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WORKING PAPER

School Meals Case Study: Thailand

Prepared by the Research Consortium for School Health and Nutrition, an initiative of the School Meals Coalition

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Table of Contents

Historical background	1
Country profile	1
Population and economics	1
Education.....	1
Food security, nutrition and health	2
Design and implementation of the school meal programs	3
Objectives.....	3
Coverage and targeting.....	3
Meal types.....	4
Nutritional norms.....	5
Food procurement	5
Legal framework and public policy evolution	6
Costs of implementation	7
Financing	8
Monitoring and Evaluation	8
Lessons learned and best practices	9
Challenges	10
References	10
Contacts	13
Required citation.....	13

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Historical background

The first lunch program was initiated in Thailand in AD 1952 / 2495 BE to address the problem of malnutrition in children. Many elementary school students lacked lunch or received insufficient quantities or meals of low nutritional value, which affected their growth and failed to meet the Ministry of Public Health's (MOPH) nutrition intake criteria. To tackle this issue, the Ministry of Education (MOE) experimented with providing lunch to students under its jurisdiction. However, the main challenge encountered was a lack of funding, making it impossible to provide lunch for all students in need. In AD 1987 / 2530 BE, the Office of the National Primary Education Commission established a policy requiring every school to adopt a school meals program. In AD 1992 / 2535 BE, a law was enacted the Primary School Lunch Program Fund Act (PSLPA). The program initially targeted only children with malnutrition and deprived children in remote areas. During the same period, the school supplementary food (milk) project was also launched, covering all children beginning with kindergarten through primary school. In AD 1999 / 2542 BE, efforts were made to enhance the school meal program to ensure all students received lunch every day. Cooperation was established between the MOE, Ministry of Agriculture and Cooperatives (MOAC), Ministry of Interior (MOI), the MOPH, and other ministries to support project operations. Operational guidelines were adjusted, and a subsidized lunch fee was provided for students from kindergarten to primary school for a total of 200 days in the academic year. Additional contributions were made according to the budgets of various affiliated schools, with funding increasing as needed according to necessity and economic conditions. The criteria for organizing lunch services were updated to better address the health needs of youth in society.¹ Agricultural activities for school lunches were promoted, focusing on teaching life skills to students and promoting food safety.

Country profile

Population and economics

Table 1: Key data on the population and economic sectors

Total population (2024)	Total number of populations aged 5 to 19 (2024)	Total number of populations employed in agriculture sector (2023)	Gross Domestic Product per capita (2023)
66,004,634 ²	11,535,155 ²	12,615,600 ³	\$7,331.5 USD ⁴

Education

Education is provided mainly by the Thai government through the MOE, from pre-school to senior high school. Free basic education to fifteen years is guaranteed by the constitution. This basic education comprises six years of elementary school and three years of lower secondary school. In addition, three years of pre-school and three years of upper-secondary education is available free of charge but are non-compulsory (Figure 1).

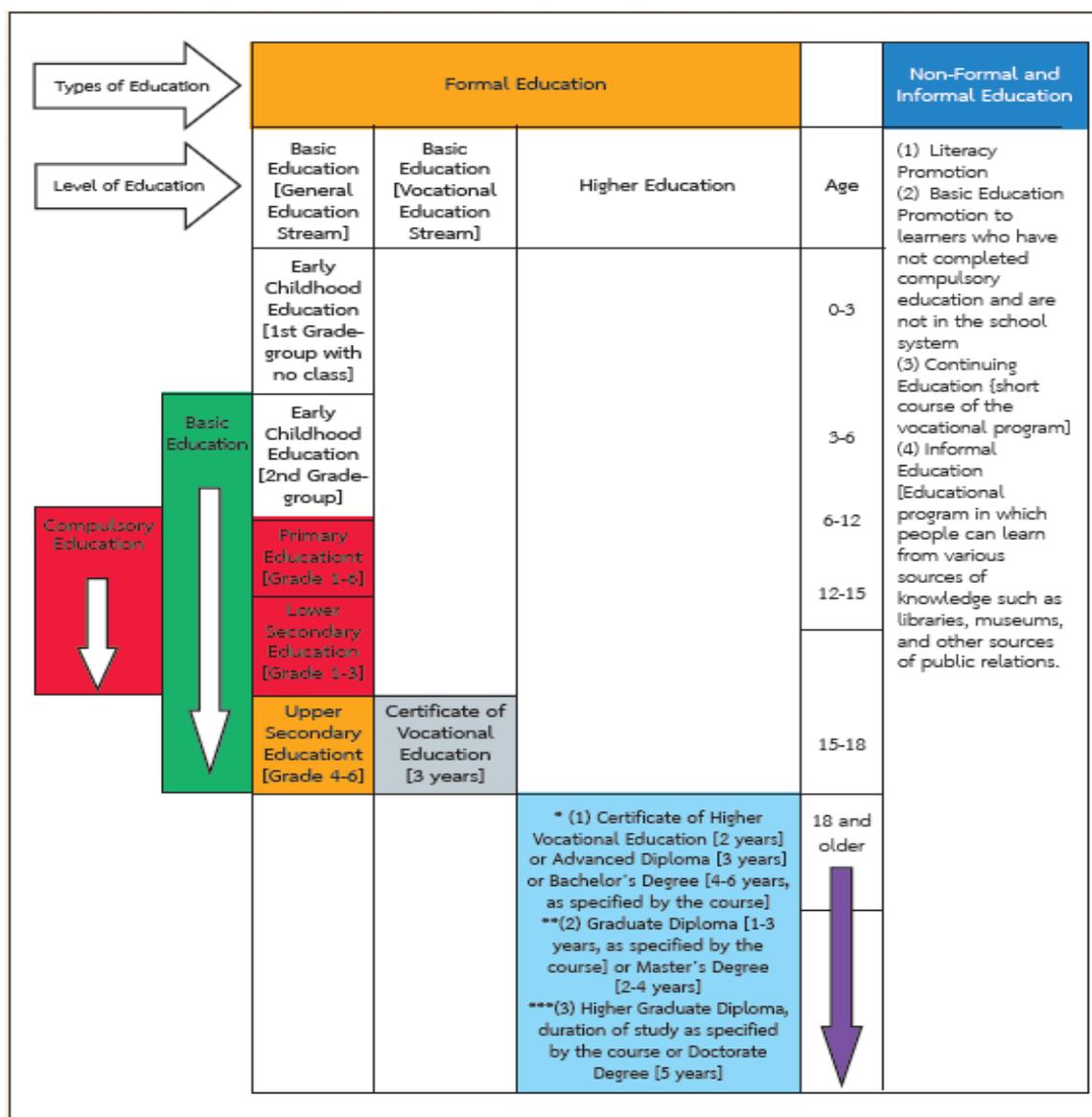


Figure 1: The education system in Thailand⁵

Table 1: Number of students and schools involved in the school meal program in 2024

Total Number of students	Total number of schools	Average class size	Number of children involved in school meal	Percentage of children eligible for free meal
6,550,058 ⁶	29,312 ⁶	19 ⁶	5,912,520 ⁷	90.26

Food security, nutrition and health

Thailand ranks 64th (out of 113 countries) in global food security according to the 2022 Global Food Security Index. Thailand's score of 60.1 out of 100 represents a slight improvement from the previous year's score. Thailand ranked 9th among countries in the Pacific-Asia group and 15th among countries with medium-high income levels, indicating a relatively favorable food security situation.

Table 3: Prevalence (%) of malnutrition and micronutrient deficiency in Thai children⁸

Indicators	Children aged 6-14 years	Children aged 15-18 years
Stunting	9.4	7.9
Thinness	5.7	2.1
Overweight & obesity	13.0	13.1
Micronutrient deficiency	No specific data available	

Design and implementation of the school meal programs

In AD 1992 / 2535 BE, the government established the lunch program and enacted the PSLPA. The primary objectives of this act were to create a revolving fund for expenditures supporting and improving the nutritional status of primary school students, to raise awareness among all sectors about the problem of malnutrition among students, and to encourage participation in solving these issues. In AD 1999 / 2542 BE, the initiative to ensure every student received a full lunch every day was actively promoted. Cooperation was established between the MOE and the MOAC. Additionally, the MOI, the MOPH, and all related agencies were approved to provide support for the project's operations.¹ In parallel, the school supplementary food (milk) project has also continued, covering all children from kindergarten through primary school, in addition to the daily lunch. This chapter will focus exclusively on the lunch program.

Objectives

The objectives of the PSLPA are as follows^{9,10}:

- To develop students' health and physical strength, ensuring weight and height meet growth reference criteria through nutritional surveillance at the school level.
- To enable schools to ensure every child receives lunch by integrating agricultural products, with support available for interest payments from the fund.
- To allow students to gain practical experience in projects that produce food for the lunch program.
- To provide lunches that meet both quantity and quality standards, ensuring nutritional value according to school lunch standards.

Coverage and targeting

The government extends lunch welfare to all child development centers, school-age children from kindergarten through primary school^{8,11}, covering a substantial network of 51,058 schools and benefiting 5,912,520 students. As of November 8, 2022, the budget allocation supports 200 lunch days per academic year, ensuring that every student receives a nutritious meal. This budget also subsidizes lunch costs for primary schools across the country, aiming to enhance nutritional standards and support educational outcomes.¹⁰

Table 4: Number of schools and students supported by the government lunch budget in 2022¹²

Affiliated	Number of schools (places)	Number of students (people)
Office of the Basic Education Commission (OBEC)	26,694	3,909,043
Border Patrol Police Bureau	220	25,772
Ministry of Higher Education, Science, Research and Innovation	94	70,125
Office of the Private Education Commission (OPEC)	1,759	517,966
Department of Local Administration ¹	20,176	1,090,304
Ministry of Social Development and Human Security	1,404	58,754
The office of non-formal and informal education (ONIE)	372	8,843
Bangkok City	327	222,213
Pattaya City	12	9,500
Total	51,058	5,912,520

Schools under the Bangkok Primary Educational Service Area Office, overseen by OBEC, receive government subsidies for lunch and supplementary funding allocated by the Bangkok Education Office. Consequently, students within the Bangkok Metropolitan Administration jurisdiction receive higher subsidies compared to those in other areas. Moreover, breakfast is provided through funding from Bangkok.^{13,14}

Meal types

Nationwide:

- Lunch: There are two types of lunch arrangements for OBEC schools and Bangkok schools. (1) Rice + one or two side dishes + fruits/desserts + school milk. (2) One main dish + fruits/desserts + school milk.
- Supplementary Food (milk): The government funds supplementary food (milk) projects for kindergarten and primary school students. Students receive milk for 260 days throughout the entire year, excluding Saturdays and Sundays.¹⁵ At school, milk is provided to students in two sessions: in the morning and either after lunch or before the school day ends. Schools receive either pasteurized milk or Ultra-high temperature processing (UHT) milk, as allocated by the local administrative organization. During school breaks, students receive a box of UHT milk for 60 days.

In Bangkok, breakfast arrangements are also proposed. They typically consist of single dishes such as (1) Rice-based dishes such as pork congee and pork fried rice or (2) Noodle dishes such as fried macaroni, wonton soup, and fish maw soup.

There are three methods of **meal preparation** in Thai schools:⁹

- **Providing Cooking Materials for School Staff:** Raw materials are purchased from sources such as markets, manufacturers, or community farmland. Food preparation occurs mainly in the cafeteria building, which is divided into a kitchen, storage area

¹ These institutions are “Child Development Centers” for children aged 3-5 years old.

for raw materials, and seasoning. Equipment, containers, and cooking areas are also designated. After preparation, students dine in the cafeteria, receiving food served in compartmentalized food trays or plates. Each school has a teacher, chef, or designated student providing food to others.

- **Hiring an Individual to Cook:** Similar to providing cooking materials for staff, raw materials are sourced externally. Cooking is managed by hired individuals, following similar cafeteria-based operations.
- **Subcontracting Cooking Services:** Schools plan food provision on a weekly, monthly, or semester basis, communicating requirements to service operators in advance. Entrepreneurs purchase raw materials and undertake cooking responsibilities as contracted.

Nutritional norms

Children in Thailand face issues of both undernourishment and over nourishment, primarily due to dietary habits that do not meet recommended proportions and quantities. According to a public health investigation conducted by the Faculty of Medicine Ramathibodi Hospital (Mahidol University), from 2019 to 2020, significant nutritional challenges were reported. It showed that children aged 6-14 consume only 2-3 servings of fruits and vegetables daily, which is below the World Health Organization's recommendation of at least 400 grams or 5 servings per day. Additionally, many children come to school without having breakfast. Among children aged 6 to 9 years, 58.8% skip breakfast, and among children aged 10 to 14 yrs, 55.4% skip breakfast.¹⁶ To address the issue of malnutrition among students and ensure they receive a balanced nutrient intake in line with nutritional guidelines, the composition of school meals is carefully planned. Breakfast is designed to provide 20% of daily nutritional requirements, while lunch, including school milk, is formulated to cover 40% of the recommended daily intake, tailored to each age group. These standards follow the Thai Dietary Reference Intake (Thai DRI, 2003) criteria established by the Nutrition Division of the Department of Health (MOPH). In terms of implementation, teachers at OBEC Schools use the Thai School Lunch (TSL) automatic recommendation system to organize lunch according to the nutritional criteria for kindergarten and primary school students. In Bangkok Schools, teachers use the Thai School Lunch for the Bangkok Metropolitan Administration (TSL for BMA) system to prepare breakfast and lunch that meet the nutritional criteria for kindergarten, primary, and secondary school students. The system will be updated to reflect the Thai Dietary Reference Intake (Thai DRI 2020) standards for the current academic year.

Food procurement^{8,9}

Food procurement for the school lunch project involves two key networks: (1) external partnerships with suppliers and government agencies for reliable food supply, and (2) internal collaboration among school administrators, teachers, and kitchen staff to plan and prepare nutritious meals within budgetary constraints. These efforts ensure sustainable and effective support for student health and nutrition. In brief, external school cooperation includes:

- **Office of the Basic Education Commission: MOE** roles are to set policies for operating the lunch program, to provide training on the operation of the lunch program and to coordinate operations, supervise, and follow up on the lunch program.
- **Funds for the Lunch Program in Primary Schools: MOE** supports additional budgets for schools that apply for projects to promote products for student, projects to

develop sanitation systems, good food, and clean drinking water in schools and also provide additional budgets for children from remote areas who must stay overnight at school and budgets to help in times of emergency or disaster.

- **Department of Health (MOPH)** provides lectures on food and nutrition to those involved and collects data and information on nutritional status and health.
- **Local Government Organizations (MOI)** allocates budgets for lunch subsidies to schools and monitors and evaluates the spending of lunch subsidies.
- **National Electronics and Computer Technology Center (NECTEC) and the Institute of Nutrition, Mahidol University, under the Ministry of Higher Education, Science, Research and Innovation** provides the Thai School Lunch and Thai School Lunch for BMA systems for educational institutions and related regulatory agencies.
- **Network of Cooperation Within Schools** including schools must appoint a school-level lunch program committee consisting of:
 - school director,
 - teacher representatives,
 - student representatives,
 - representative of parents,
 - representative of the Basic Education Commission,
 - representatives from the Sub District Health Promoting Hospital,
 - teacher responsible for the lunch program,
 - teacher responsible for finances,
 - teacher responsible for supplies.

Their role is to plan operations, inspect and monitor the lunch program and solve problems related to the lunch program.

Legal framework and public policy evolution

Please see in figure 2.

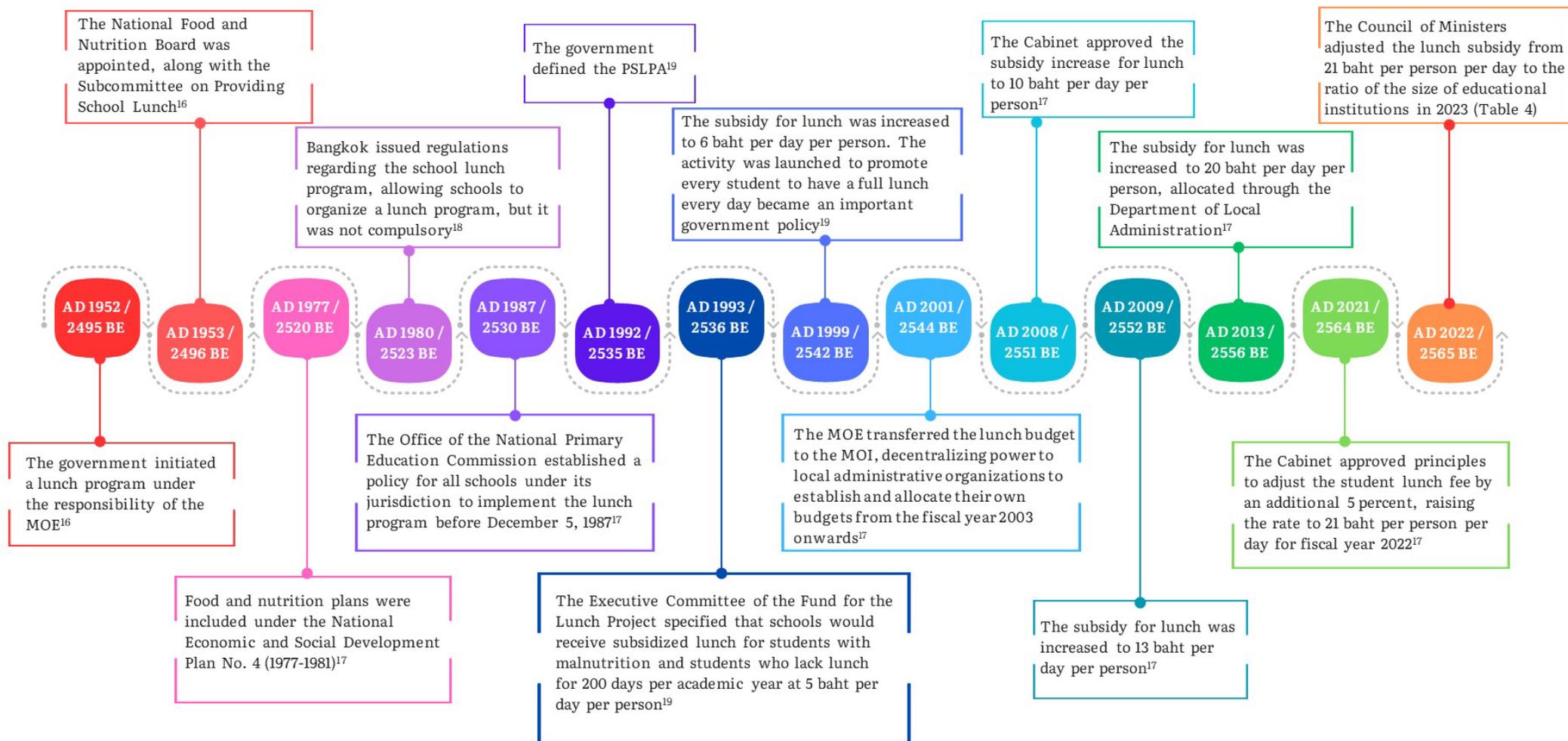


Figure 2: Legal framework and public policy evolution

Costs of implementation

The lunch budget is allocated to students from kindergarten 1 to Grade 6 across various types of schools (Table 4), including:

- those under OBEC
- Local Administrative Organizations
- Border Patrol Police Schools
- Educational Institutions under the Office of the Promotion of Non-Formal and Informal Education such as Community Learning Centers in the Highlands, and
- Educational Institutions under the Department of Social Development and Welfare.

Other affiliated schools (such as those under the Council for the Promotion of Private Education²²) can also allocate funds to the Council for the purpose of considering fund allocation according to the established guidelines.

For the school supplementary food (milk), the budget is allocated from the Thai Government and the operation is carried out by the MOAC. As per the cabinet consensus in 2003, only plain pasteurized or UHT milk (200 ml) are provided to all public-school children for 260 days. Currently (2024), the cost of pasteurized and UHT milk are 7.35 and 8.59 baht per package, respectively.

Table 5: Budget allocation for the lunch according to the size of the school²

Size of school	Raw material cost (THB) ²⁰	Management expense (THB) ²¹	Total (THB/person/day) ²¹
1 - 40 students	23	13	36
41 - 100 students	23	4	27
101 - 120 students	23	1	24
121 or more students	22	0	22

THB: Thai Baht (1 US Dollar = 34.69 THB on January 13, 2025).

Table 6: Key data on school lunch budget

Key data	
Number of children involved in school meal	5,912,520
Average cost of a meal (THB)	24
Cost of raw material (THB)	22 - 23
Labour / management costs (THB)	0 - 13
Family participation	voluntary
City budget per child and meal (THB) (BMA only)	25 - 36
Government budget per child and meal (THB)	22 - 36
Number of teaching days per year in one academic year	200
Number of school meal days in one academic year	200

THB: Thai Baht (1 Dollar = 34.69 THB on January 13, 2025).

² Management fees include the cost of condiments, cooking gas, labor wages for cooks, and other related expenses.

Financing²³

Funds for the elementary school lunch program come from: (1) an initial fund of 6 billion baht, as stipulated in Section 16 of the School Lunch Fund Act, BE 2535 (1992); (2) grants from the government or allocations from the annual national budget; and (3) money or other assets donated by individuals or organizations. The Comptroller General’s Department under the Ministry of Finance oversees the management of these accounts. Funds are disbursed to state agencies allocated according to the annual operational plan. These include local administrative organizations under the MOI, which in turn distribute the funds to schools under the MOE and child development centers under their jurisdiction. In the case of Bangkok, funds are distributed to schools in each district through the district offices. A committee will be set up to audit the accounts according to the regulations and procedures set by the Ministry of Finance.

Monitoring and Evaluation

Schools under the OBEC will utilize the TSL system, while Bangkok schools will implement the TSL for BMA system. Both systems serve as online tools to evaluate and monitor the nutritional value of the dishes planned by the schools focused on macro and micronutrients, particularly focused on iron, dietary fibers and vitamin C. The TSL and TSL for BMA systems enable schools to plan their weekly menus in advance, either for the month or the entire semester, facilitating procurement auctions. These systems also include features for nutritional assessment and cost estimation for food ingredient procurement plans.^{24,25} The TSL for BMA system offers additional functionalities, allowing schools to arrange and calculate the nutritional value of two meals: breakfast and lunch. Schools can upload photos of daily dining tables to the system for inspection by personnel or institutions participating in the evaluation process. Furthermore, school-affiliated institutions have access to TSL and TSL for BMA to review the catering information of their associated schools.

All data from TSL and TSL for BMA system is compiled and presented in a dashboard under NECTEC management for real time monitoring of nutrient intake of school children in all school in Thailand.

Table 7: Number of Schools and Students in the Thai School Lunch System by Affiliation, as of April 22, 2024²⁴

Affiliated	Number of Schools in the System		Number of Schools Providing Meals in the System		Total Number of Meals Provided	
	2022	2023	2022	2023	2022	2023
OBEC	25,854	25,854	18,041	20,249	4,141,614	4,729,887
Local administration	11,014	11,014	6,202	7,747	870,644	1,359,922

Lessons learned and best practices²⁶

Lessons learned

- **Teacher Training and System Access:** Teachers lack nutrition knowledge, and several schools lack access to the TSL online system.
- **Employment Shortage and uneven distribution of workload:** There's a shortage of nutrition personnel, increasing teachers' workloads, with some schools lacking kitchen staff, forcing teachers to prepare food.
- **Training and Technology Support:** Training for lunch quality and support for accurate weighing and measuring tools are needed for better nutritional assessment and food safety.
- **Monitoring and Evaluation:** Continuous monitoring and evaluation from parents or private sector agencies is necessary.
- **Cooperation and Budget Allocation:** Strong cooperation networks, involving parents and communities, can help reduce budget allocation delays for quicker responses.
- **Agriculture for Lunch Program:** Limited agricultural space hinders some schools from implementing the program, which can be mitigated by using community areas and involving local residents.

Best practices

- The TSL system was developed through collaboration between the NECTEC, under the National Science and Technology Development Agency (NSTDA) of the Ministry of Science and Technology, and the Institute of Nutrition, Mahidol University. It serves as a tool for planning school lunch menus for schools under the MOE and early childhood development centers under the MOI. Both agencies can access the system to monitor the menus of individual schools. In addition to facilitating nutritional evaluation, the system assists in planning the procurement of ingredients and preparing required documents for lunch budget disbursements. It ensures efficient management of both nutritional quality and financial resources.
- Most school staff are dedicated to promoting students' health and well-being by actively engaging in programs organized by various agencies. They collaborate in activities that support children's development and growth. Additionally, they share knowledge with parents to enhance their understanding of nutrition and child development, enabling them to apply these practices at home.

Challenges

- Assigned unit for long-term school meal administration and management.
- Additional budget for supporting the training activities for both teachers and monitoring team.
- It is crucial to have nutritionists to support school lunch programs, with a focus on hiring local nutritionists.

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