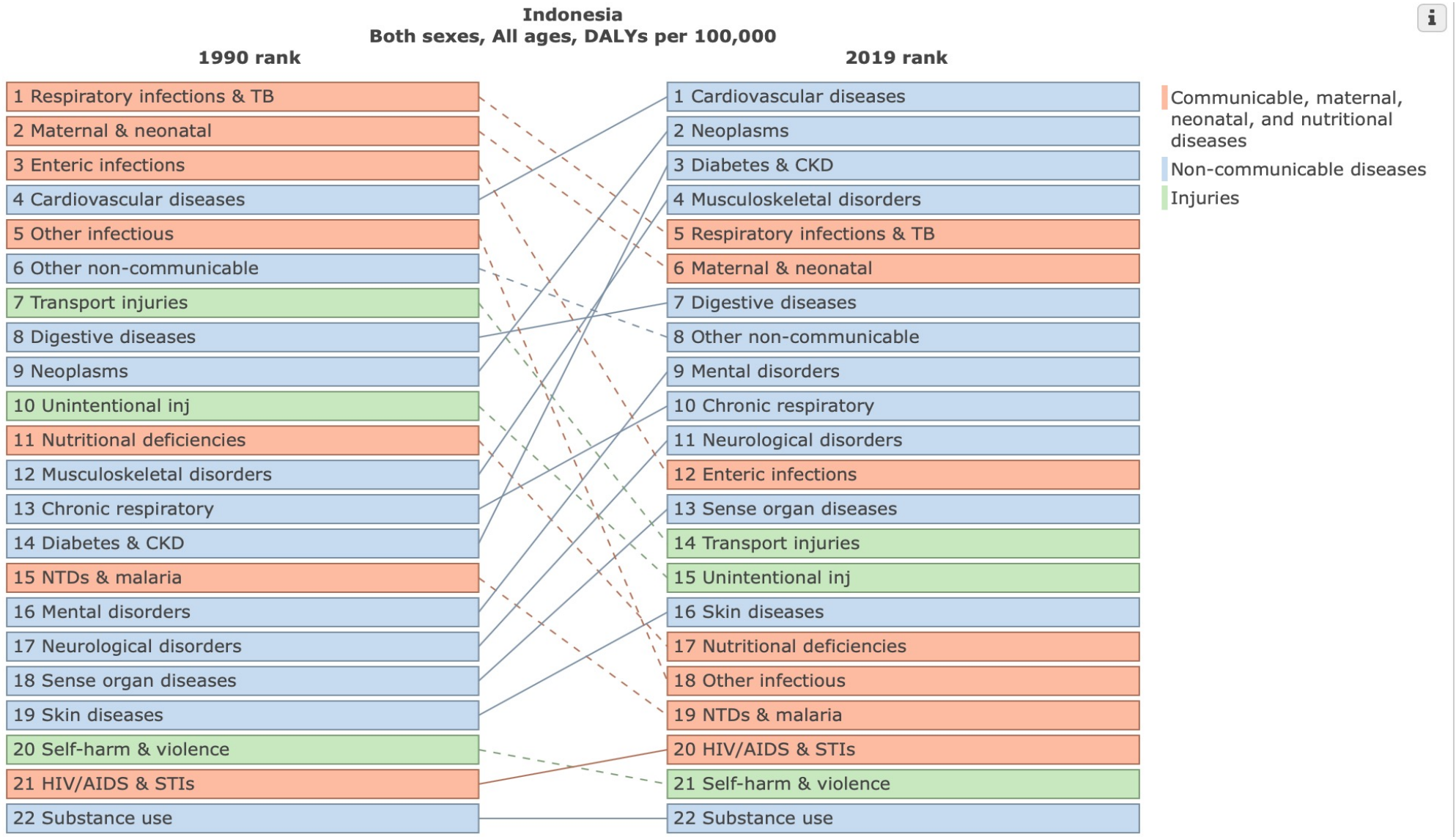
Stunting among Underfive children: 21.5%



Anemia among Pregnant women: 27.7%

Source: Indonesia Health Survey 2023

Indonesia Burden of Diseases, 1990-2019

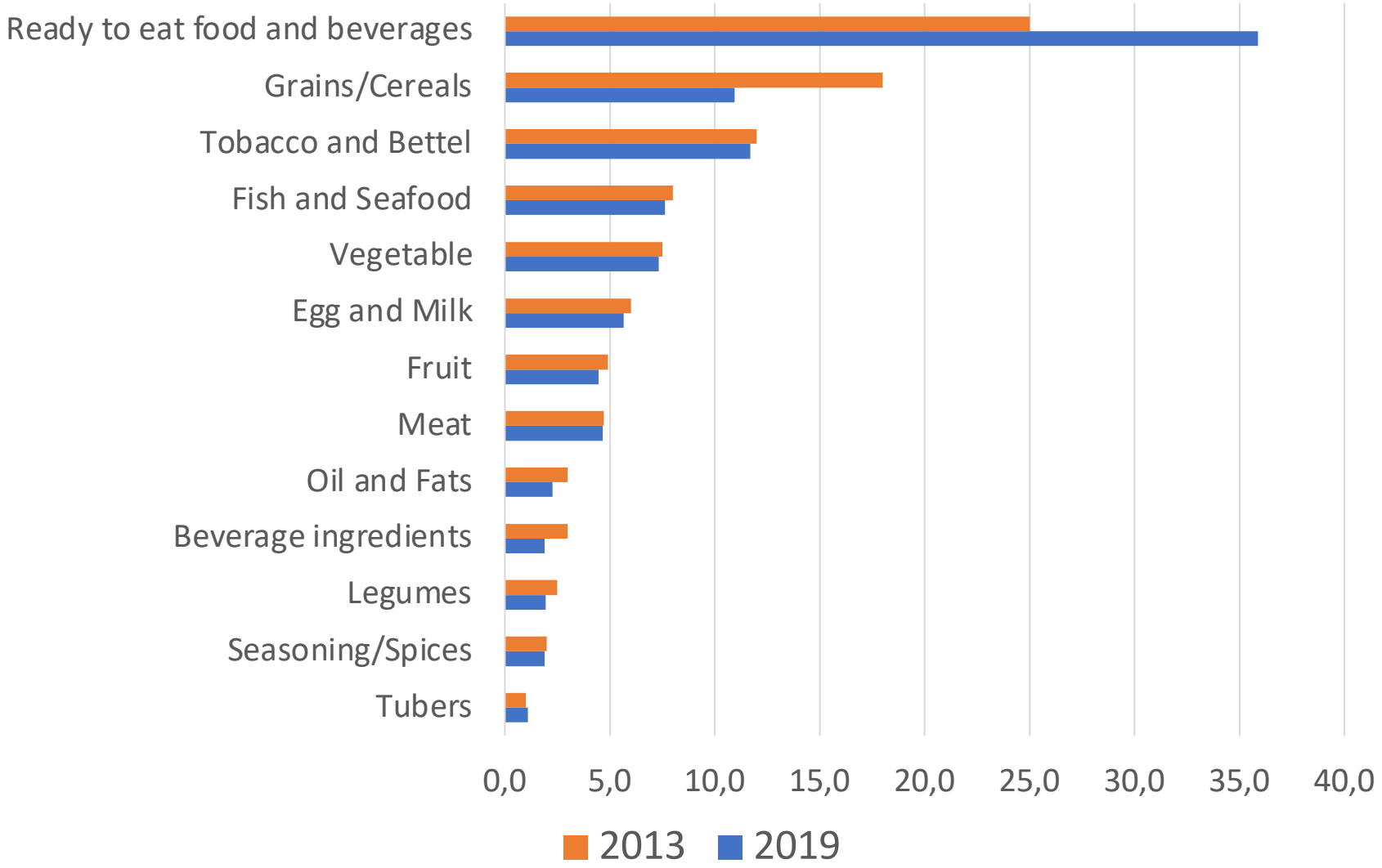


Source: https://vizhub.healthdata.org/gbd-compare/

The Diverse Indonesian Cuisine indicated the diversity of food cultivation and food availability in different areas

3. Eating Behavior and Food Choice in Indonesia

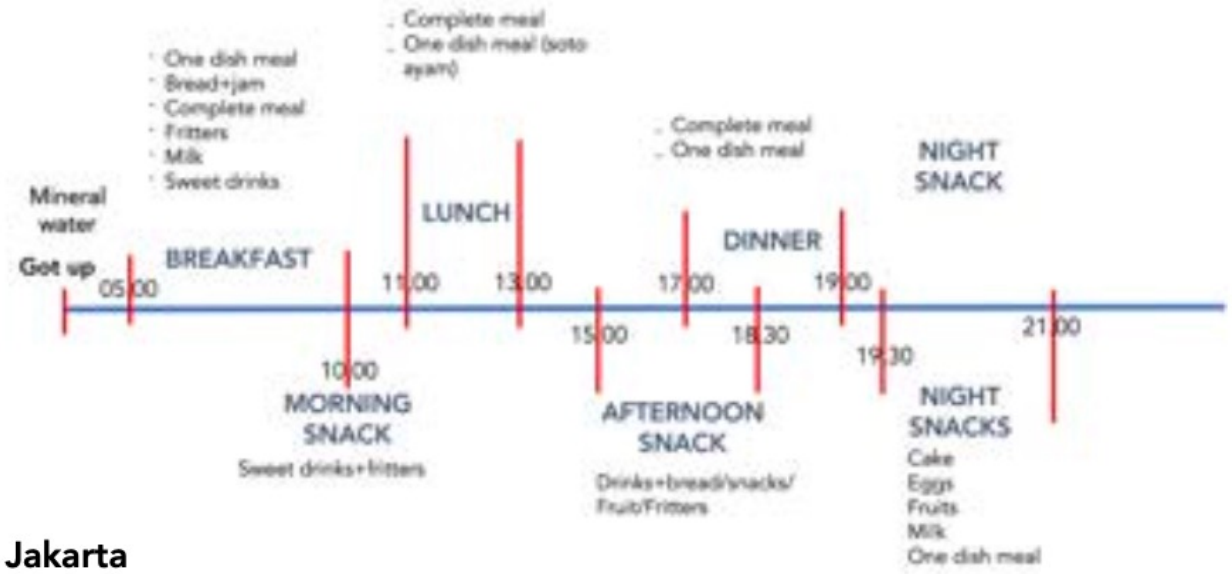
Allocation of Expenditure among Indonesian, 2013 and 2019



- Peercentage of expenditure for processed/ready to eat food **INCREASE**
- Percentage of expenditure for grains/cereal **DECREASE**

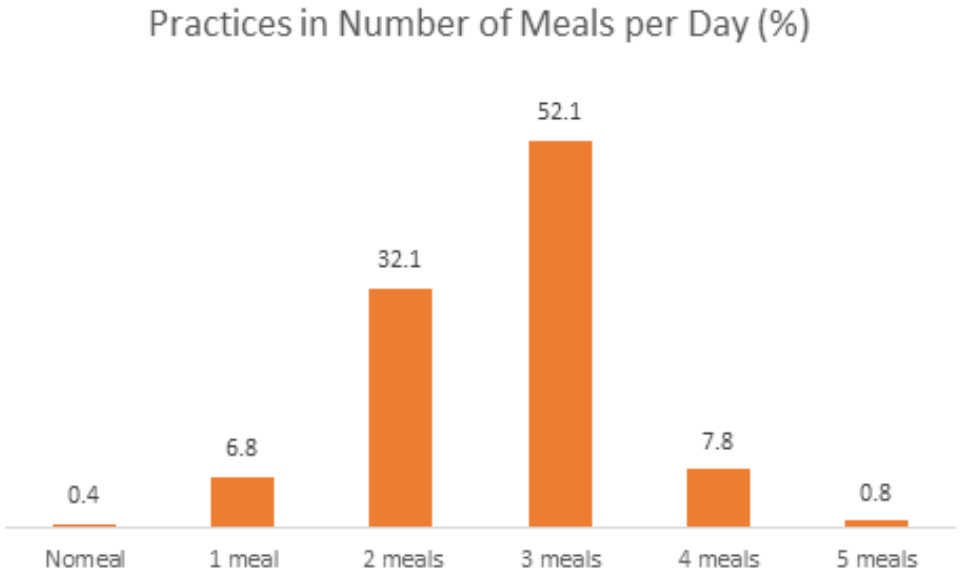
Source: Pus data dan sistem informasi pertanian Kementrian Pertanian. 2013. Bulletin konsumsi pangan Vol 4: 1; and Pengeluaran untuk konsumsi Penduduk Indonesia per Propinsi, Susenas September 2019

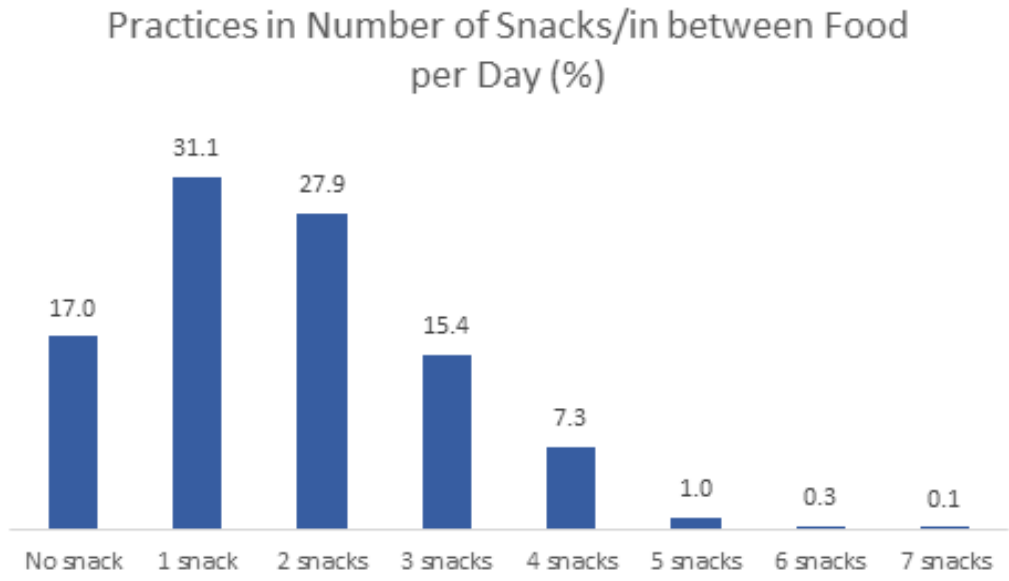
Eating Occasion, adult >= 18 yrs



Jakarta

- Majority of respondents have 2-3 meals and 1-2 snacks → totalling to around 3-5 meals per day
- Maximal eating occasion per day 10 times





Khusun, H., Februhartanty, J., Mognard, E., Anggraini, R., Hapsari, P. W., & Poulain, J. P. (2022). Indonesian Food Barometer: Food, cultures and health. Jakarta: SEAMEO RECFON

Proportion of meals eaten out (1)

Table 3.14. Distribution pattern of eating out by province, ethnicity, and religion

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
Province							
West Sumatera	92	5.5	59.15 ± 2.85	23.73 ± 2.33	1.51 ± 0.79	13.54 ± 2.40	2.08 ± 0.72
Jakarta	158	9.5	32.81 ± 2.47	36.35 ± 2.26	2.57 ± 0.85	19.60 ± 2.18	8.67 ± 1.27
West Java	683	41.0	48.10 ± 1.15	28.18 ± 0.96	4.17 ± 0.46	11.72 ± 0.80	7.83 ± 0.60
East Java	533	32.0	64.26 ± 1.39	22.66 ± 1.10	2.34 ± 0.42	9.21 ± 0.86	1.53 ± 0.29
Bali	72	4.3	51.47 ± 3.79	30.80 ± 3.16	1.40 ± 0.83	10.55 ± 2.33	5.78 ± 1.57
South Sulawesi	127	7.6	64.98 ± 2.69	17.76 ± 2.20	4.36 ± 1.22	6.70 ± 1.51	6.19 ± 1.27
p value			**<0.001****	**<0.001****	**0.012***	**<0.001***	**<0.001****

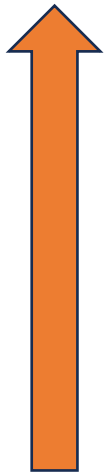
Khusun, H., Februhartanty, J., Mognard, E., Anggraini, R., Hapsari, P. W., & Poulain, J. P. (2022). Indonesian Food Barometer: Food, cultures and health. Jakarta: SEAMEO RECFON

In a typical day …

- **54%** of meals were *eaten and cooked at home*
- **26%** of meals were *eaten at home, but purchased out*
- **11%** of meals *purchased out and eaten out*

Proportion of eating out from the highest:

- Jakarta
- West Sumatera
- West Java
- Bali
- East Java
- South Sulawesi



Proportion of meals eaten out (2)

Socio-demographic variables	Indonesia		Eating in, cook	Eating in, purchased out	Eating out, cook	Eating out, purchased out	Eating in, partly1
	Count	%	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)	Mean ± SEM (%)
All	1665	100	53.9	26.3	3.2	11.3	5.4
Urbanization							
Urban	1124	67.5	46.77 ± 0.95	29.95 ± 0.80	3.38 ± 0.34	13.50 ± 0.68	6.40 ± 0.42
Rural	541	32.5	68.57 ± 1.21	18.61 ± 0.91	2.77 ± 0.43	6.83 ± 0.72	3.21 ± 0.47
p value			**<0.001****	**<0.001****	0.288	**<0.001****	**<0.001****
Wealth index							
T1 (Low)	554	33.3	61.80 ± 1.41	20.63 ± 1.04	3.28 ± 0.48	9.38 ± 0.83	4.91 ± 0.53
T2 (Medium)	559	33.5	50.67 ± 1.32	27.61 ± 1.09	3.71 ± 0.51	11.70 ± 0.93	6.31 ± 0.62
T3 (High)	553	33.2	49.12 ± 1.34	30.54 ± 1.11	2.55 ± 0.39	12.93 ± 0.95	4.86 ± 0.51
p value			**<0.001****	**<0.001****	0.208	**0.019***	0.114

Khusun, H., Februhartanty, J., Mognard, E., Anggraini, R., Hapsari, P. W., & Poulain, J. P. (2022). Indonesian Food Barometer: Food, cultures and health. Jakarta: SEAMEO RECFON

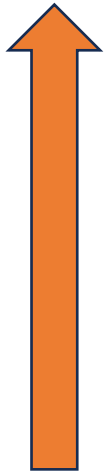
Urban versus Rural

- meals eaten at home: *47*%vs68.5%
- Meals eaten out: 13.5% vs 6.8%

Wealth index from lowest to highest:

- Reducing meals eaten at home
- Increasing meals eaten out

More on proportion of meals eaten out (3)



By Age group:

- 18-25
- 26-35
- 36-45
- 46+

By Education Level:

- College/University
- Senior high school
- Junior high school
- Primary school

By Occupation:

- White Collar
- Professional
- Blue Collar
- Housewife

Higher eating out proportion indicates more access to food environment outside of home

Buy Location for different food occasion

Food Occasion 1:
- Breakfast: 64.7%
- Morning Snack: 29.2%

Buy Location:
- Home: 66.5%
- Tavern: 11.4%
- Street Food Hawkers: 7.8%
- Convenience store: 6.6%
- Traditional market: 4.1%
- Food Court/Canteen: 1.2%

Food Occasion 2:
- Breakfast: 21.1%
- Morning Snack: 22%
- Lunch: 39.2%

Buy Location:
- Home: 63.1%
- Tavern: 13.0%
- Street Food Hawkers: 8.2%
- Convenience store: 7.2%
- Traditional market: 4.4%
- Food Court/Canteen: 1.6%

Food Occasion 3:
- Lunch: 29.1%
- Dinner: 22.6%
- Evening Snack: 16.5%

Buy Location:
- Home: 62.2%
- Tavern: 11.8%
- Street Food Hawkers: 9.0%
- Convenience store: 6.7%
- Traditional market: 5.6%
- Food Court/Canteen: 1.4%

Khusun H. Unpublished analysis of Indonesia Food Barometer Study

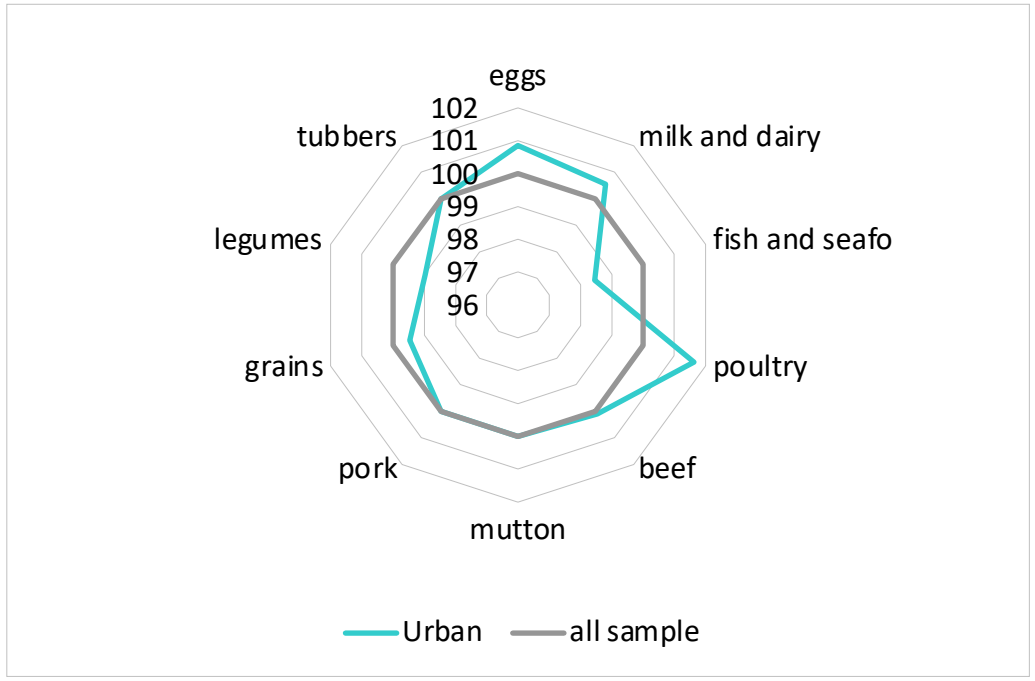
Example: Taverns

Example: Street Food Hawkers

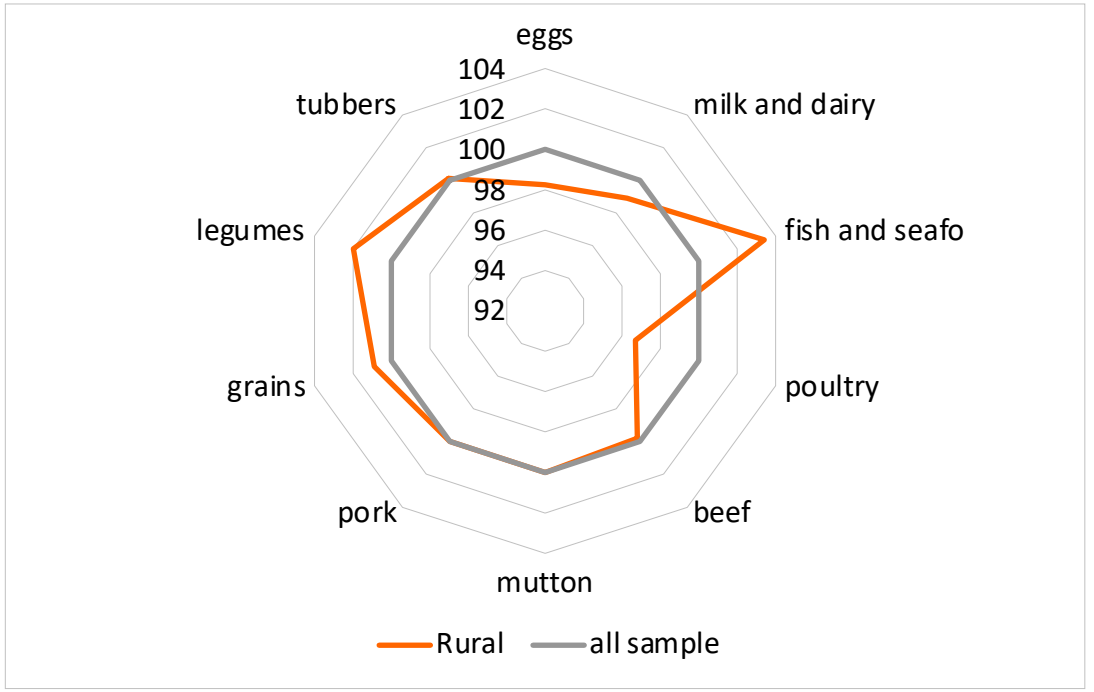
Example: Street Food Hawkers

Differences in protein sources in urban and rural areas may indicates differences in physical and economic access

Urban (n = 1124): **poultry, eggs, milk/dairy**

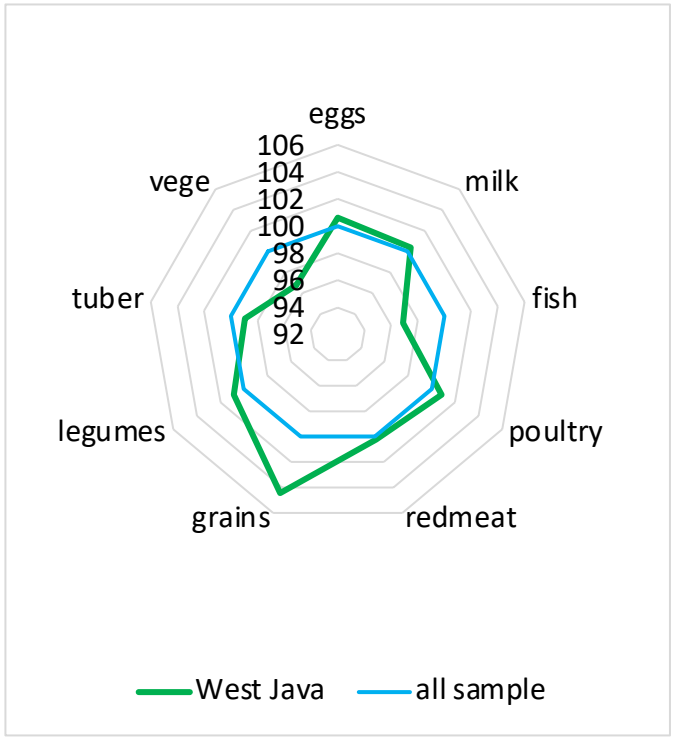


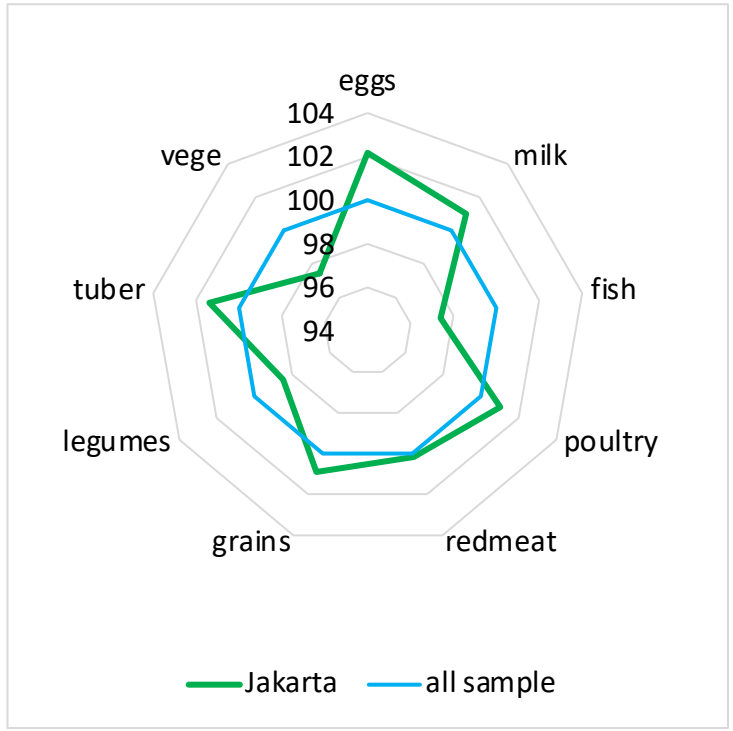
Rural (n = 541): **legumes and fish**

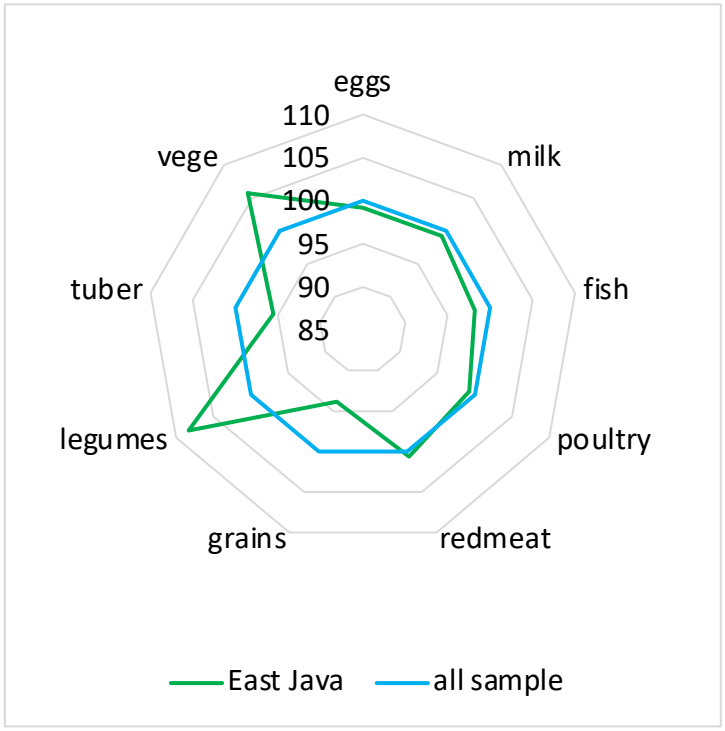


Analys of Indonesia Food Barometer. Presented durimh ACN Bali, 4-7 Aug 2019

Sources of protein in 10 categories and Province





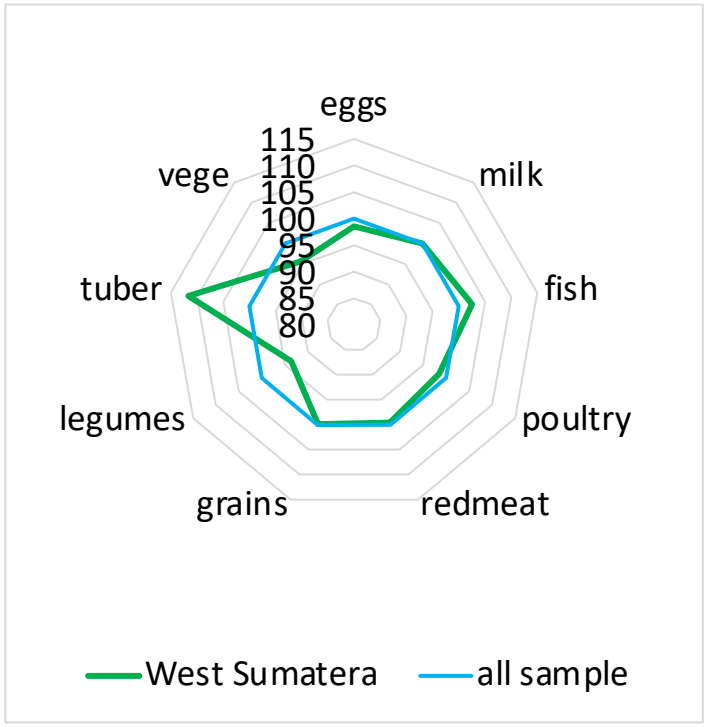


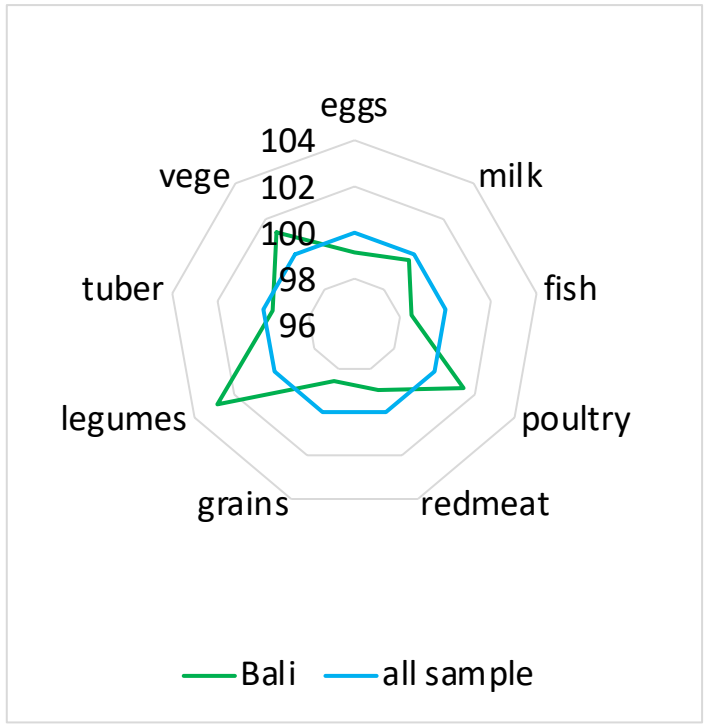
West Java (n=683): **grains**

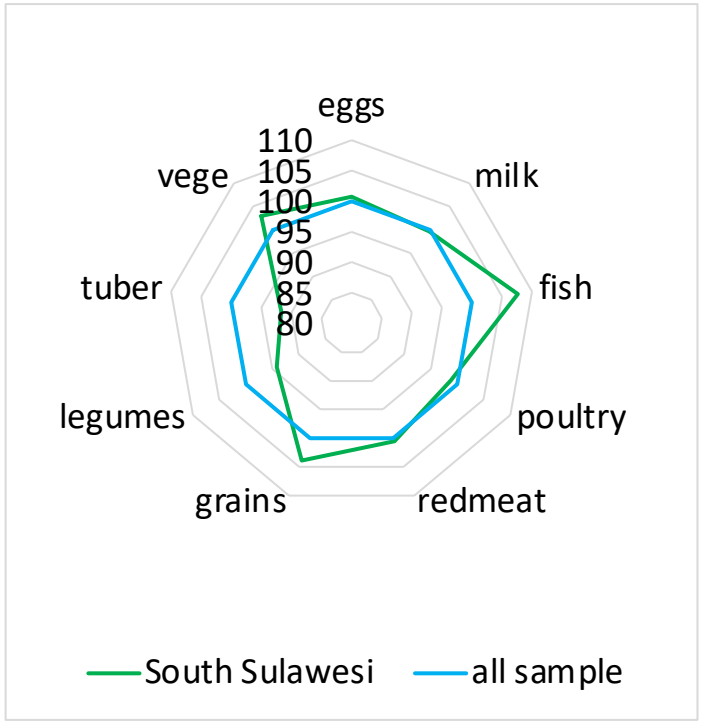
Jakarta (n=158): **eggs, milk**

East Java (n=683): **Legumes, Vegetables**

Sources of protein in 10 categories and Province







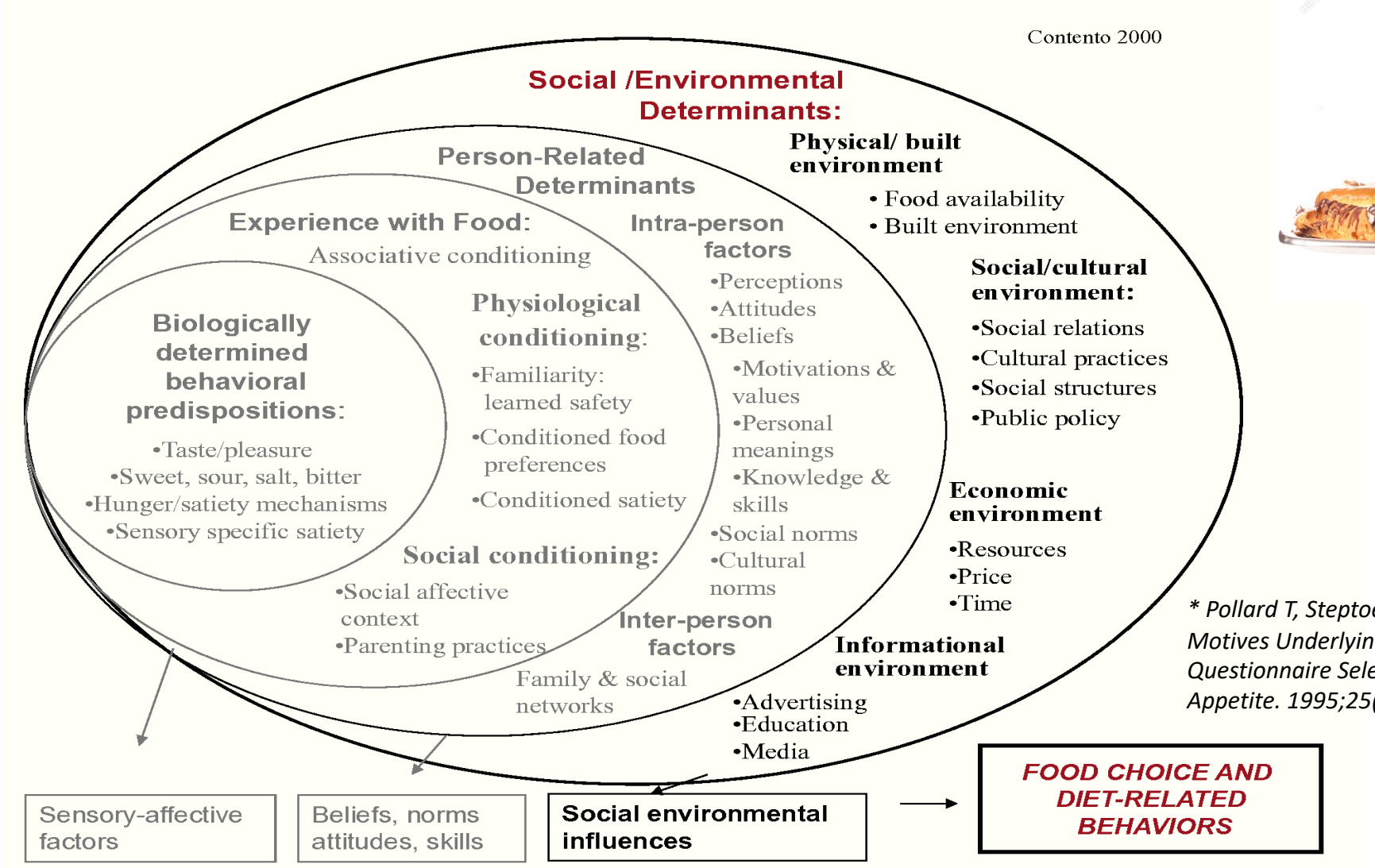
West Sumatera (n=92): **tubers, fish**

Bali(n=72): **Legumes, Poultry, Vegetables**

South Sulawesi (n=127): **grains, fish**

Analys of Indonesia Food Barometer. Presented durimh ACN Bali, 4-7 Aug 2019

Why People eat what they eat



Food Choice: Is it really up to us?

** Pollard T, Steptoe A, Pollard TM. Development of a Measure of the Motives Underlying the Selection of Food : the Food Choice Questionnaire Selection of Food : the Food Choice Questionnaire. Appetite. 1995;25(January):267–84.*

Food Choice Motives for fruit and vegetable consumption

- Convenience and Comfort
- Sensory Appeal
- Weight Control
- Familiarity
- Price

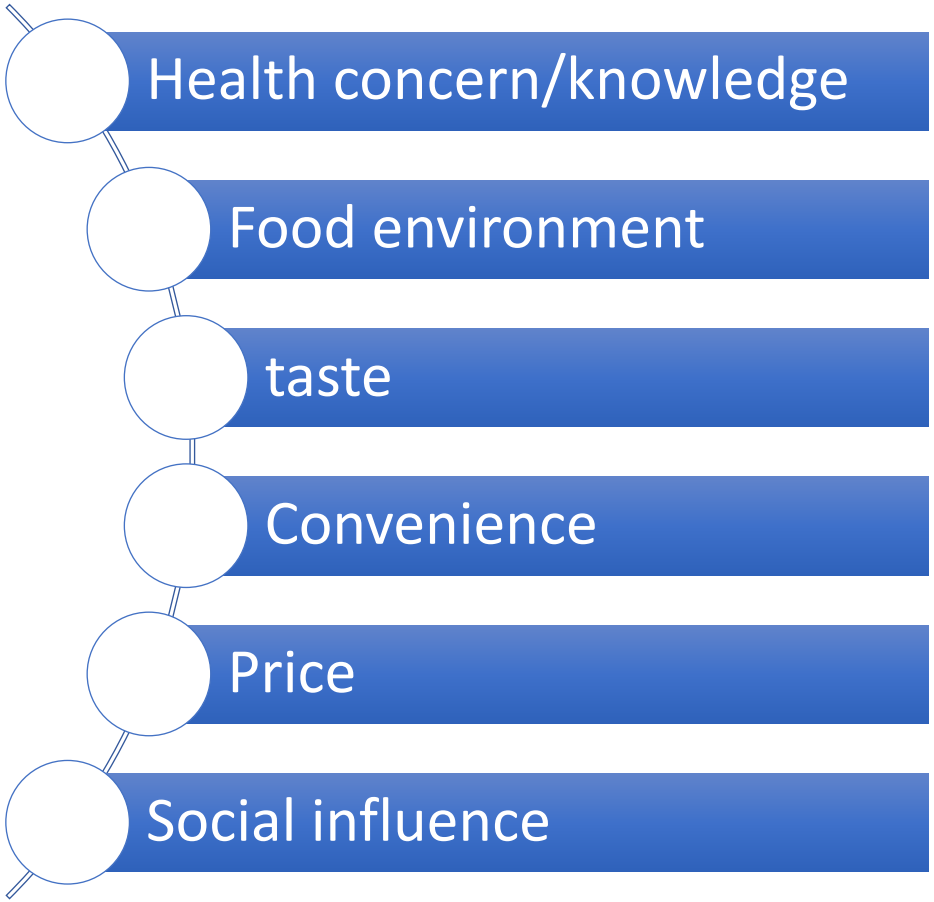
Source: Wanda Lasepa. 2018. Association between food choice motives with fruits and vegetables consumption among adult with different nutritional status in urban and rural area of west java. Thesis, FMUI

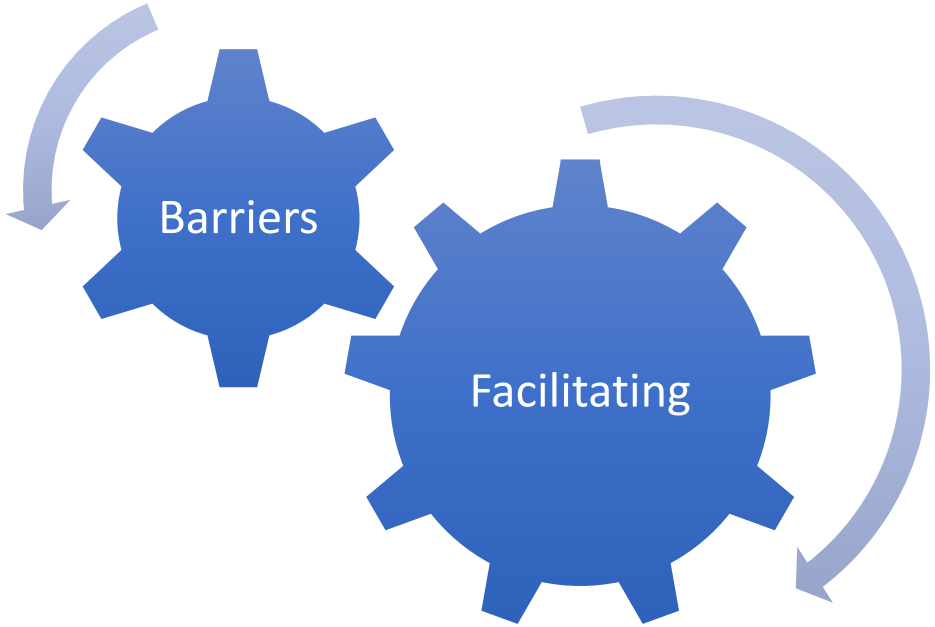
Food Choice Motives among workers during pandemi

- Convenience
- Health/Safety
- Organic
- Weight Control
- Access

Source: Rahmasari et al. 2021. Food Choice Motives among workers during Covid-19 pandemic. Unpublished manuscript

Adolescent food choice motives





Most Indonesian Adolescent, did not based purchasing decision on information from food label

Proceedings of the Nutrition Society (2022), 81, 75–86

Rimbawan, Eny Kurnia Sari, Aang Sutrisna. Adjustments to indonesia's 'healthier choice logo' food labelling scheme could promote healthier choices. May 2022. GAIN Indonesia

4. Food Environment: Gap in Data Availability

Existing National Data

National Basic Health Research/Indonesia Health Survey (RISKESDAS/SKI)

- largest and most comprehensive national health survey
- conducted every five years
- collects data on dietary intake (only 2007), nutritional status, and health outcomes across the country.

Total Diet Study (SDT/SKMI)

- This data provides valuable insights into food consumption patterns, including nutrient intake
- Initially conducted in 2014; next round: 2025

Nasional Socio-Economuc Survey (SUSENAS)

- includes data on household food consumption expenditures
- helps to track changes in food purchasing behavior, offering insights into how economic factors affect food choices

These surveys are useful for *understanding broad trends in nutritional status and food consumption* for policymaking, but are **lacking** in data to understand the **food environment**, specifically the influence of retail settings (e.g., supermarkets, street vendors) on food choices and nutrition

Anggraini, R., Februhartanty, J., Bardosono, S., Khusun, H., & Worsley, A. (2016). **Food store choice among urban slum women is associated with consumption of energy-dense food**. *Asia Pacific Journal of Public Health*, *28*(5), 458-468.

Sufyan, D., Februhartanty, J., Bardosono, S., Khusun, H., Ermayani, E., Rachman, P. H., & Worsley, A. (2019). **Food purchasing behaviour among urban slum women in East Jakarta: A qualitative study**. *Malaysian Journal of Nutrition*, *25*, S33-S46.

Study by Anggraini (2016) (QUANTITATIVE)	Study by Sufyan (2019) (QUALITATIVE)
• Freq. of visiting particular food store • Type of food group consumption	• Reasons behind food choice

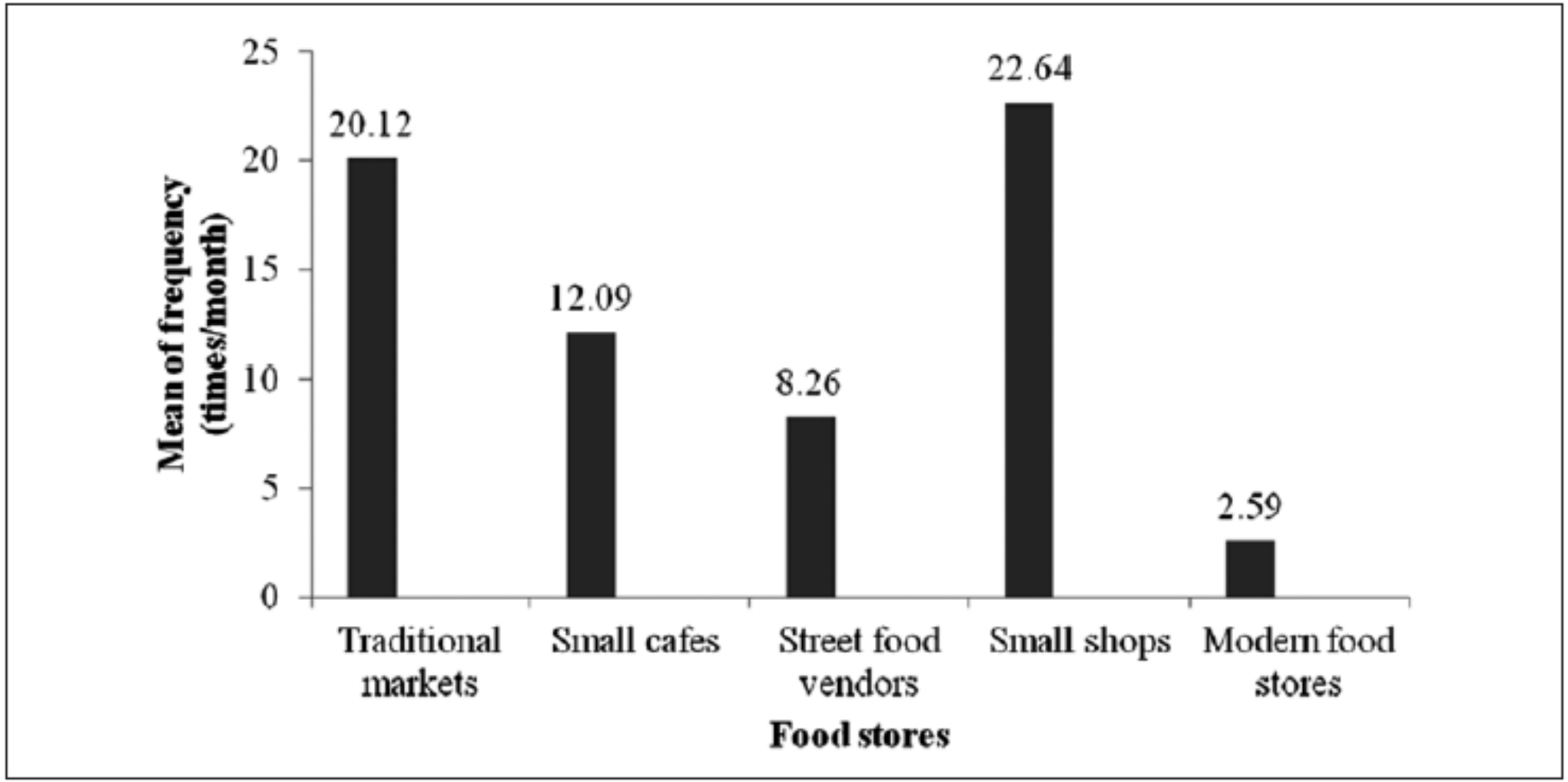


Figure 1. Frequency of buying food from each food store in a month.

Definition

Small shop

“Permanent or semi permanent stands provide manufactured and non manufactured food”

Example

Snack store

Groceries store

taverns

Association with food group consumption

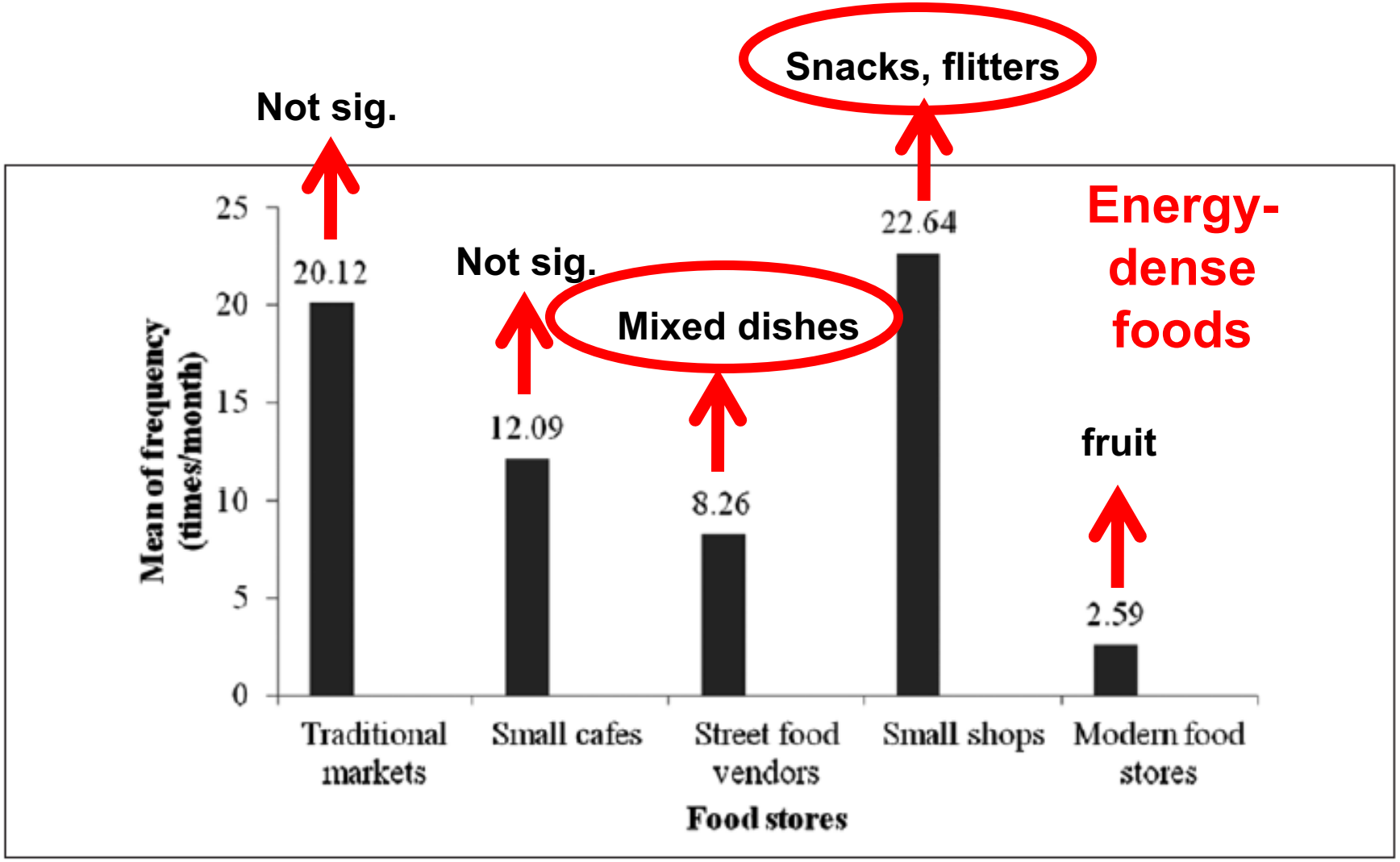


Figure 1. Frequency of buying food from each food store in a month.

SUPPLY

Residents in the study area were massively surrounded by food stores that sold unhealthy affordable foods

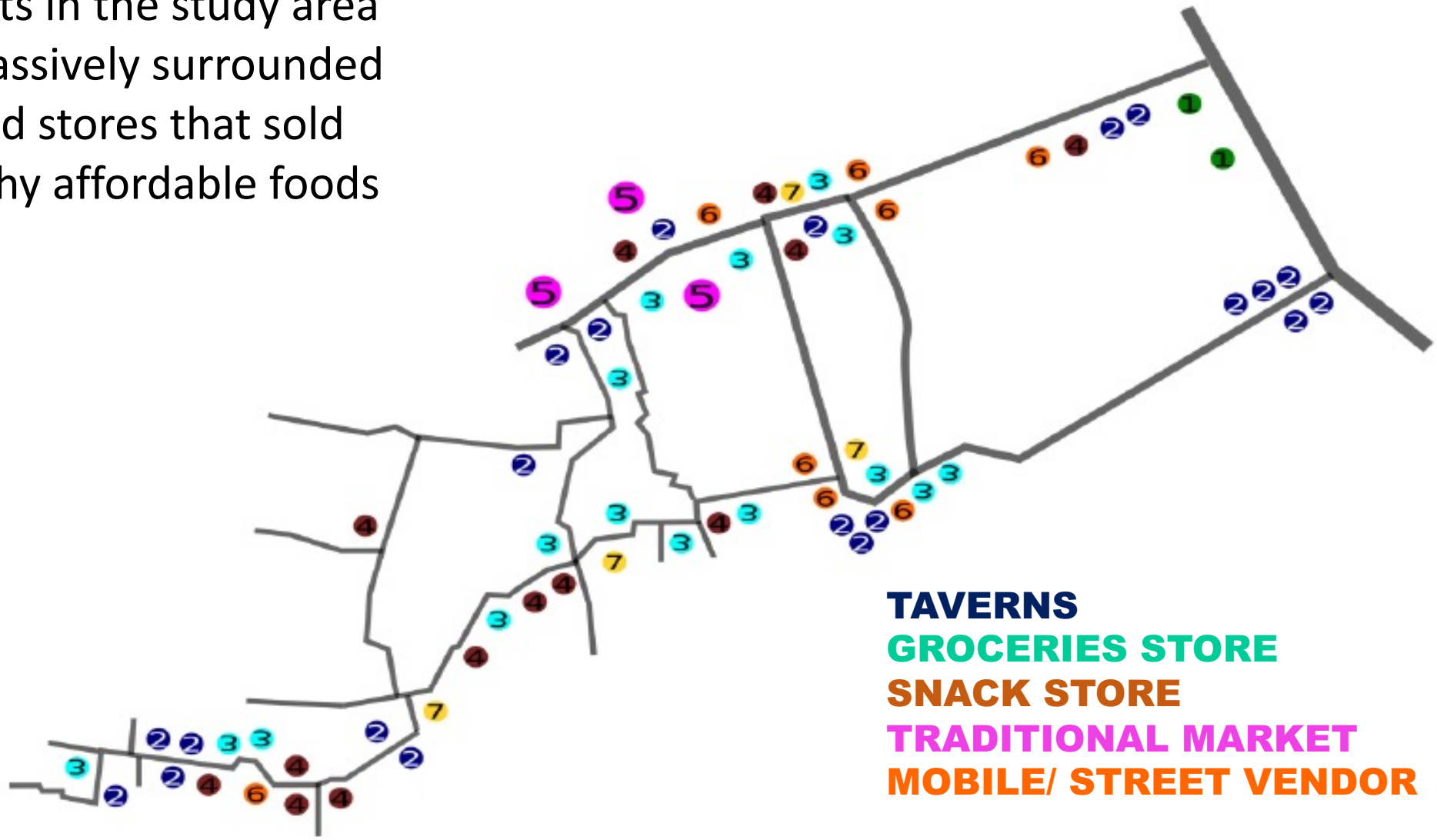


Figure 4.5 Map of food availability in Kampung Melayu

DEMAND

Only 2 out of 30 women performed “cooking at home”

Mostly preferred buying ready to eat foods

Reasons

- easier, less effort
- Get more varied foods

Increasing number of modern retail store

Convenience Store:

- 2017: 31,488
- 2021: 38.323

- Supermarket: 1,411
- Gas Station retail: 358
- Hypermarket: 285

Source: Euromonitor International; USDA. (2021). *Indonesia: Retail Foods*

Figure 1. Schematic presentation of the SEAOFE study Protocol.

Phulkerd, S., Rachmi, C. N., Sameeha, M. J., Borazon, E. Q., Thow, A. M., Trevena, H., ... & Poh, B. K. (2022). Identifying opportunities for strategic policy design to address the double burden of malnutrition through healthier retail food: Protocol for South East Asia Obesogenic Food Environment (SEAOFE) study. *International Journal of Environmental Research and Public Health*, *19*(1), 528.

Using a global food environment framework to understand relationships with food choice in diverse low- and middle-income countries

Shilpa V. Constantinides [a,1,*], Christopher Turner [b,1], Edward A. Frongillo [a], Shiva Bhandari [a], Ligia I. Reyes [a], Christine E. Blake [a]

[a] *Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina, Columbia, SC, USA*
[b] *Food and Markets Department, Natural Resources Institute, University of Greenwich, London, UK*

Domain of Food Environments affecting Food Choice:

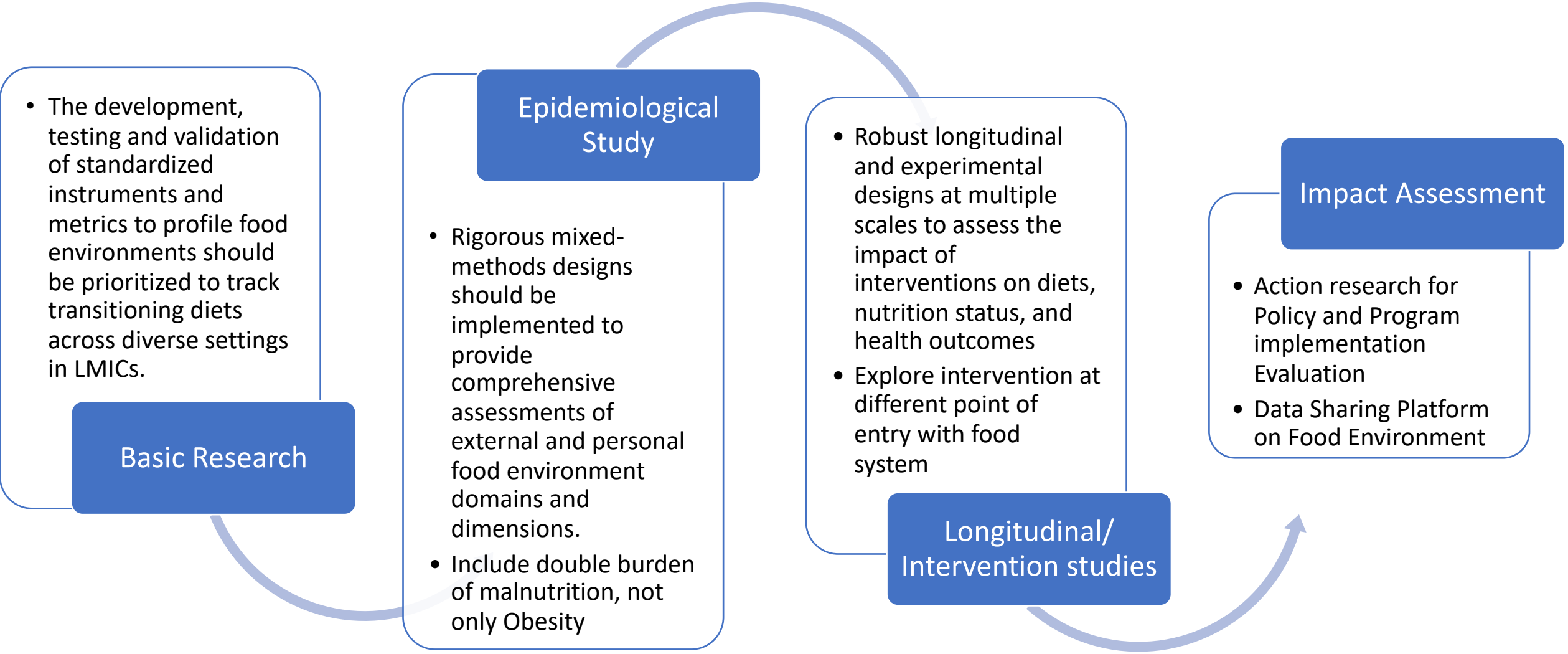
- Price and Affordability
- Availability
- Vendor and Product Properties
- Accessibility
- Desirability
- Marketing and Regulation

Table 2
Emergent constructs representing characteristics of the food environment inadequately addressed in existing subdomains of the framework.

Characteristic	Description
Perspectives on food safety (n = 7)	• Concerns about agrochemicals, adulteration, poor food hygiene or environmental sanitation, sickly livestock due to climate change impact on resources, and spreading of rumours increased perceptions of lack of safety. • Trust in vendors from existing relationships and visible cleanliness decreased concerns about safety. • Perspectives about safety strongly influenced food choice. In some cases, safe foods were conflated with healthy foods.
Social forces (n = 7)	• Spousal, children's, peers', and parental preferences and habits; morbidities (individuals' and families' knowledge and perceptions about infectious and non-communicable diseases); cultural sharing via migration; and creative agency influenced decision-making about food purchasing, preparation, and consumption. • Vendor properties such as reputations for safety, friendliness, and existing relationships increased consumers' choices to purchase food from them.
Gender dynamics (n = 6)	• Women's time use and livelihoods outside of the home may impact time available for food acquisition and consumption, altering food choices for the whole family. • Women's empowerment or freedom to make choices around acquisition, production, and consumption may affect dietary diversity. • Women were seen to have better knowledge and bargaining power than men with respect to food purchasing for the family • Women's preferences regarding food purchasing and spending could be countered by male heads of household.
Stability (n = 6)	• Seasonal fluctuations in production and price of foods limited reliable availability and affordability of fruits and vegetables • Variations in climate, seed quality and availability, and pests can harm crop production. • Income variability affected choices about food purchasing due to unreliable affordability of foods.
Wider food system drivers (n = 4)	• Land use and tenure systems, climate change impact on crops and resources available for livestock, and agrobiodiversity all influence the food environment.

Note: n = the number of DFC principal investigators reporting a characteristic of the food environment that can classified into the five emergent constructs.

Gap in Food Environment Research

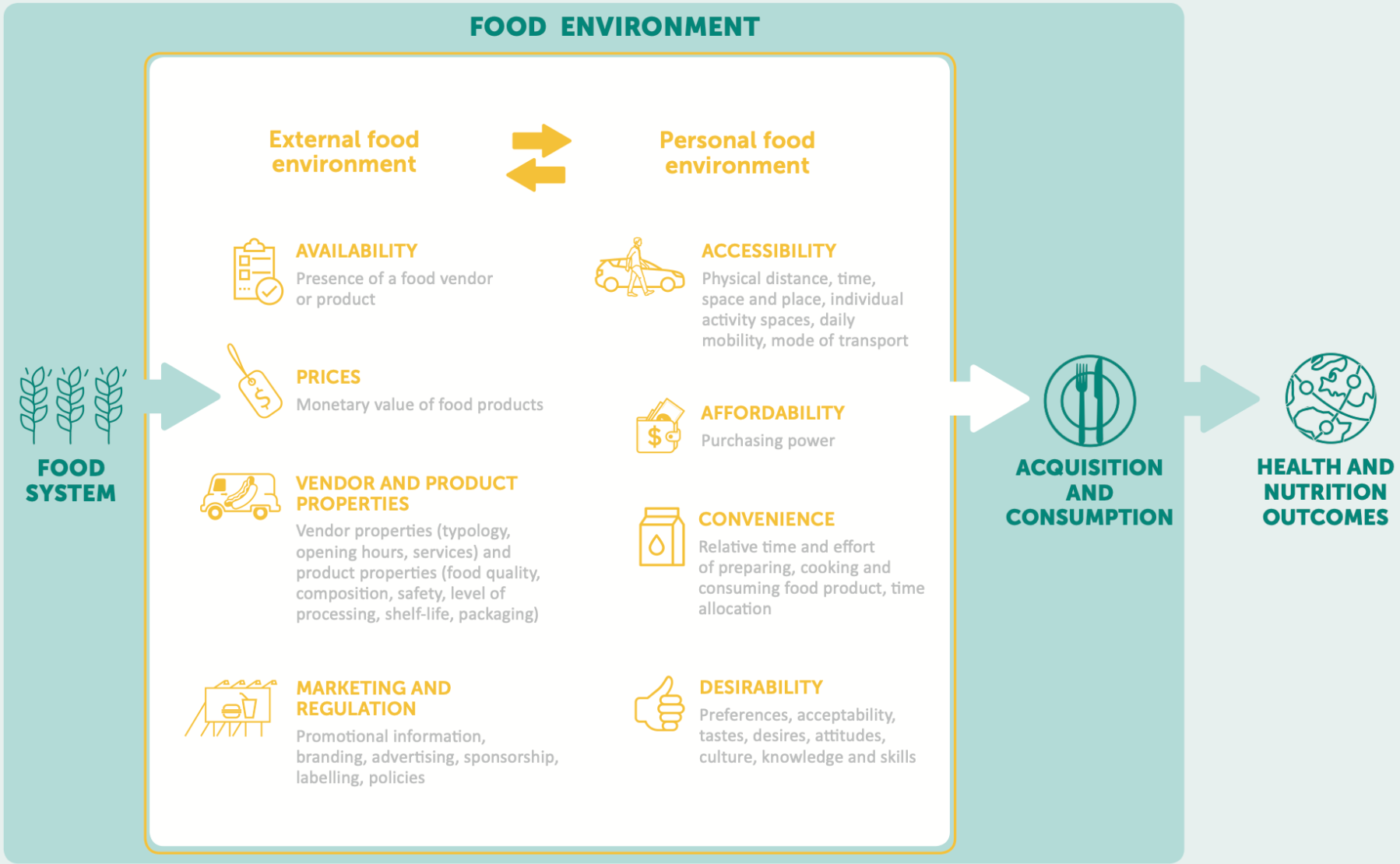


[1]Carducci, B., Oh, C., Roth, D. E., Neufeld, L. M., Frongillo, E. A., L'Abbe, M. R., ... & Bhutta, Z. A. (2021). Gaps and priorities in assessment of food environments for children and adolescents in low-and middle-income countries. *Nature Food*, *2*(6), 396-403

[2]Turner, C., Kalamatianou, S., Drewnowski, A., Kulkarni, B., Kinra, S., & Kadiyala, S. (2020). Food environment research in low-and middle-income countries: a systematic scoping review. *Advances in Nutrition*, *11*(2), 387-397.

5. Policy and program to improve Food environment

Policies and Programs have to address all domains of Food Environment



Modification of food environment aims to:

- Increase the availability of healthier options
- Reduce economic access to unhealthy foods by tax
- Regulate aggressive food marketing
- Regulate nutrition labelling
- Create consumers awareness

Unhealthy Food Tax is an alternative Policy

Table 4. Estimated percent changes in SSB categories' demand when prices are increased by 20%.

Beverages	Income levels				Regions		Age of head of household		Years of schooling of head of household	
	All	25%	50%	75%	Urban	Rural	< = 50	>50	≤12	>12
Manufactured liquid milk	-14.32	-15.78	-15.40	-15.04	-12.72	-15.24	-13.86	-15.04	-14.42	-4.36
Sweetened condensed milk	-17.88	-18.10	-18.04	-17.96	-17.82	-17.92	-17.84	-17.94	-17.86	-17.72
Instant coffee	-18.30	-18.50	-18.46	-18.38	-18.30	-18.36	-18.30	-18.36	-18.34	-18.12
Tea drinks, fizzy drinks with CO_2	-18.30	-18.42	-18.40	-18.36	-18.20	-18.40	-18.32	-18.32	-18.28	-18.06
Fruit juice, "health" drinks, energy drinks	-18.64	-18.72	-18.72	-18.70	-18.56	-18.74	-18.64	-18.66	-18.64	-18.58
Average changes in demand	-17.50	-17.90	-17.80	-17.69	-17.12	-17.73	-17.39	-17.66	-17.51	-15.37

Source: Authors' calculation

Increasing SSB prices by 20% would *reduce the demand for SSBs on average by 17.5%* (14.3%- 18.6% for each SSB group) and generate additional state revenue up to IDR 3,628.3 billion per year (approximately US$ 238.5 million or 0.2% of total tax revenue in 2022

Widarjono, A., Afin, R., Kusnadi, G., Firdaus, M. Z., & Herlinda, O. (2023). Taxing sugar sweetened beverages in Indonesia: Projections of demand change and fiscal revenue. *Plos one*, *18*(12), e0293913.

Exposure and approval of food marketing strategies in Jakarta

- Approximately one-third of respondents reported having exposure to active marketing 1-2 times in the past month
- Most of the respondents disapproved the marketing of fast foods and sugar-sweetened foods.
- Respondents who were **exposed to active marketing at least once in the previous month** were 2 times more likely (AOR; 95% CI: 1.07-3.7) to **approve the marketing of unhealthy foods**.
- Exposure to food marketing promotion appeared to influence approval of marketing strategies among household food providers in Jakarta.

Avianty et al. 2019. Exposure and approval of food marketing strategies: a mixed methods study among household food providers in Jakarta. Mal J Nutr 25 (Supplement): 47-62, 2019

US$ 994 Billion

- Market Share of 10 Trans-Nasional F&B Company
- Contribute to 1/3 of all advertisement expenditure
- Contribute to 50% Not permitted Foods Ads

Country	Not-permitted Food Ads Ads/h/Channel (SD) Peak Viewing Times
Canada	13.4 (5.6)
Australia	4.9 (2.7)
Spain	4.5 (3.0)
New Zealand	4.0 (2.9)
Colombia	4.0 (3.6)
Slovenia	3.6 (4.1)
Malaysia	3.5 (3.4)
South Africa	3.1 (2.4)
Costa Rica	3.0 (2.3)
Guatemala	2.5 (2.5)
Chile	2.4 (2.4)
Malta	1.7 (2.6)
Overall	3.1 (3.4)

(Kelly, 2019)

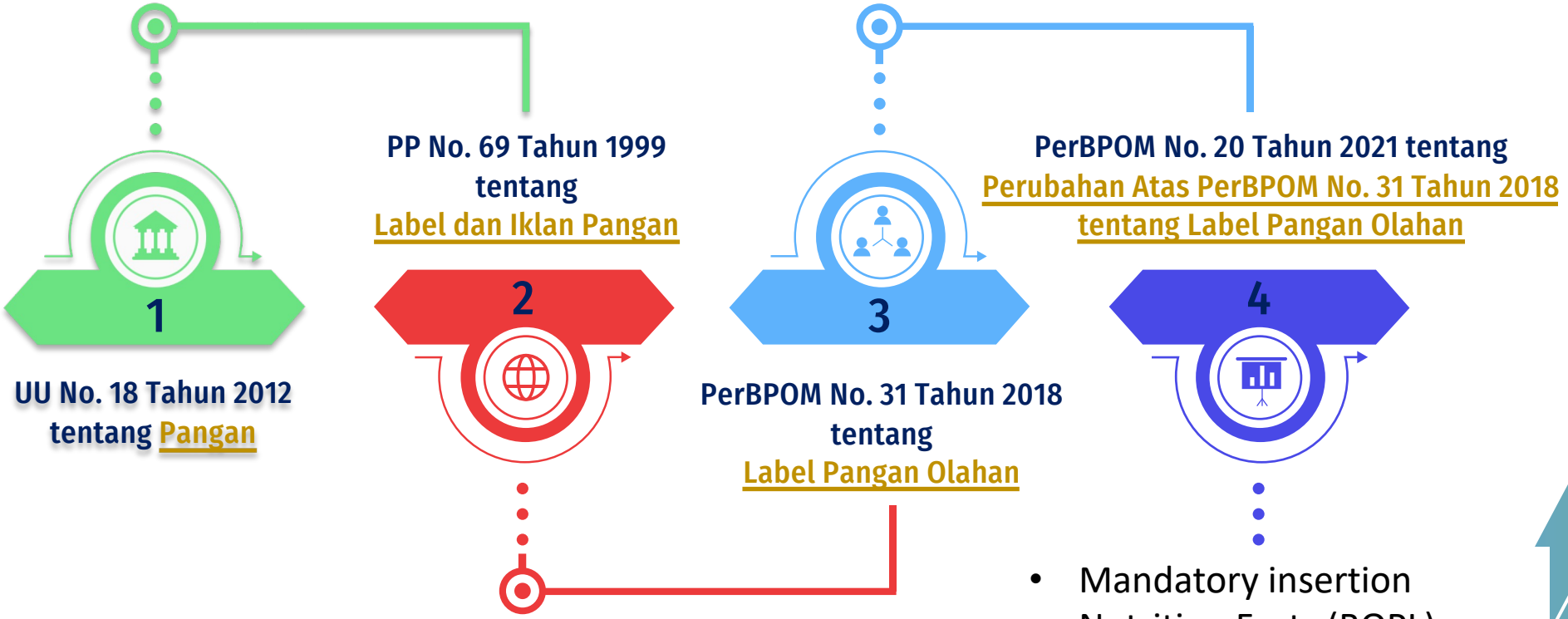
Review > Appetite. 2022 Jan 1;168:105765. doi: 10.1016/j.appet.2021.105765.
Epub 2021 Oct 20.

Social media's influence on adolescents' food choices: A mixed studies systematic literature review

Adam J Kucharczuk [1], Tracy L Oliver [2], Elizabeth B Dowdell [2]

- food and beverage companies use social media for marketing their products by targeting the adolescent population.
- adolescents were more likely to recall unhealthy food
- Celebrity influence was a common component of the advertisements
- The use of celebrities and influencers and the promotion of "unhealthy" products appear to be commonly used tactics.

Food Labelling Regulations



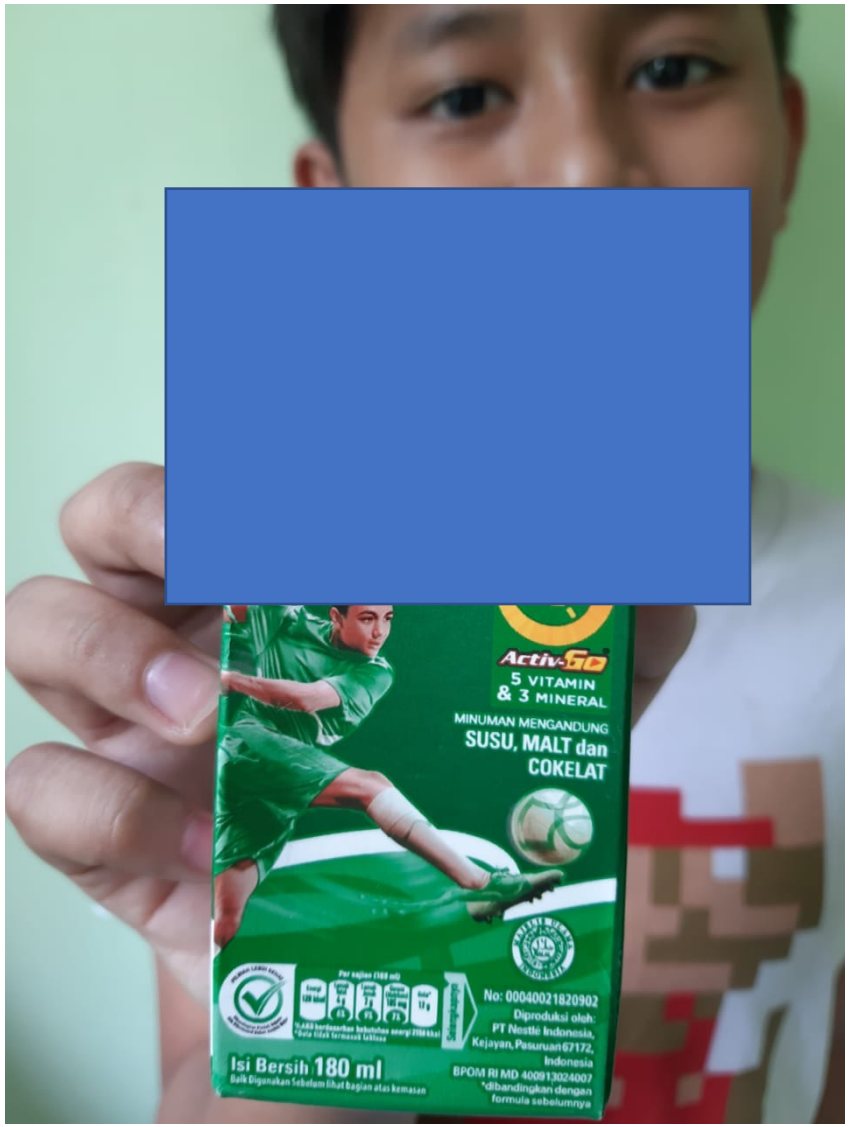
- Mandatory insertion Nutrition Facts (BOPL)
- Voluntary insertion of Healthier Choice in FOPL

Healthier Choice Logo/Symbol di Indonesia

Peraturan Badan POM No 26 Tahun 2021

- Pangan Olahan yang mencantumkan tabel ING **dapat** **mencantumkan logo dengan tulisan "pilihan lebih sehat"** pada bagian Label yang paling mudah dilihat dan dibaca
- Pangan Olahan yang akan mencantumkan logo "pilihan lebih sehat" harus **memenuhi kriteria profil gizi (*nutrient profile*)** yang ditetapkan untuk setiap jenis Pangan Olahan.
- Meliputi 20 jenis kategori pangan

Seberapa sehat?



Store Initiative to provide guidelines for sugar level in food

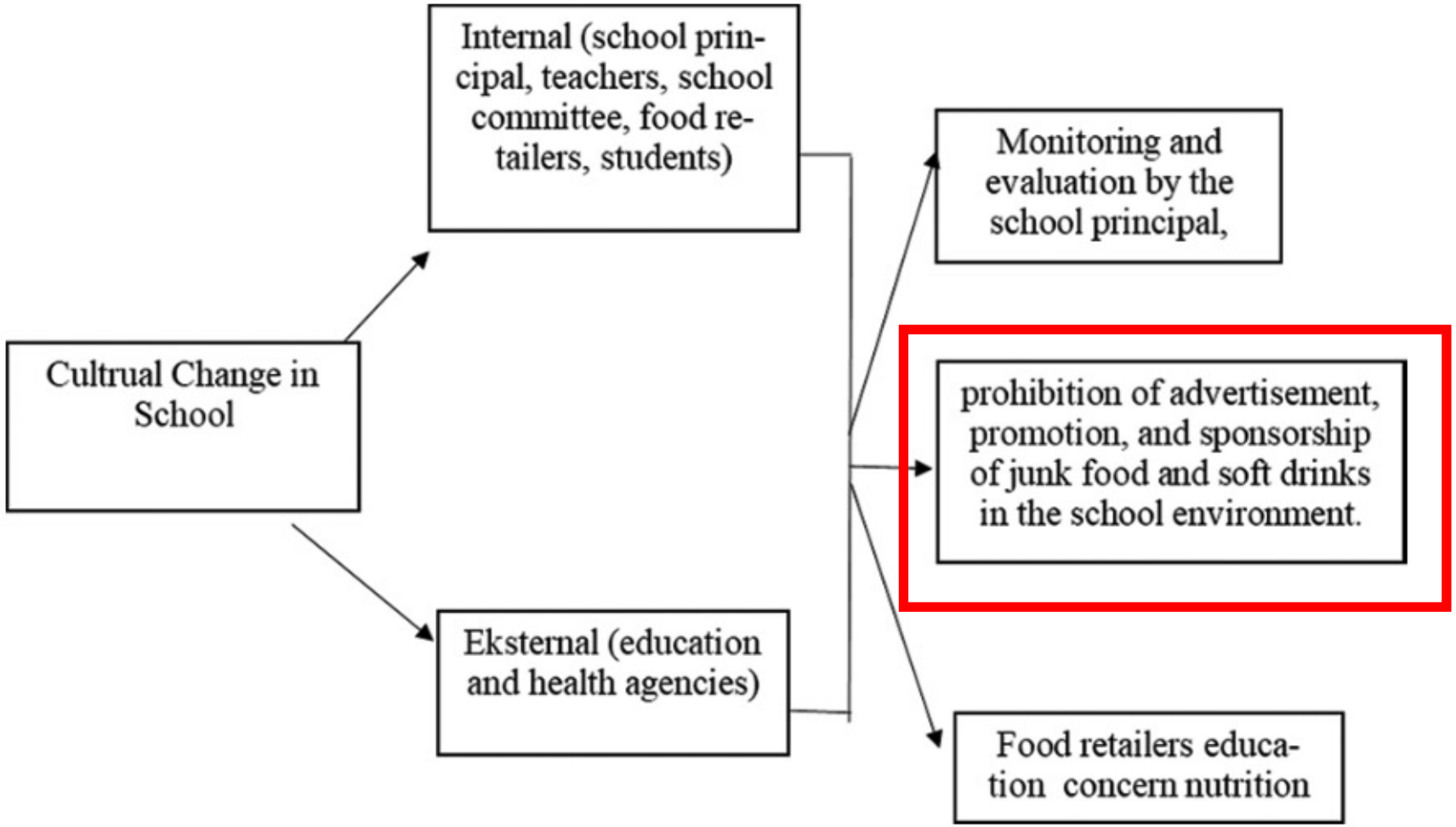


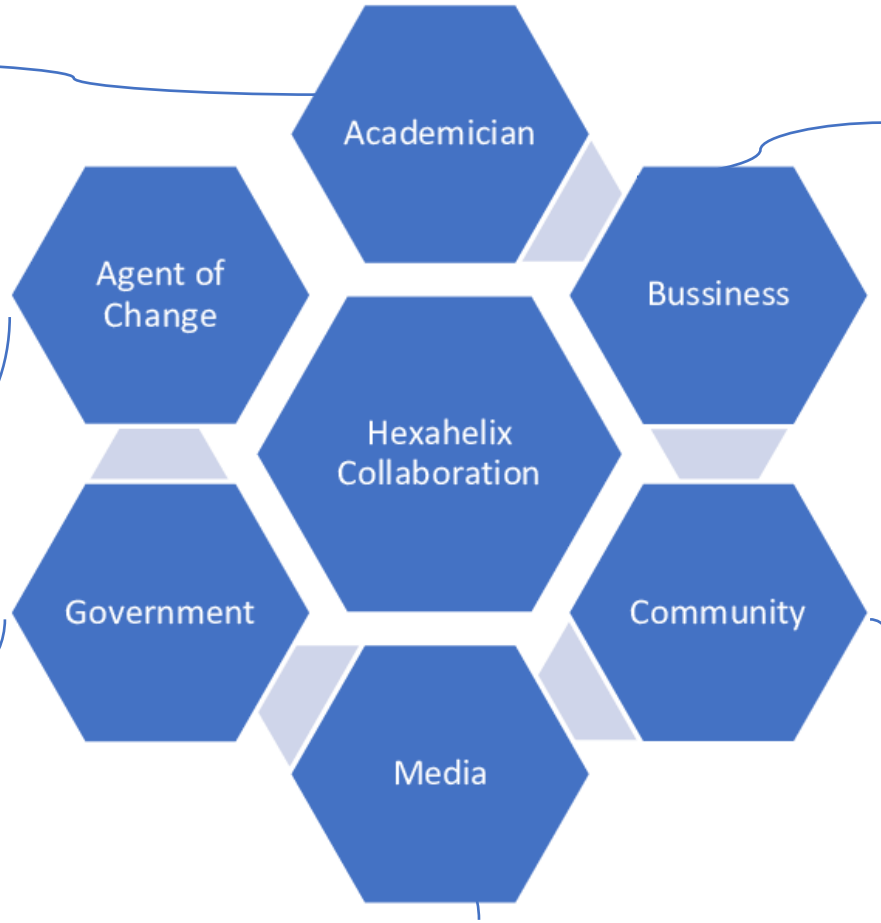
Figure 1: Propose concept and solution to initiate a healthy school food environment

Mahmudiono, T., Vidianinggar, M. A., Elkarima, E., Lioni, E., & Talib, C. A. (2022). Best Practices and Challenges in Implementing Healthy Food Environment at School Setting toward Prevention of Obesity in Indonesia and Malaysia. *Open Access Macedonian Journal of Medical Sciences*, *10*(E), 1050-1054.

6. Multistakeholder Involvement for improvement of Food Environment

HEXAHELIX STRATEGY TO IMPROVE FOOD ENVIRONMENT

Fill the research gap to provide evidence for policy



- Ethical/Responsible Food marketing and Advertising
- Provide healthier choices

- Role of Champion dan Influencers
- Role of civil organization to demand healthier choices (Advocacy)
- Promotion of local food culture

- Improvement of home food environment
- Awareness creation

- Policies and programs development and enforcement to improve food environment for healthier choices: Sugar Tax, Food Marketing Regulation, Vendor Education, Labelling regulation, Healthy food subsidy, etc
- Incentive for private sectors to provide healthier choices

- Regulation of Food Advertisement
- Social media regulation → Big homework

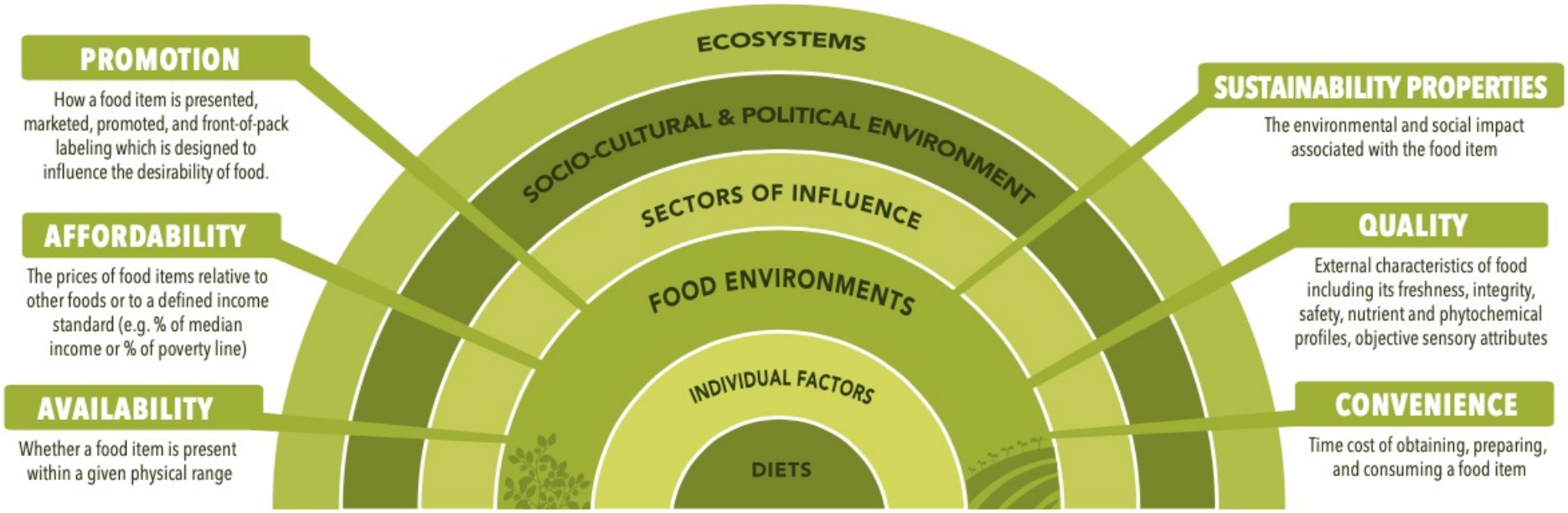


Figure 2. Descriptions of the food environment key elements. The key elements of the food environment within the food system include the availability, affordability, convenience, promotion and quality, and sustainability of foods and beverages in wild, cultivated, and built spaces.

"An expanded definition that includes the parameter of sustainability properties of foods and beverages, in order to integrate linkages between food environments and sustainable diets"

Downs, S. M., Ahmed, S., Fanzo, J., & Herforth, A. (2020). Food environment typology: advancing an expanded definition, framework, and methodological approach for improved characterization of wild, cultivated, and built food environments toward sustainable diets. *Foods*, *9*(4), 532.

Take Home Messages

- Food environments covers different domains, not all have been comprehensively explored in Indonesia
- The vast diverse areas in Indonesia may have different characteristics of food environment
- There was increasing proportions of meals eaten outside of home, more prominent in urban and more metropolises areas, as well as among younger highly educated generations

Take Home Messages

- Studies on Food environment in Indonesia is limited; and thus limited data on food environment are available
- Research focus should be directed to standardizing method of food environment assessment and assessment of impact of food environment on health
- Policies and Programs to improve food environment needs to be strengthened
- Multiple stakeholders collaboration are needed to improve food environment

“Challenges faced to shape Food Environments are significant, A healthier, more equitable food environment which supports both individual well-being and sustainable food systems should be *everybody’s concern*”