

## School Catering System Management

### Definitions:

(1) **School Meal** refers to all kinds of food in the school area including meals, snacks, sweets, milk, drinking water and other beverages. In this document, school meal will be precisely referred to as “Diet”. Even though school meal problems occur outside school or school surroundings, and may also be important, they were not addressed in this resolution.

(2) **Schools** refer to schools at all levels from child care centers to secondary schools.

(3) **School Catering System Management** refers to the school food management system and consists of planning, implementing, monitoring, evaluating, and communicating, with a focus on food quality, food safety, food security and food education.<sup>1</sup>

### Situation

(1) School catering is nothing new to Thai society. The “School Lunch Program” was launched in Thailand in 1952. In the year 1992, the government passed a Thai act on the primary school lunch program fund. The essence of this act was to establish a fund for a school lunch program in primary schools.<sup>2</sup> The objectives of this fund were to allocate the budget to support nutrition and to solve malnutrition problems in schools.<sup>[1]</sup> However, the work has not been able to cover all schools and focused mainly on food shortages. Eventually, this problem changed; Thai children are now facing both malnutrition and over nutrition. In addition, the operation of this work in the past had not covered the 4 dimensions of food management in the strategic framework of Thailand, which are food security, food safety, food quality and food education.<sup>[2]</sup>

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<sup>1</sup>See definitions in Health Assembly 6/Main 3/Annex 1

<sup>2</sup>Under the act of school lunch program for primary school in 1992, the current fund has been allocated the expense (from the interest of the fund) for additional expense 5 Baht per day for those who are malnutrition as well as those who were facing food shortage, support expenses to promote school lunch sustainability, support the additional expense to schools where have not been allocated 100 % fund from local government organization, and support additional expense for border patrol police school which provide accommodation for student – see definition in annex.

(2) The School lunch management model <sup>3</sup> consists of 5 main models which includes 1) schools buying raw materials and then cooking for schoolchildren, 2) schoolchildren use coupons to buy food from vendors and then the vendor redeems coupons from the school, 3) school hire someone to prepare food in the school, 4) school hire producers from outside, 5) schools buy cooked food from a market. <sup>[3]</sup> Evidence from a study showed the limitations of school catering to solve malnutrition, food quality problems, food safety issues and provide a school environment to support good consumption behaviors, which are highlights of school catering management.

(3) The 4<sup>th</sup> survey on Thai Health by Physical Check-Up for 2008-2011, conducted by the National Health Examination Survey Office, reveals that 1,080,000 children or 9.3% of Thai children aged 1-14 years, were overweight and obese. This group is at high risk for multiple health problems, especially Type II Diabetes. <sup>4</sup> Although lack of energy and protein problems have declined, it was found that among this group of 520,000 children (4.4%) are shorter than expected for their age group and 480,000 children (4.1 %) are underweight. It was also found that some children suffered from nutritional deficiency, for example, were deficient in iron, iodine and vitamins. Additionally, they ate only 1.4 portions of vegetables and fruits per day – three times lower than the WHO recommendation of 5 portions a day. In conclusion, Thai children's nutritional problems were found to include nutrient deficiency and over nutrition, as well as consuming less vegetables and fruits. <sup>[4]</sup>

(4) The 2012 study on factors affecting primary school management in Chiang Mai, Loei, Nonthaburi, and Phuket Provinces found that the average nutritional value from lunch menus was at 75.6% of recommended the value <sup>[5]</sup>, no better than the findings of the 2006 follow-up study, which found both public and private schools provide only 70% nutritional value of recommended value at a given age <sup>[1]</sup>. The 1997 survey revealed the nutritional value from lunch menus was at 73% of target energy. Also, the average amount of adequate nutrients, particularly minerals such as Calcium, Vitamin A, Vitamin B1 and Vitamin B2 were at 59% of the recommended value. It is concluded that Thai school catering services were inadequate, in terms of nutritional value, to meet children's needs.

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<sup>3</sup>Besides lunch management, some schools provide breakfast such as school under Bangkok municipality organization.

<sup>4</sup>Type II Diabetes are common in Adults but, currently, increased child obesity cause Type II Diabetes in children.

(5) Evidence of food safety problems are repeatedly found even though they could be prevented. In 2007-2011, a Thai report conducted by the Bureau of Epidemiology, reported 375 cases of food poisoning. Among these, 107 cases occurred in preschool to secondary school, with 11 cases from school milk, 63 cases from general food, 12 in front of school and donated foods cases, 17 food contamination cases, and 4 other cases with unknown causes<sup>[7]</sup>. The Department of Health conducted food sample analyses in 2012, with 293 food samples being collected from primary and secondary schools all over Thailand. The findings revealed Coliform Bacteria Contamination<sup>5</sup> at 41.8%. When comparing each type of food, it was found that fresh vegetables were the most contaminated at 68.5%, while primary school drinking water was found at 55.8%.<sup>[9]</sup> The 2012 school meal study conducted by Institute of Nutrition, Mahidol University, revealed that primary school children ate 1-3 sausages/day, 1.5-6 meatballs/day, 1-2 pieces of imitation crabmeat/day whereas secondary school students ate 1-3.5 sausages/day, 3-12 meatballs/day, 1-2 pieces of imitation crabmeat/day. These popular foods contained food preservatives, borax and synthetic colors which might cause health problems and chronic diseases related to the liver and kidney in the future<sup>[10]</sup>.

(6) The health survey of 2009 by the National Statistics Office on food consumption found that Thai children aged 6-14 took snacks daily at 36.8%, and drank carbonated beverages and sugary drinks daily at 25.3%. The 2009 survey by the Bureau of Dental Health, Department of Health, found that 56.3% of public schools and 32.7% of private schools have candies and chocolate sold in the schools. While 70.8% of public schools and 90.6% of private schools allow sugar drinks sale<sup>[11]</sup>. In addition, half of the school activities on Children's Day, sports days, and New Year's Day were funded by snack and carbonated drink manufacturers. Eight and three percent of schools allowed carbonated drink and snack advertisement on posters in schools, respectively, resulting in encouragement of school children to consume snacks and carbonated drinks more frequently, resulting in an increased risk of becoming overweight.

(7) The findings showed that there are still problems in the data collection system, data quality and data utilization regarding the nutritional health of school children, leading to many gaps in policy and planning stipulation. Overall evaluation by the Institute of Nutrition, Mahidol University, showed that no

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<sup>5</sup>Coliform group Bacteria was an indication of feces contamination and this kind of Bacteria often causes Diarrhea both in children and adults.

data analysis were found at preschool level and the majority of preschool problems were ignored. <sup>[13]</sup>

(8) Furthermore, the linkage between community agricultural systems and school lunch management is important for food security and food safety. Currently, the Thai food supply system was being undermined by reduced agricultural area, increased agricultural cost from fertilizers and chemical substance usage, and increased monoculture agriculture <sup>[14]</sup>. Examples of a successful food safety project includes the “Happy Chiang Rai Project” which enhanced food safety production and consumption as well as added economic value in the local area and the development plan on food safety network markets in Chiang Mai. The latter aimed at supporting regulations, agreement and conditions to reduce chemical substance usage. This plan should be developed and applied to school catering system.

### **Impact of Problem**

(9) Obese children face multiple diseases and are prone to become obese adults, which is the highest risk factor for female Disability-Adjusted Life Years-DALYs <sup>[15]</sup>. In addition, overweight and obesity increase risk to develop many non-communicable chronic diseases. The study showed 24-52%, 25-33% and 15-23% of persons living with diabetes, ischemic heart disease and osteoarthritis, respectively. In Thailand, these diseases develop from obesity. Moreover, it was also found that obesity causes 694 million Baht in lost productivity from work absence as well as from premature death causing a loss of 5,864 million Baht. The overall economic loss due to obesity in Thailand was 12,142.2 million Baht or 0.13% of gross domestic product. <sup>[16]</sup>

(10) School children who are shorter than expected at a given age or with severe low weight, iodine deficiency or iron deficiency might affect the development of the country in the future. The 4th survey on Thai Health by Physical Check-Up for 2008-2011 showed that the average IQ level varied in proportion to their height with statistical significance. As a result, children who were shorter and weighed less than the standard had lower IQ when compared with the children who meet the standard. An overseas study revealed that the malnutrition problem in children caused gross domestic product reduction at 2-3% <sup>[4]</sup>.

(11) Frequently consuming products contaminated with chemicals such as food preservatives commonly found in meatballs, imitation crab meat and pork sausages, may injure the liver and kidneys. Moreover, borax found in meatballs

and pork sausages induces fatigue, dry skin, conjunctivitis, and if consumed in large quantities may cause nausea, hematemesis and death. Synthetic coloring, commonly found in sausages, meatballs and imitation crab meat, if consumed in large quantities, may lead to dyspepsia and hinder nutrient absorption. If it is consumed frequently it may lead to liver and kidney damage. The overseas study showed that consuming synthetic food colors plus food preservatives can cause ADHD, irritability, a quick-temper and hyperactivity in children.<sup>[10]</sup>

### **Factors related to school catering management**

(12) The pilot survey study conducted by the Bureau of Nutrition, Department of Health, on a school lunch management project revealed that the budget of 13 baht/person/day (data in 2009 – 2012)<sup>6</sup> was not enough to get qualified or standard food and not enough for providing adequate vegetables and fruit in every meal. In addition, it was found that most school cooks were not knowledgeable on nutrition. However, schools with standard catering provided better food quality.

(13) According to a systematic review on school catering systems in some countries such as Japan, the United Kingdom, and the United States, it was found that 1) if governments consider this matter important by passing laws and issuing clear regulations to ensure standards and nutritional values, good control will be conducted in school catering to fulfill children's needs as well as supporting an environment to promote good consumption behavior; 2) some countries clearly set up a central agency or mechanism for looking after school catering management systems, including planning, quality control, public communication, implementation and evaluation to ensure continuity; 3) some countries set up qualified personnel on nutrition and add necessary nutrition knowledge into school curriculum to support good management in providing quality food in schools. For example, in Japan, they focus on human resource development, education of personnel on age-appropriate diets, provide a teacher to teach children about nutrition in schools; 4) some countries promote participation of all sectors associated with school catering systems at the local level, especially, local government agencies, communities and the private sector.<sup>[17-22]</sup>

(14) In Thailand, the Border Patrol Police School has set up school catering system under "Agriculture for School Lunch" project. The key success

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<sup>6</sup>Currently increase to 20 baht/person/day

factors include: 1) Office of H.R.H. Princess Maha Chakri Sirindhorn's Projects as a central unit to support and coordinate organizations at all levels and related sectors for large scale integration, 2) they set up a continuous follow-up system, 3) they set a clear framework of operation and support system together with cooperative planning from the beginning of planning process<sup>7</sup> to ensure that their work would go in the same direction, 4) teachers, responsible for this job, had been empowered all the time, 5) all relevant sectors inside schools, inside and outside community, including public and private offices, had participated throughout the process. <sup>[23]</sup>

(15) Lessons learned from the project on the school catering system revealed that key success factors include: 1) contextual factors, e.g. local leaders considered it important and announced local policies, school leaders and teachers seriously developed school catering quality; 2) input factors, e.g., well-prepared personnel with continuous development, raising school catering as a main focus with clear procedures and goals; 3) process factors, e.g. emphasizing participation from all relevant sectors, managing a limited budget efficiently, integrating all projects to follow one direction, sharing information between schools, parents, and communities, develop good relationships between communities and schools, source of food production in schools, being supported from related agencies continuously and consistently, and continuously evaluating for improvement and development. <sup>[5]</sup>

## **Policies and Related Measures**

(16) During the past five years, there have been various policies and measures related to the school catering system and environmental management to facilitate good consumer behaviors, such as the principles of health promotion by Statute on the National Health System year 2009, towards the guideline "Health Promotion Better than Cure". Measure 25 was specified to support government units at all levels and all sectors in Thai society to create physical, biological, economic and social environment for good health. The 2<sup>nd</sup> National Health Assembly in the year 2008, resolution 8, stated a strategy to manage overweight and obesity during the period 2010-2019, and in the details of the group I strategy stated that Thai people will be promoted to have an appropriate consumption behavior continuously and consistently. They

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<sup>7</sup>Development of Children and Youth in the Wilderness Plan by HRH Princess Maha Chakri Sirindhorn, currently No.4 year 2007-2016

postulate a strategy to promote production and distribution of healthy food as well as vegetables and fruits as alternatives to high-energy foods. In this strategy, healthy foods should be provided in schools while the selling and service of fatty, sugary, high-sodium foods are prohibited or controlled in the school area. Another prominent strategy was to control food marketing, especially of fatty, sugary, and high-sodium food by setting rules and regulations to control such activities in schools.

(17) In 2008, the National Food Commission was enacted to be the lead agency to implement or manage food in all dimensions to achieve effectiveness and efficiency. This strategy covers food security, food safety, food quality and food education. Later, the cabinet had approved a Strategic Framework for Food Management in Thailand and assigned the Office of the National Economics and Social Development Board to incorporate this strategic framework into The Eleventh National Economic and Social Development Plan (2012-2016) for all agencies can use as a Framework of implementation. <sup>[24]</sup>

(18) There were implementations in public, private and civil society sectors, for example, 1) in 2008, the Department of Health, through the Bureau of Nutrition, initiated the “System and Mechanism Development of Nutrition for Thai Children Project”. The essential activity was to promote organizations or offices to be Organizations of Age-appropriate Diets. These organizations, especially preschool care centers, day nurseries and schools, had managed suitable food and drink for children to meet nutritional standards, food sanitation and food safety. The Bureau of Nutrition also tried to push public policy on foods and nutrition, specifically, to develop food quality in schools, preschool care centers and communities, 2) the Office of Dental Health, Department of Health, implemented “Sweet Enough Network” and cooperated with Ministry of Education to issue the school policy “No Carbonated Drinks”, notified every school all over Thailand to implement this policy as well as stop selling crispy snacks and beverages high in sugar. Since 2008, the follow up study had showed 71% of schools were free from carbonated beverages, 3) in 2008, the “No Fatty Belly Network” [Diet and Physical Activity Network], impelled public policy, such as providing healthy snacks and physical activities during the intermission of any meeting: Healthy Meeting; promoting various colored vegetables grown without the use of chemicals, “No Carbonated Drinks” in school and preschool, while trying to reduce high sugar, fat, and sodium by about 25%, 4) Nutritious and safe food was specified as one of the criteria of health promotion in schools, under the “Health Promotion School Project”, organized by Bureau of Health Promotion, 5) the “Youth Food and Drug

Administration Project” of the Food and Drug Administration, promoted schoolchildren to participate in food safety and food selection, 6) “Food Safety and Free from Disease Project” in schools and preschool development centers of the Bureau of Food Safety Extension and Support, etc.

(19) Lessons learned from the “Age-Appropriate Diet Project” which was implemented between 2009 and 2013, revealed that participation in food management of local organization administration promoted effective school catering management, including policies, planning, measures and activities of agencies, as follows: have appropriate policies for the development of appropriate nutrition within communities, implement policies continuously, add food and nutrition jobs into local development plans, have measures to control unhealthy food distribution, such as crispy snacks, carbonated drink and sweet drinks, and promoting food containing 25% reduced sugar, fat, and sodium, having database on food and nutrition situations, coordinating participation of relevant networks, having a process to promote desirable nutritional behavior of target groups, for instance, support school lunch management in child development centers according to nutritional principles, promoting parents to keep record of the nutritional evaluation of babies, preschool and school children by themselves etc., and increase the school lunch budget in child development centers and schools from 13 to 20 baht/person/day in some areas, as dictated by the local budget. <sup>[25]</sup>

(20) At the international level, the WHO global strategy on diet, physical activity and health has suggested guidelines to solve problems regarding schools in resolution No.43 “schools should promote healthy diets and physical activity because schools can influence children’s behavior. Schools should protect children’s health and school diets should be healthy and with less sugar, salt and fats”. <sup>[26]</sup>

(21) The 63<sup>rd</sup> World Health Assembly, in 2010, endorsed a set of recommendations on the marketing of foods and non-alcoholic beverages to children. Recommendation number 5 mentioned that “schools were an important place for promoting nutritional well-being in children. Therefore, governments should adopt policies to support healthy diets in schools”. <sup>[27]</sup>

## **Limitations of Implementation**

(22) In the recent years, there were attempts to improve the school catering system and health problems of children and young adults, as these were stipulated as a mission of multisectoral stakeholders, but the work has not yet



been successful. The noticeable obstacles were a lack of coordination among related multisectoral stakeholders, with each group paying attention or emphasizing aspects of the school catering system based on their own interests. For example, they participate only in their locality and lack collaboration with other sectors. Some issues of the school catering system need to be developed simultaneously, for example, operational standards, management systems, information systems, and knowledge management. This government considers the development of children and young adults as an important matter which can arise from education reform to become beneficial human resources in the future. The emphasis on health and nutritional well-being of children and young adults by developing the school catering system would lead to quality development of children and young adults in a continuous and sustainable manner.

### **Considering Issue of the National Health Assembly**

Request the National Health Assembly to consider the document, Health Assembly 6/Draft Resolution 3 School Catering System Management.

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