



Mahidol University
Institute for Population
and Social Research



Policy Brief



Local Data for Sustainable Food System Development Plans: Approaches from 4 Pilot Provinces Led by Local Governments

The research project

“The Situation of Local Food Systems in Thailand”

Local Data for Sustainable Food System Development Plans: Approaches from 4 Pilot Provinces Led by Local Governments



The Importance of Local Food Systems for National Food Security

Thailand's local food systems are currently facing several major challenges, including food insecurity, climate change, the loss of traditional food knowledge, and broader social, environmental, and economic shifts at the global level. A sustainable food system is not only about production or consumption; it also concerns the community's capacity to access sufficient, safe, and nutritious food while respecting cultural and environmental diversity. Achieving this requires both **“local data” and the governance capacity of Subdistrict Administrative Organizations (SAOs) to drive the process.**

As the government bodies work closest to the people, SAOs possess an in-depth understanding of the local context and community issues. They are capable of addressing actual needs, have access to data on population, households, occupations, and land use that are essential for planning, and can implement policies with speed and flexibility. Furthermore, they can effectively mobilize public participation. For these reasons, SAOs play a vital role in advancing sustainable local food systems.

“ We fully cooperated. We want the indicators to reflect our local context. Some issues that were never a problem before are becoming one now.

For example, the Kok River—when we move into urban areas and use tap water from the Kok River, which is now polluted, it becomes a personal concern. Once we have detailed indicators, we can cover more areas, identify gaps we've overlooked, and strengthen weak points. How can we involve village representatives, communities, and health volunteers (VHVs) in this process? **We will apply this information directly in our area.** ”

Municipal Clerk,
Pa Or Don Chai
Municipality,
Chiang Rai



The Situation of Local Food Systems in Thailand

The research project “The Situation of Local Food Systems in Thailand” was piloted in four provinces across four regions—Nonthaburi, Chiang Rai, Yasothon, and Phatthalung—in both municipal and non-municipal areas, totaling eight subdistricts. The goal is to develop a comprehensive assessment and planning framework for food systems using seven dimensions of food system indicators that reflect conditions across the entire food chain—from upstream, midstream, to downstream.





Framework for Assessing Local Food Systems across 7 Dimensions

The seven-dimensional food system framework ^(1, 2) (Figure 1) enables local administrators to clearly understand the overall problems within their food systems:

1 Food Nutrient Adequacy

Assesses the adequacy and quality of food consumption at both individual and household levels, in terms of quantity, essential nutrients, and health outcomes such as obesity, diabetes, malnutrition, and breastfeeding rates.

2 Ecosystem Stability

Evaluates the quality, sustainability, and stability of natural resources and the environment, including soil, water, forests, air, and biodiversity, as well as the impacts of climate change and implementation of environmentally-friendly policies.

3 Food Affordability and Availability

Assesses people's access to food through local production and community food sources at affordable prices, price volatility, and food management in crisis situations.

4 Socio-Cultural Wellbeing

Evaluates social and cultural wellbeing and equity in the food system, such as agricultural education, labor equity, health impacts, participation in policymaking, and support for vulnerable groups.

5 Resilience

Assesses the adaptability and recovery capacity of food systems during crises or transitions, including community food production areas, food reserves, food infrastructure, and disaster preparedness plans.

6 Food Safety

Assesses the safety of the food system across production, processing, and distribution stages, including inspection systems and food safety certifications.

7 Waste & Loss Reduction

Assesses the quantity and management of food waste, from production to consumption, including food waste recycling and sustainable policies to reduce food loss and waste.



Key Lessons from the Pilot Areas: **Local Data as the Foundation for Transformative Change**

1. Local Communities Possess Data and the Power to Drive Change

Subdistrict Administrative Organizations (SAOs) are the closest government agencies to the people and hold critical information such as population figures, household data, land use, occupations, and health. This data can be effectively applied to food system assessments—provided there is a suitable framework and appropriate tools.

2. Participation is the Key to Sustainability

The research process in the pilot areas emphasized participation from SAO staff, local networks, and community members in selecting indicators, data collection, and joint analysis. This inclusive process fostered a comprehensive understanding of the food system and supports the creation of practical, locally-appropriate solutions.



Benefits of Using Local Food System Indicators by SAOs



Practical Tools:

The indicators developed in this project align with the conceptual framework of the Food and Agriculture Organization of the United Nations (FAO) ⁽³⁾, and support both quantitative and qualitative data. They are clear, transparent, and allow for comparison across different areas.



Capacity Building for SAOs:

SAOs, in collaboration with food system networks and residents of pilot communities, jointly analyzed local food systems and selected context-appropriate indicators. They gathered data to inform long-term, sustainable local development planning.



Integration into Development Plans:

The food system assessment results can be directly linked to local development plans, health strategies, and environmental plans. This enables more targeted allocation of budgets and resources. When reliable data and case studies are available at the local level, they can also help provincial or national governments recognize the importance of local food systems and use this evidence to propose budgets or develop supportive policies.

“ We saw the indicator scores and accepted the reality, as this was our first time conducting such an assessment. This is good—it helps local governments realize the importance of food security and food safety. It's a project where the university works with the local community, helping us understand and become aware of the value of knowledge. ”

Municipal Clerk,
Taweewattana SAO,
Nonthaburi Province

Thailand's food system situation in 2025

based on the average of common indicators from 8 subdistricts in 4 provinces.

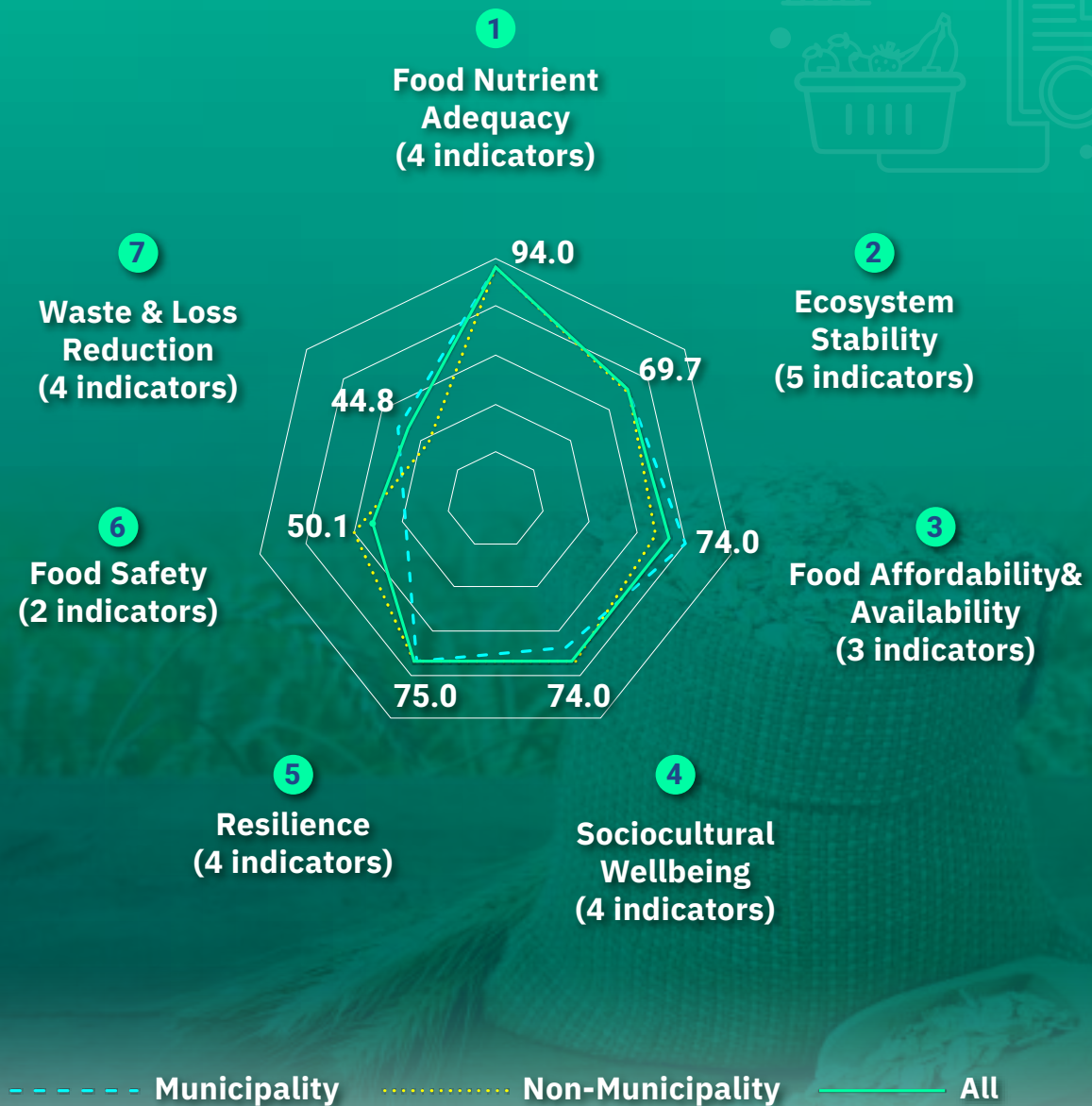
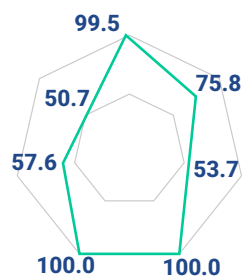


Figure 2: Thailand's Food System Situation in 2025

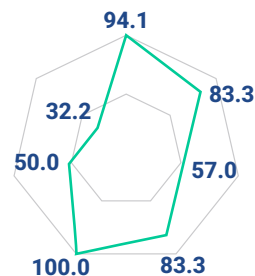
Based on the Average of Common Indicators from 8 Subdistricts in 4 Provinces

Results of Local Food System Indicators from 8 Subdistricts in 4 Provinces ⁽⁴⁾

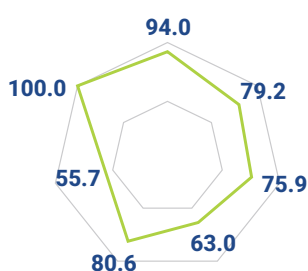
Source: Jongjit Rittirong et al., 2024



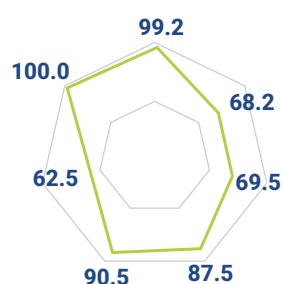
Bang Sithong Subdistrict Municipality,
Bang Kruai District, Nonthaburi



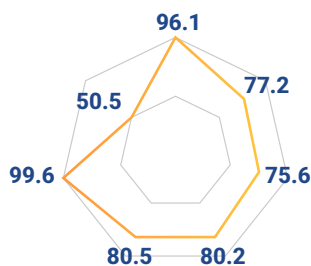
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Sai Noi District, Nonthaburi



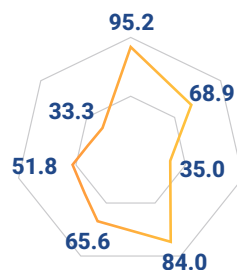
Doet Subdistrict Municipality,
Muang District, Yasothon



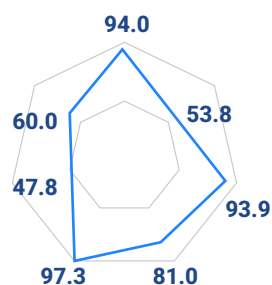
Na Kham Subdistrict,
Kham Khuean Kao District, Yasothon



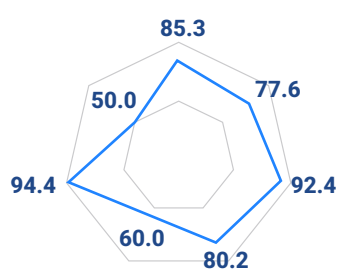
Pa Or Don Chai Subdistrict Municipality,
Mueang District, Chiang Rai



Pa Tueng Subdistrict,
Mae Chan District, Chiang Rai



Khok Muang Subdistrict,
Khao Chaison District, Phatthalung



Han Pho Subdistrict,
Khao Chaison District, Phatthalung

Figure 3 shows the results of local food system indicators in 8 Subdistricts across 4 provinces highlighting weaknesses in food safety ⁽⁴⁾

Guidelines for Applying the Indicators

Initial Situation Assessment

SAOs should begin by selecting indicators that align with the local context, considering available resources and data, geographic characteristics, predominant livelihoods, and urgent area-specific issues.

Using Local Data for Food System Assessment

SAOs should be encouraged to use a flexible set of food system indicators across seven dimensions, which can be adapted to suit urban and rural areas alike, to gain an accurate understanding of local realities.

Data Analysis and Interpretation

There should be careful analysis and interpretation of the data to identify strengths and weaknesses in the local food system, compare situations across different areas, prioritize problems, and develop appropriate solutions integrated into local development plans.



Building Teams and Networks

Subdistrict-level working groups should be established that include relevant SAO officials, community or village leaders (e.g., village heads, village health volunteers), and “food detectives.” There should be active collaboration with civil society, health, agriculture, and environmental networks, academic institutions, farmers, and food entrepreneurs to jointly drive data collection and planning.

Systematic Data Collection

Diverse methods should be employed, such as conducting surveys and interviews with residents, reviewing existing documents and statistics, on-site observations and assessments, and public consultation meetings.

“ We will use this data as a starting point for drafting the local development plan, serving as a guideline to improve food safety for our community in Han Pho. Once we have the complete set of indicators, they will be included in the local development plan. ”

Agricultural
Technical Officer,
Han Pho SAO,
Phatthalung

Conclusions:

From Data to Change at Local and National Levels

This research clearly demonstrates that food system security can begin at the subdistrict level, with local data as a vital tool and SAOs as key actors in shaping community development.

Applying these developed food system indicators in other areas nationwide will help establish a strong national database, enabling food crisis surveillance and the formulation of more sustainable and effective food system policies.

The study in four pilot provinces shows that using local data to plan food system development is both feasible and impactful. SAOs should begin by assessing the situation with suitable indicators, build strong teams, and create actionable development plans.

The success of local food system development does not depend solely on the size of the area or the amount of budget—it requires a clear vision, effective planning, and sustained commitment. A sustainable local food system will be a cornerstone of Thailand's future food security.



“ **Thank you for choosing Han Pho as a pilot area.** Now we know where we stand in terms of food security and food safety in each dimension. It makes us more aware of ourselves. If we aim to become a model area or a food-producing area with strong food security, we need to return to study and plan together. It requires integrated work. **The SAO already has a plan and budget; it should take the lead in inviting the community and partners in the area to discuss and share their views—using real, current data as the basis for action.** ”

Representative
from the Thai Sea
Watch Associations,
Thai Health
Promotion Foundation
(ThaiHealth) Network,
Han Pho Subdistrict,
Phatthalung

Researchers

Associate Professor Dr. Jongjit Rittirong
Dr. Pattraporn Chuenglertsiri
Ms. Pimolpan Nitnara



Mahidol University
Institute for Population
and Social Research



Institute for Population and Social Research, Mahidol University Supported by Thai Health Promotion Foundation (ThaiHealth)

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1. Rittirong J, Chuenglertsiri P, Nitnara P, Phulkerd S. Developing key indicators for sustainable food system: a comprehensive application of stakeholder consultations and Delphi method. *Frontiers in Sustainable Food Systems*. 2024;8.
2. Rittirong J, Phulkerd S, Chuenglertsiri P, & Nitnara P. *Farms, Food, and Empty Plates: The Situation and Indicators of Thailand's Food System for Community Self-Reliance*. Nakhon Pathom: Institute for Population and Social Research, Mahidol University; 2022.
3. Aurino E. *Selecting a Core Set of Indicators for Monitoring Global Food Security A Methodological Proposal*. Rome, Italy: Food and Agriculture Organization of the United Nations; 2014.
4. Rittirong J, Chuenglertsiri P, & Nitnara P. *The Situation of Local Food Systems in Thailand*. Nakhon Pathom: Institute for Population and Social Research, Mahidol University; 2024.

For area-specific indicator sets, contact: jongjit.rit@mahidol.ac.th

**Full indicator set in the book:
“Farms, Food,
and Empty Plates”**



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