

# Public Policy for Quality School Lunch Development in Thailand

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**Abstract**—Obesity, stunting and wasting problems among Thai school-aged children are increasing due to inappropriate food consumption behavior and poor environments for desirable nutritional behavior. Because of a low school lunch budget of only 0.40 USD per person per day, food quality is not up to nutritional standards. Therefore, the Health Department with the Education Ministry and the Thai Health Promotion Foundation have developed a quality school lunch project during 2009–2013. The program objectives were development and management of public policy to increase school lunch budget. The methods used a healthy public policy motivation process and movement in 241 local administrative organizations and 538 schools. The problem and solution research was organized to study school food and nutrition management, create a best practice policy mobilization model and hold a public hearing to motivate an increase of school meal funding. The results showed that local public policy has been motivated during 2009-2011 to increase school meal budget using local budgets. School children with best food consumption behavior and exercise increased from 13.2% in 2009 to 51.6% in 2013 and stunting decreased from 6.0% in 2009 to 4.7% in 2013. As the result of national policy motivation (2012-2013), the cabinet meeting on October 22, 2013 has approved an increase of school lunch budget from 0.40 USD to 0.62 USD per person per day. Thus, 5,800,469 school children nationwide have benefited from the budget increase.

**Keywords**—Public policy, Quality school lunch, Thailand.

## I. INTRODUCTION

### A. Rationale

**O**BESITY, stunting and wasting are still health problems of Thai children that need urgent attention. The Fourth National Health Examination Survey of the Thai population (2008-2009) indicated 9.3% or 1,080,000 of Thai children aged 1-14 years were overweight and obese, 520,000 Thai children (4.4%) were stunted, with body weights of 580,000 children (4.1%) lower than standard and some were malnourished of iron, iodine and vitamins. In addition, it showed that Thai children consumed only 1.4 portions of vegetables and fruits daily, three times lower than WHO criteria (not less than 5 portions/day). This indicates that

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nutrition problems in Thai children include both under and over malnutrition and lower vegetable and fruit consumption behavior [1]. One of the risk factors is inappropriate food consumption behavior and poor environments for desirable nutritional behavior. Because of a low school lunch budget of only 0.40 USD per person per day since 2008, which is considered inadequate for quality school lunches, vegetable and fruit cannot be provided daily and food quality is not up to nutritional standards [1]-[4]. Therefore, the Health Department, with collaboration of the Education Ministry and the Thai Health Promotion Foundation, has developed a quality school lunch project during 2009 – 2013.

### B. Objectives

The program objectives were:

- i. Public policy development and management of food and nutrition;
- ii. Motivation of public policy to increase school lunch budget from 0.40 USD to 0.62 USD per person per day for better food quality and appropriate nutrition.

### C. Definition

The program covered children age 3-12 years under government fiscal lunch support in primary schools and child development centers.

## II. MATERIAL AND METHODS

### A. Methods

A healthy public policy motivation process and movement was used in 241 local administrative organizations and 538 schools (275 schools and 263 child development centers) from 9 pilot provinces: Nonthaburi, Samutprakarn, Phetchaburi, Khon Kaen, Udonthani, Chiang Mai, Lampang, Songkhla, and Phuket (as shown in Table I). The problem and solution research was organized to:

- i. Study school food and nutrition management for local development and social motivation;
- ii. Create a best practice policy mobilization model with emphasis on sustainable food and nutrition management; and
- iii. Hold a public hearing to motivate an increase of school meal funding from 0.40 USD to 0.62 USD per person per day for policy support and transfer [5]-[8].

TABLE I  
 NUMBER OF PARTICIPATING SITES AND SAMPLE SIZE BY PROVINCE

Region/ Province	Local government	School	Child Development Center	Children 3-12 yr.	
				2009	2013
<b>Central</b>	<b>97</b>	<b>110</b>	<b>101</b>	<b>55,140</b>	<b>63,746</b>
Nonthaburi	24	28	26	8,768	6,155
Samutprakarn	25	29	27	30,858	30,991
Phetchaburi	48	53	48	15,514	26,600
<b>North</b>	<b>47</b>	<b>65</b>	<b>66</b>	<b>27,828</b>	<b>30,885</b>
Lampang	23	25	40	5,593	5,650
Chiang Mai	24	40	26	22,235	25,235
<b>Northeast</b>	<b>49</b>	<b>50</b>	<b>48</b>	<b>9,417</b>	<b>7,492</b>
Khon Kaen	26	25	24	1,533	1,988
Udonthani	23	25	24	7,884	5,504
<b>South</b>	<b>48</b>	<b>50</b>	<b>48</b>	<b>12,395</b>	<b>14,078</b>
Songkhla	30	31	30	4,408	7,225
Phuket	18	19	18	7,987	6,853
<b>Total</b>	<b>241</b>	<b>275</b>	<b>263</b>	<b>104,780</b>	<b>116,201</b>

*B. Research Tools*

- i. Innovative nutrition materials: 2 for administrators, 4 for teachers, cooks, school child leaders, community leaders and 2 for technicians;
- ii. Forms for food and nutrition situation management in school and community survey;
- iii. Assessment form for school based food and nutrition Learning.

*C. Information Collection*

Several measures were utilized to attain information on food and nutrition situation in school and community as follows:

- i) Survey for food and nutrition situation once a year; supervision, monitoring and evaluations 4 times/year;
- ii) In-depth interviews of responsible people both administrators and workers as well as community leaders;
- ii) Informal conversation with actual workers, observed and recorded before and after group working;
- iv) Sharing opinions, discussion and lesson learned among groups of responsible officials of these 9 provinces through public hearings process; and
- v) Data collected from project related documents e.g. community development plan, progress reports of 9 provinces, lesson learned document etc.

*D. Information Analysis*

A quantitative descriptive statistic was applied for frequency, percentage, average and for behavior of school food and nutrition management and consumption. National Plan at organizations and communities had been applied for data validation.

III. RESULTS

The results showed that:

- i. Local public policy had been motivated during 2009-2011: 52.7% of 241 local governments had increased school meal budget from 0.40 USD to 0.47-0.62 USD

per person per day using local budgets of 625 – 62,500 USD;

- ii. Of 538 schools, 74.7% had provided resources of food and nutrition as well as quality school lunch management at good and best levels, such as meeting daily energy and nutrition requirement for children (approximately 40% per day) or at least 70% of meal requirement. The results are shown in Figs. 1, 2;

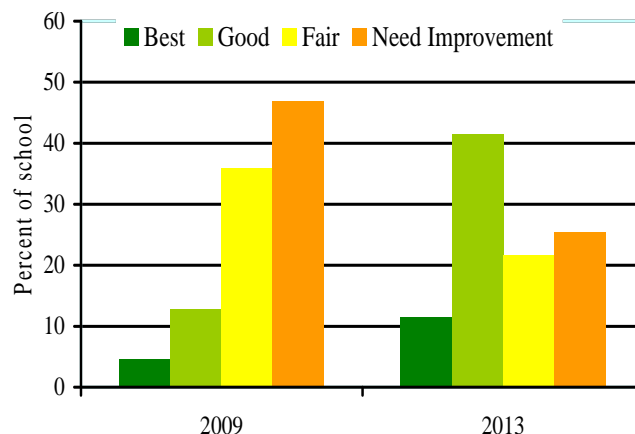


Fig. 1 Comparison in percentage of quality school lunch management level on nutrition, food sanitation, food safety behavior during 2009 and 2013 (N = 538 schools)

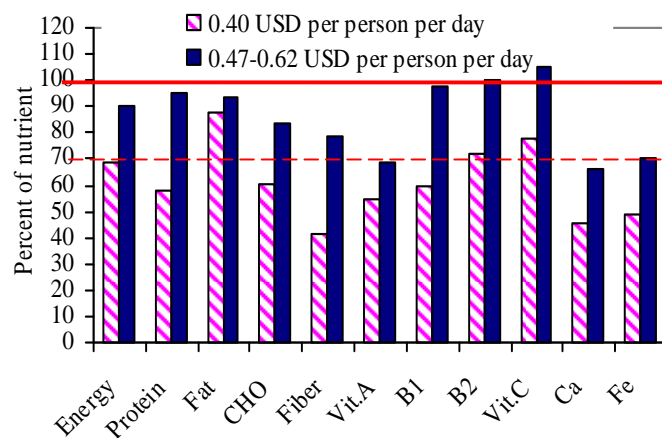


Fig. 2 Comparison in percentage of nutrients from lunch and supplementary food (milk) in school children between budget 0.40 USD and 0.47- 0.62 USD per person per day

- iii. School children with best food consumption behavior and exercise increased from 13.2% in 2009 to 51.6% in 2013. This included vegetable and fruit consumption behavior, consumption of only low sugar, salt and fat, and did not drink carbonated drink or fish sauce or sugar added in ready-to-eat foods. The results are shown in Fig. 3 and Table II;

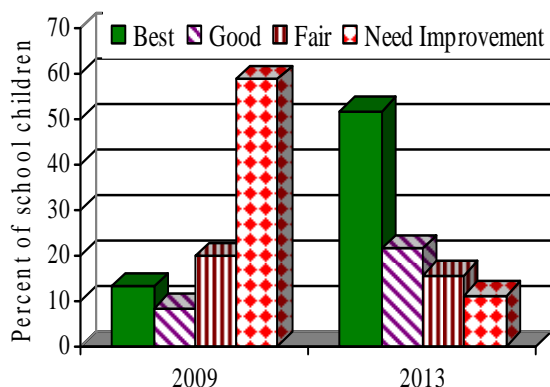


Fig. 3 Comparison in percentage of food consumption and physical exercise behavior during 2009 and 2013

TABLE II  
 COMPARISON IN PERCENTAGE OF FOOD CONSUMPTION AND EXERCISE BEHAVIOR OF SCHOOL CHILDREN BY ITEM

Food Consumption and Exercise Behavior	2009 %	2013 %
i. Eat 5 food groups everyday (rice, meat, vegetable, fruit and fats)	84.7	95.3
ii. Eat 4 spoons vegetable everyday	57.0	82.2
iii. Eat 8 pieces of fruit everyday	44.2	78.5
iv. Eat at least 2 eggs per week	77.6	94.8
v. Eat fish 3-4 times/week (2-3 table spoons)	56.6	64.2
vi. Drink 2-3 glasses of milk (200 cc.) everyday	78.0	92.2
vii. Drink 6-8 glasses fresh water daily	56.7	80.2
viii. Do not drink soda water or over sweeten drink	45.9	57.3
ix. Eat mild sweeten, salted and low fat dessert	46.7	61.5
x. Do not put fish sauce in ready-to-eat meal such as noodle, rice with soup etc.	42.9	62.7
xi. Do not put more sugar in ready-to-eat food such as noodle, fried rice, etc	39.2	59.8
xii. Exercise at least 3 days/week, 30 minutes per day	66.0	80.8

iv. Stunting in school-aged children decreased from 6.0% in 2009 to 4.7% in 2013. Obesity remained stable. These results are shown in Fig. 4.

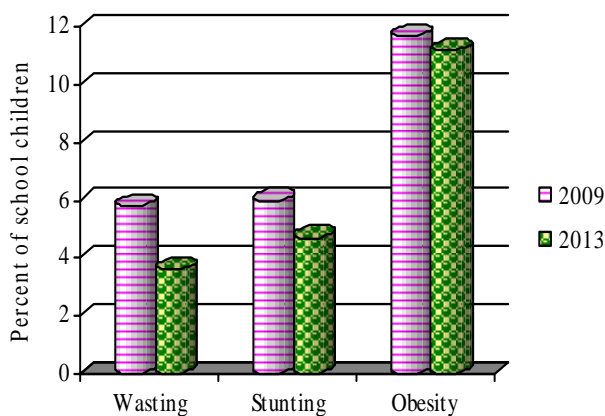


Fig. 4 Comparison in percentage of nutritional status of school children during 2009 and 2013

#### IV. DISCUSSION

After 4 years (2009-2013), participating local governments and schools showed good changes of management of school lunch quality and nutrition standards, food sanitation and food safety. A total of 402 learning centers were developed and 127 local governments increased school meal budgets from 0.40 USD to 0.47–0.62 USD per person per day using local budgets. As a result, wasting and stunting among school children were decreasing and obesity could be controlled to a constant level. Nevertheless, if school lunch were continuously promoted to reach its quality and nutrition standards, and school children were encouraged to eat less sweet and salty food, consume more fruits and vegetables and regularly exercise, it is expected that obesity in school children would be further decreased to the national target (<10 percent) in the following year.

#### V. CONCLUSION

During 2009-2013, there was the development of learning centers on food and nutrition management, and public policy on raising school lunch budgets through various channels under the cooperation of all sectors was accomplished, both locally and nationally. As the result of national policy motivation, the cabinet meeting on October 22, 2013 has approved an increase of school lunch budget from 0.40 USD to 0.62 USD per person per day [9]. The approved budget was 774,249,975 USD. Thus, 5,800,469 school children nationwide have benefited from the budget increase.

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