

## South East Asian Nutrition Surveys II: Examining nutritional status, growth, and physical activity of children in Southeast Asia

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### BACKGROUND

The prevention of stunting and micronutrient deficiencies, control of overweight/ obesity and diet-related non-communicable diseases are in the heart of the Sustainable Development Goals and in all nutrition strategies in Southeast Asia. Unfortunately, progress has not always been significant and there is an urgency to understand and plan programs for improvement and impact at national and global level. However, the lack of comprehensive data in children is a barrier that prevents solutions and strategies to effectively address the dual burden of malnutrition and hidden hunger.

The South East Asian Nutrition Surveys II (SEANUTS II) builds on the work, experience, and findings gained from SEANUTS I in 2010-2011. Relatively high prevalence of stunting, overweight/ obesity iron deficiency anaemia and vitamin D insufficiency were found in the participating countries, sometimes with large differences across population groups. SEANUTS II is a multi-country collaboration with research institutes from four South East Asian countries - Malaysia, Indonesia, Thailand, and Vietnam.

### OBJECTIVE

SEANUTS II will provide up-to-date and in-depth insights and confirmations into the nutritional status and lifestyle behaviours of almost 19,000 children aged between 6 months and 12 years old in a nationally representative population in Malaysia (n=3,864), Indonesia (n=7,595), Thailand (n=3,545), and Vietnam (n=3,904).

Specific objectives:

- To evaluate anthropometry and body composition
- To determine socio-demographic factors, food (in)security, child health status, body image, and related environmental factors
- To assess dietary intake and eating habits with a focus on protein
- To assess physical activity, sunlight exposure, and sleep pattern
- To determine biochemical status including haemoglobin, ferritin, vitamins A, B12, D, inflammatory markers, and zinc

### METHOD

SEANUTS II is a nationally representative cross-sectional survey. Sample size of each country is powered for the major nutritional issue(s) per country. Samples will be selected using stratified (MY, TH, VN) or proportionate (ID) multi-stage random sampling. Table 1 provides more details on the different variables to be collected and assessments to be done. Figure 1 illustrates the different locations for data collection in the 4 countries. Data collection is planned for 2019-2020.

Table 1: Objectives and assessments

Domains of interest	Variables/ Assessments
Nutritional status	Z-scores: Height for Age, Weight for Age, Weight for Height, BMI for Age
Prevalence of malnutrition	% of stunting, underweight, wasting, overweight, obesity
Biochemical status	% of anemia, iron deficiency (including inflammation markers), vitamin A, B12*, D deficiencies, zinc deficiency*
Dietary intake (24-hour-recall + questionnaires)	% meeting international and local RDA, dairy consumption, protein quality*, dietary habits
Physical activity (questionnaires, accelerometers*, fitness tests*)	Time spent on physical activity/ screen time, endurance*, strength*
Sun exposure	Time spent in the sun, exposure to UVB*
Socio-demographics and others	Social economic status, food (in)security*, environmental factors, body image*

\*=additional compared to SEANUTS I

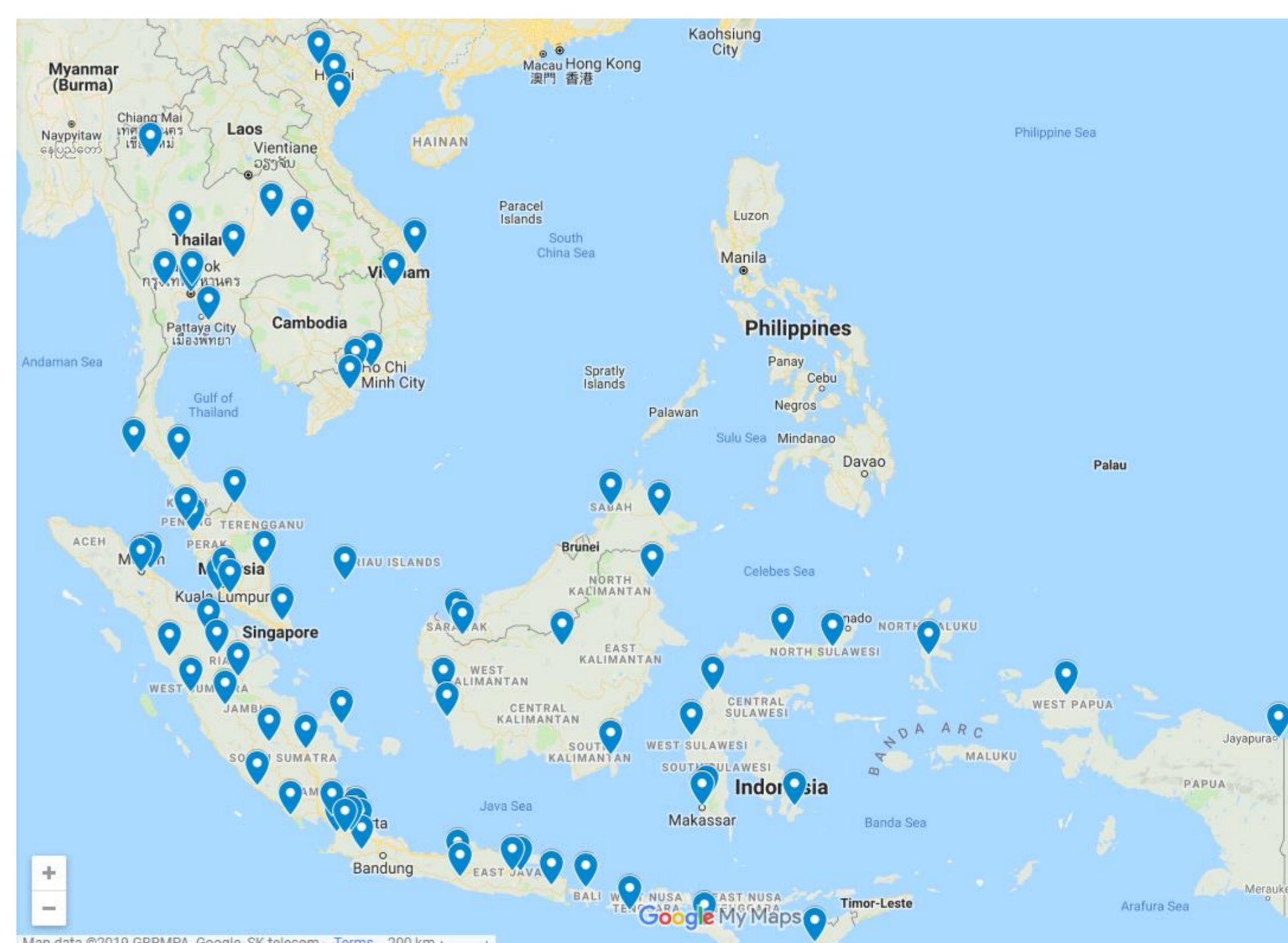


Figure 1: Data collection locations

### CONCLUSION

SEANUTS II will provide invaluable information on current nutritional and lifestyle problems faced by children in 4 ASEAN countries. The findings will be of significant public health importance and the data obtained will serve as the foundation for future nutrition intervention strategies.