



ความเป็นไปได้ในการจัดอาหารอินทรีย์ให้นักเรียนประถม

โรงเรียนเอกชนในกรุงเทพมหานคร

นางค้ คันธมธุรพจน์*

บทคัดย่อ

การผลิตและการบริโภคอาหารทั่วโลกเปลี่ยนแปลงไปในทิศทางที่มีความยั่งยืนมากขึ้น ผู้บริโภคต้องการอาหารที่มีความปลอดภัยต่อสุขภาพ และเป็นมิตรต่อสิ่งแวดล้อม งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาสถานการณ์การบริโภคอาหารกลางวันของโรงเรียนเอกชนชั้นประถมใน กรุงเทพมหานคร และเพื่อศึกษาความเป็นไปได้ในการนำอาหารอินทรีย์จัดเป็นอาหารกลางวันใน โรงเรียน โดยใช้ระเบียบวิธีวิจัยแบบผสมผสาน ทำการวิจัยเชิงคุณภาพกับผู้บริหารโรงเรียนและ วิจัยเชิงปริมาณกับผู้ปกครองนักเรียนชั้นประถม

ผลการวิจัยพบว่าทั้งโรงเรียนและผู้ปกครองนักเรียนชั้นประถม มีความเต็มใจปรับเปลี่ยน เอาอาหารอินทรีย์มาจัดอาหารกลางวันให้นักเรียนเพราะดีต่อสุขภาพและสิ่งแวดล้อม อย่างไรก็ตาม โรงเรียนยังมีความกังวลว่าจะไม่สามารถจัดหาอาหารอินทรีย์ที่เพียงพอกับความต้องการทั้งเชิง ปริมาณและชนิดของอาหาร สำหรับผู้ปกครองของเด็กประถมในโรงเรียนเอกชนนั้นกำลังซื้อ อาหารอินทรีย์ที่มีราคาแพงและยอมจ่ายในราคาที่สูงขึ้น แต่ยังคงการรับทราบข้อมูลเกี่ยวกับ อาหารอินทรีย์และราคาที่ต้องจ่ายเพิ่ม

ดังนั้นผู้วิจัยจึงเสนอแนะให้ผู้บริหารโรงเรียนทำสัญญากับเกษตรกรใกล้กรุงเทพมหานคร เช่น ไร่ปลูกผัก กลุ่มเกษตรกรสวนมะขามเทศจังหวัดฉะเชิงเทรา และกลุ่มเกษตรกรวังน้ำเขียวจังหวัด นครราชสีมา เพื่อส่งอาหารอินทรีย์ให้กับโรงเรียน และให้จัดกิจกรรมการเยี่ยมชมฟาร์มกับ ผู้ปกครองและนักเรียน เพื่อให้นักเรียนเรียนรู้ถึงแหล่งที่มาของอาหาร ซึ่งมีหลายประเทศทำแล้ว ประสบความสำเร็จ

คำสำคัญ: อาหารอินทรีย์/ โรงเรียนเอกชน/ นักเรียนประถม

* อาจารย์ ดร., ภาควิชาสังคมศาสตร์ คณะสังคมศาสตร์และมนุษยศาสตร์ มหาวิทยาลัยมหิดล



Introducing Organic Food to Private Primary Schools in Bangkok *

Kanang Kantamaturapoj **

Abstract

The global food provision and consumption has been changed into more sustainable direction. The general patterns of change include an increasing consumer demand for safe and healthy food which is produced in an environmentally friendly way. The objectives of this study are to investigate current situation of primary school lunch and to evaluate feasibility in having organic lunch in school. Qualitative and quantitative research methodology was applied to study school and parents of primary school students.

The study found that both providers (schools) and consumers (parents) are willing to change to more sustainable food. For providers, the school executives believe that changing to organic food will bring about better consequences to health and the environment. However, they are concerned about lack of organic food in terms of variety and quantity. For consumers, the parents have purchasing power and likely to accept organic food for their children. However, the parents need to receive more information about organic food and price difference.

This study suggests two recommendations to introduce organic food to school. Firstly, the school must contract organic food suppliers near Bangkok to supply organic food to school once a week and use organic food to cook for student at least 2 days a week. Secondly, the school executives must set up farm visit activities with local supplier. Parents and students should visit the farm to learn about how foods are produced. Many counties worldwide supply local organic food to school and succeed in more sustainable food transition in school setting.

Keywords: Organic Food/ Private School/ Primary Student

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** Lecture, Ph.D., Department of Social Sciences, Faculty of Social Sciences and Humanities, Mahidol University



Introduction

In the past, human produced food around their houses and consumed food that gathered or produced around their area. Thus, they knew sources of food. However, mode of food production and consumption has been dramatically changed all around the world since last few decades (Oosterveer, 2005). The mode of food production is now separated from the mode of consumption (Giddens, 1990). Consequently, people no longer know the sources of food. They don't know how foods are produced and transported to them. In additions, foods nowadays are related health risks, such as pesticide residue, mad cow disease, bird flu, melamine contamination, etc. Unknown of sources of food and emergence of new food diseases make consumers feel uncertain about safety of their intakes. The consumers do not trust safety of food in the markets and they feel more worried when the scientists cannot explain about new food borne. This phenomenon is called "risk society" which explains that nowadays (food) risks are global, systemic, unpredictable and infinite (Beck & Willms, 2004). The consequences of food provisioning to health and environmental issues are in the contemporary discussion of global researches (O'Doherty et al., 2001; Oosterveer, 2005).

As a result of the above concerns, many consumers around the world seek for sustainable foods that are safe for human and the environment. Organic food is one option for consumers who need to avoid food risks since organic food is non-chemical. Therefore, it is safe for both farmers and consumers' health. It is also good for the environment due to no chemical contamination to the environment. In additions, organic farming needs intensive workforce to grow up and protect the products. As a result, the communities around the farm are indirectly benefited by employment.

In Bangkok, organic foods are available in some distribution channels like supermarkets, specialized shops, and restaurants. In order to increase level of sustainable food consumption, sustainable food must be provided in the distribution channels that fit urban consumers' lifestyle. The literature review shows that a profile of actual purchasers of organic produce include female, with children and having a higher level of income (Kantamaturapoj, 2012). FAO (2013) also found that families are often introduced to organic food with the arrival of a baby. The US supermarket sales of organic baby food increased nearly 2,200 percent between 1989 and 1995 - from \$1.1 million to \$25.1 million (Bocchi, Spigarolo, Sarti, & Nölting, 2009). In additions, Løes and Nölting (2009) noted that households with children under 18 are more likely to purchase organic produce.

Since the parents care about food that their kids eat, there is an attempt in many countries to introduce organic food in schools for the students. Italy has become a pioneer in Europe to use organic and local products in school meals (Vallianatos, Gottlieb, & Haase, 2004). In Italy, the municipalities design an organic school meal system (Gidlöf & Retta Belay, 2011). The municipalities (in particular in the Northern and Central part of Italy) frequently introduce organic products in their menus (Vallianatos et al., 2004). In Copenhagen partly organic food is delivered to all public schools and the goal is to reach a point where 75 percent of the products used are organic (Ritter, 2014). In Norway, organic food was introduced in the schools either by



fruit and milk schemes, or by the schools' own initiative (Vallianatos et al., 2004). In Germany, the cities of Munich and Nuremberg have launched initiatives for promoting organic school food in the context of becoming eco-cities model. The city-state of Berlin is frontrunner in organic school food at the regional level. At the national level, a programmer has been supporting the introduction or increased use of organic produce for kindergartens and school canteens since 2004 (กรมวิชาการเกษตร, 2553).

There is no evidence about organic food for students in Thailand. What is missing in the existing literature is detailed information about the ways in which Thai parents think about organic food provisioning in schools and how do they respond to the greater availability of more sustainable food in school. This study therefore investigates the pattern of sustainable food in the lunch for students and evaluates the possibilities to introduce organic food into schools in Bangkok. The result of this study can fill existing gaps in the literature on organic food provision in school setting in urban Thailand.

Theoretical Framework

An integrative theory of consumer behaviour, “Social Practice Approach” (SPA), is a conceptual framework in this study. To understand consumer behaviour, a multi-dimensional perspective that includes internal and external elements: motivations, attitudes and values, contextual or situational factors; social influences; personal capabilities and habits are needed (Stern, 2000). This argument supports the choice of integrative theories of consumer behaviour in providing the theoretical framework for this study. The assumption is that consumers are influenced by both sides; by psychological mechanisms (attitudes) and by changes in society (the social structure or system of provision). Thus, the social practice approach is used as the methodological basis of this study. The content of this social practice approach is elaborated below.

The social practice model was developed as a consumer oriented approach within environmental sociology. The model builds on the assumption that individual subjectivity is mediated through social interactions (Giddens, 1984). Social interactions are what give individuals access to language, inter-subjective interpretation, meaning and knowledge. Green products and services are embedded in socio-technical networks that embrace specific groups of producers, retailers, consumers and numerous other relevant actors in the food supply chain. To understand why, how, and to what extent people accept new products within their daily domestic routines, one has to study the ways in which these socio-technical devices are produced, made available, acquired and used by different groups in the chains of production and consumption (Spaargaren, 2003). Social structures are reproduced by knowledgeable and capable agents who are able to provide comments, reasons, and explanations for what they are doing and how they are doing it. The general principle of treating people as responsible human is also relevant for issues of ‘green lifestyles’ and sustainable consumption patterns. Using these concepts Giddens (1984) constructed a model of the interconnections between ordinary everyday routine actions and social institutions. Individual and collective agencies are the result of complex patterns of social interaction, social regulation, and social reproduction.

Giddens' social practice theory had been caught in the dualism between structure (objectivism) and agency (subjectivism) (**Figure1**). For social practice theory, the concentration on agency leads to a concept of the social as the sum of individual actions, and hence to the inability to define any limitations on action (voluntarism) and blindness to the ways in which social structures limit agents' capacities (subjectivism).

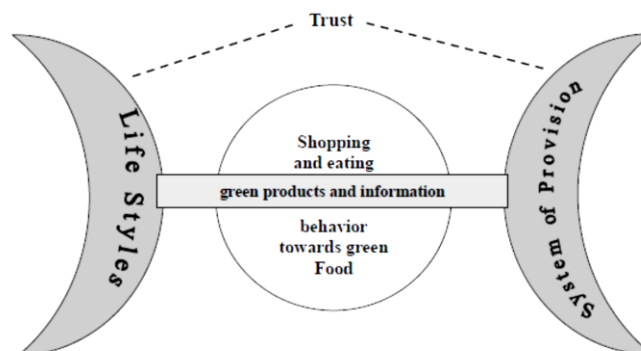


Figure 1 The Social Practice Approach

The social practice approach examines the opportunities for reducing the overall environmental impact of normal daily routines. The model analyses the process of reducing the environmental impact of consumption in distinct domains of social life through the intentional actions of knowledgeable and capable agents making use of the possibilities offered to them by a specific system of provision (Spaargaren, 2003).

To operationalize social practice approach for this study, both individual and structure are assessed. The private school structures are assessed in order to explore the possibility to introduce organic food lunch into the schools. The individual included the parents of primary school students in Bangkok. The parents' individual factors such as knowledge, awareness, and experience of sustainable food are investigated.

Study Area and Research Methodology

The study area of this research is restricted in urban part of Bangkok. At the moment, there is a gap between mode of food production and mode of food consumption. Most of foods are produced in the rural area and consumers (the primary students in private schools in this case) in the urban area only see ready-to-eat food in the school canteen. They do not see and do not know how foods are produced, transported, and cooked to them. Moreover, there are many food scandals which make the parents who have little children are more concerned about safety of food that their children eat when going outside home. This is especially true for the families that have high purchasing power. This study is therefore focused on selected private primary schools in Bangkok in order to investigate the possibility to introduce organic food lunch to the private primary school students whose parents are highly concerned about safety of food and have purchasing power to pay for higher cost of (more) safe and sustainable food. These target groups are likely to change their consumption practice into more sustainable direction.



This study uses a combination of qualitative and quantitative research methods. Different methods are carefully selected to address the different research questions. Qualitative methods such as observation and in-depth interview were used in the early stage of study to explore current situation of school lunch. These were followed by a questionnaire survey with 400 parents of private primary school students in Bangkok in order to find out the possibility to introduce sustainable food lunch to the private school.

Due to the previous study (Chouichom, Liao, & Yamao, 2013), the major distribution channels of organic food include supermarket (mainstream) and specialized shop (niche market). Therefore, urban area or inner Bangkok in this study refers to the administrative boundary that many supermarkets are located. The private schools in this area can easily access to organic food in the available markets. It is also expected that the parents of students have experienced in seeing sustainable food in the mainstream market. According to BMA data center (Bangkok Metropolitan Administration, 2005), large department stores are mostly located in Pathumwan, Bangrak, Ratchathewi, Klong Toey, and Wattana District. Therefore, the boundary of urban Bangkok in this study includes the area within these 5 districts. According to Office of the Private Education Commission (2009), there are 44 private schools in these 5 districts that provide study in elementary level. Total five of the largest school of each district were selected to study. The sample size was calculated according to Yamane (1967) equation. The sample size for more 8,092 population is 382 (5% precision levels where confidence level is 95% and $P = 0.05$). The questionnaire survey was conducted with 400¹ parents of five private primary school students (80 respondents x 5 schools; see **Table 1**) to examine the most preferably organic food program and their willingness to pay. The screening questions will be conducted after getting a result from observation and interview to test whether the parents really know about lunch of their children. Only the parents who pass the screening questions will be selected to respond the questionnaire.

Findings and Discussions

1. School Lunch in Private School in Bangkok

The private elementary schools set up similar lunch program for students. Normally, the school staffs cook for young students such as level 1, 2, and 3 while the upper level students can buy and select food at the canteen. Source of food of all schools are the same. Fresh foods such as vegetable and fruit are from nearby fresh market. Meat products are from large supplier such as CP. No organic food is currently supplied to any school. It is interesting to note that some schools have contracted food supply from the parents of the students to guarantee the availability of food. For food from the

¹ Yamane equation
$$n = \frac{N}{1+N(e)^2}$$

When n = number of samples
 N = number of population
 e = deviation



market, the school representatives are not sure about the origin of food but they believe that they clean vegetable/ meat well enough before cooking. Thus, they think it is safe for the students.

Table 1 Selected Schools in this Study

No.	School	District	Number of Students	Number of Samples
1	A	Klong Toey	1,216	80
2	B	Bang Rak	2,995	80
3	C	Pathumwan	866	80
4	D	Ratchathewi	1,517	80
5	E	Wattana	1,498	80
TOTAL			8,092	400

Table 2 perception of current lunch pattern and possibility to introduce organic food in school

School	A	B	C	D	E
Perception to current lunch pattern	+	+	+	-	+
Possibility to introduce organic food to school lunch	+	+	+	++	-

Remark: 1) Perception to current lunch pattern + refers to already satisfy/ - refers to need to improve

2) Possibility to introduce organic food to school lunch ++ refers to high possibility/ + refers to possible/ - refers to unlikely to occur

Regarding the food selection, nutrition and safety are the common priorities of five selected cases. Some school concerns about quality, calorie, and the student's preference. Cost of lunch of all selected cases is included in the school fee and ranged between 50 - 70 Baht per person per one lunch.

Most of schools strongly believe that they already provide the best food for the students. However, most schools agree that organic food is good for students' health and the school executives are eager to change for better quality of the students. If the supplies of organic food are guaranteed, they would be pleasure to cook organic food for students. Since they have more than thousand students, they need to shop large amount of food



every day, most of foods are bought from nearby markets which do not sell any organic food. Also, the cost of organic food is high so the school executives have to consider carefully before making decision. The perception of current lunch pattern and possibility to introduce organic food in school are shown in **Table 2**.

2. Parent's preference on food for students

In general, the awareness of parents toward school lunch included safety, nutrition, and freshness. Parents normally satisfied with current school lunch because it is clean and convenience. The survey found that most of the respondents satisfied with the current school lunch because it is clean and safe as well as convenience. Some respondents did not satisfy with the current school lunch. Most of the respondents would accept organic food provision in school if the price is not much different from then conventional lunch while some of them would like to change to organic food although they have to pay more. The respondents who are still not sure with organic food provision in school need more information about organic food and would like to know about the exact price that they have to pay for organic food. This study found that parents of private primary school students demand for more safe food and they are willing to pay for higher price of organic food due to high purchasing power. Most of the respondents are willing to pay 16 – 30 percent higher than conventional cost (**Figure 2**). It is likely to introduce organic food to school channel. However, the food providers (schools or suppliers) need to disseminate the information about benefit of organic food and the reason why parents need to pay more before the transition. **Figure 3** provides overall parents' acceptance of organic food.

Conclusion and Recommendation: from farm to school

The study found that both sides; providers (schools) and consumers (parents) are willing to change to more sustainable food. Regarding food provision, the private schools in Bangkok are autonomous in making decision on school lunch. The school executives believe that changing to organic food will bring about better consequences to health and the environment. However, they are concerned about lack of organic food variety and insufficient organic food supply. For consumer side, the parents of private primary school have purchasing power and likely to accept organic food for their children. However, the parents need to receive more information about organic food and price difference.

This study therefore suggests 2 recommendations to introduce organic food to school. Firstly, the school must contract organic food suppliers/ producers near Bangkok to supply organic food to school once a week and use organic food to cook for the student at least 2 days a week. There are some organic food suppliers near Bangkok who already provide deliver service such as “Rai Pluke Rak” in Ratchaburi Province, “Sanam Chai Ket Farmer Group” in Chachoengsao Province, and “Wang Nam Kiew Farmer Group” in Nakhonratchasima Province. Since the supply of organic food is still low in Thailand and most of organic suppliers already deliver organic food once a week to the customers in Bangkok, this study recommends the school to contract organic food



once a week and provide organic food to the students only 2 days a week in the beginning stage. In Piacenza, Italy the local farmers tender to supply local organic food to school. However, several factors hamper a broad utilization of organic school food even in Italy. The main constraints are economy; premium prices, lack of extra funding, pressure to reduce public costs, and logistics; lack of appropriate products, products not always available (Bocchi et al., 2009). In Los Angeles, USA there is an innovative program called “CSA in the Classroom.” A CSA, or Community Supported Agriculture program, has generally been characterized as an arrangement in which a local-area farmer sells subscriptions to urban residents who periodically receive a box of farm items based on what has been harvested that week. To participate, these subscribers are willing to pay six months or even a year in advance, a strategy that can provide a crucial source of revenue for the local farmer. The CSA in the Classroom program varies insofar as the “subscriber” is the school district and the box is delivered to different schools and classrooms each week. (Vallianatos et al., 2004).

Secondly, the school executives must set up farm visit activities with local supplier. Parents and students should visit the farm to learn about how foods are produced. Many counties worldwide supply local organic food to school and succeed in more sustainable food transition in school setting. The students in Widney High School in Los Angeles were ready to hear a class presentation in nutrition education. The students were presented with a box of fruits and vegetables that had been delivered that morning from a farm at the urban edge of the huge Southern California metropolitan region. The fruits and vegetables had been picked the previous day and dropped off at the classroom by the farmer. A lesson had been prepared by the teacher that included not only an understanding of where the food came from but also the value of farm-fresh food. Some students had never previously seen some of the greens that were provided. Teachers from some of the other participating schools also described that the class was much better than just talking about what healthy is (Vallianatos et al., 2004).



Figure 2 Percent of accepted price difference between organic and conventional lunch

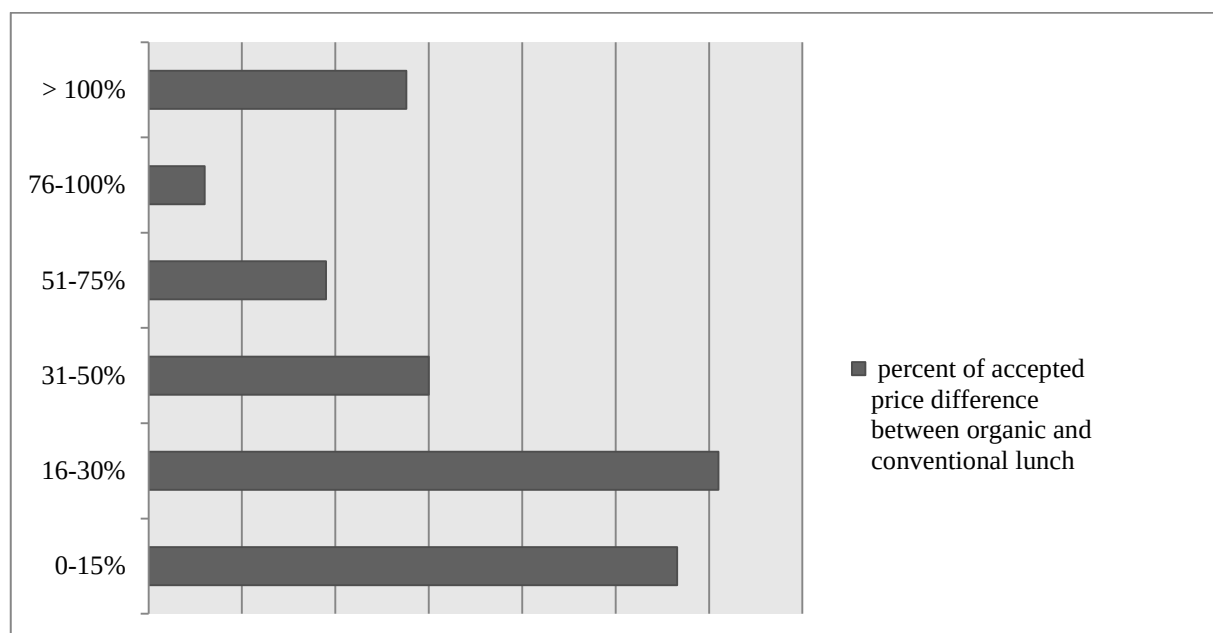
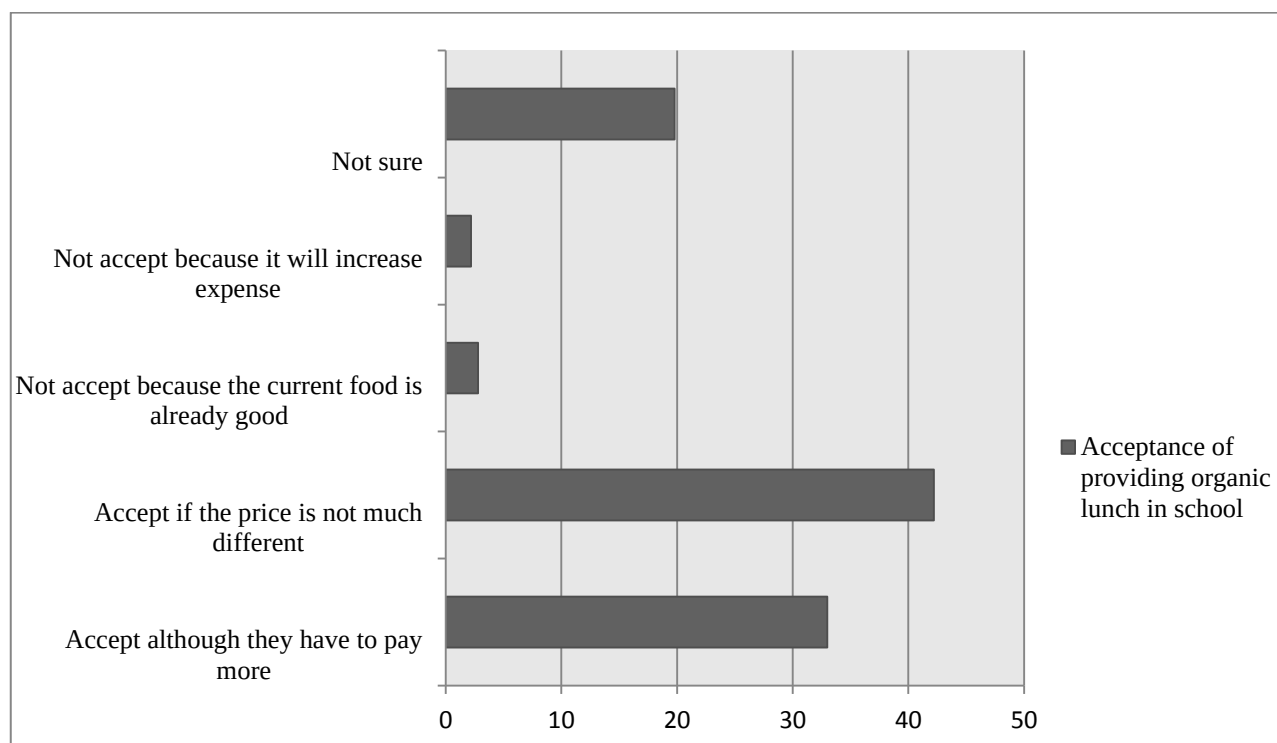


Figure 3 Parents' acceptance of organic food in school





Due to the findings of this study and literature reviews of the successful cases around the world, contracting local producers to supply organic food to schools and setting up farm visit activities would increase sustainable food consumption in Thailand as well.

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