Consumers' Perception of Organic Foods in Bangkok, Thailand

Diplomarbeit

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Abstract

Organic farming is a growing sector in Thailand. In the recent years a domestic market for organic products has developed as consumers are more and more concerned about the risks resulting from pesticide residues in vegetables. Growing consumer concern for safe and healthy food as well as an increased environmental awareness, especially in larger cities has shifted the demand towards alternative health products. Different labelling programs for “safe food” were established.

The research methods applied are semi-structured interviews with 7 key actors involved in organic agriculture in Thailand which contribute to assess key aspects of organic farming in Thailand and organic food purchases in Bangkok. The assessment of consumer perception is based on 848 consumer interviews with a standardized questionnaire in Thai language in 7 different supermarkets in Bangkok.

The respondents are divided into three groups: 40% have purchased organic products; 26,9% have already heard of organic but don't buy organic and 33% of respondents have never heard of organic farming.

The main motives for purchasing organic products are expected positive effects on health and the lack of pesticides. As reasons for not buying the interviewees mentioned not to know what organic means, being satisfied with safe products and difficulties in finding organic products.

The results of this study point out a lack of knowledge of organic in general, about the specifics of this production method and its differentiation from other labelled products. Respondents do not make a sharp distinction between 'safe', 'hygienic' and 'organic' food. There is not much information available on the different labelling programs. Although consumers are interested in organic products they are not able to identify them, as they don't know the organic labels well.

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1.Introduction

Organic agriculture is practiced almost all over the world. The share of agricultural land under organic management and the number of organic farms are growing worldwide. The major markets for organic products are Europe and North America, but as production increases regional markets in other parts of the world are also expected to develop (Yussefi, 2004).

In Asia a wide spectrum of development stages of organic agriculture can be found, the interest in organic farming is growing. But there is only little information on the domestic market situation of many Asian countries (except Japan which has a highly developed market for organics) although these countries are increasingly producers of organic foods (Yussefi, 2004). As the importance of organic farming is emerging the official interest in many countries is increasing and governments have started to implement regulations for organic farming.

The industrialized countries as major consumers of organic produce provide export opportunities for organic producers in the other parts of the world. There is especially an import demand for tropical produce or counter seasonal fresh vegetables and fruits and in Europe (Pilkauskas, 2004) and the USA (Kortbech-Olesen, 2004) as consumer demand a full range of products all year round. Therefore it's not surprising that export opportunities are the major factor for conversion in Asia (Kung Wai, 2004).

1.1. Agriculture in Thailand

Thailand is often called the “kitchen of the world” which refers to its importance as a producer and exporter of food commodities. 38 percent of the land surface are used for agriculture (arable land and permanent crops). Major agricultural products are rice, chicken meat and sugar cane. The first two are together with dry natural rubber the main export goods as well. In 2002 agriculture's share of GDP was 9,4 percent and its share of total exports was 12,2 percent. 55 percent of the total labour force was employed in the agricultural sector (FAO, 2004).

Nowadays Thai agriculture suffers from problems linked to the high external input system. Most of the inputs (for example pesticides, fertilizers, fuel) have to be imported at a high price which is a major constraint for agricultural development in Thailand (Ratanawaraha, 2002). The misappropriate use of pesticides is a major health hazard for farmers and their families (IPM-DANIDA, 2003). As the awareness of problems linked to this high-input agriculture is increasing, politicians, NGOs and farmers are searching for alternatives.

1.1.1. Alternative Farming Systems

There are different agricultural systems practiced in Thailand and the differentiation is not always easy and clear. Traditional farming, natural farming or sustainable practices are often considered 'organic'. It is also difficult to find and name the opposite of organic as there are more other practices than one.

Agricultural systems which haven't been influenced by the “green revolution” and therefore do not use chemical fertilizers or pesticides are often called traditional farming. They can be organic if they comply with all the organic standards, but there are examples of traditional systems which are not organic as well (UN, 2003).

A term which is often used is “natural farming”. It can be referred to the philosophy of Masanobu Fukuoka, a Japanese farmer who promoted a “do-nothing farming” which means the abdication of fertilizers, pesticides, tillage or weeding (Gold, 1999).

At a conference on organic farming and certification organized by the Asian Institute of Technology (AIT) “applied natural farming” was presented as a system which uses natural materials, focuses on humus management and natural pest control and applies chemicals only when necessary (Sapyaprapa et al., 2002).

1.1.2. Organic Farming

Thailand's organic movement was initiated by farmers and local NGOs in the 1980s. As the negative impacts of modern conventional agriculture such as dependency on off-farm inputs, indebtedness of farmers or degradation of the environment increased rapidly, people were looking for alternatives to the “green revolution” methods. There was also a rise of awareness concerning negative health effects by agro-chemicals, both for farmers and for consumers. So the Alternative Agricultural Network was established to foster sustainable farming practices, including organic agriculture (Panyakul, 2004).

In the 8th “National Economic and Social Development Plan” (covering the years 1997 to 2001) the Thai government declares organic agriculture as a major theme for the national agricultural policy. With the growth of demand for organic foods in western countries, a market opportunity arises: supply of tropical foods in organic quality. Since Thailand is a main food exporter, the government saw a market niche and supported organic farming in Thailand, at the beginning mainly for export (Panyakul, 2004). Till 2003 almost all certified organic products were exported. The most important crop for export is rice, followed by baby corn (Panyakul, 2003).

Thai organic agriculture is still at an early stage. In the year 2004 about 10.500 hectares of cropland and 2.800 farms were certified organic (Chaimivol, 2004). Organic farming is characterized by family farms which are organized in producer groups but there is also large scale production for export (Panyakul, 2003).

The government has set up different projects to foster organic farming and has developed national standards for organic production recently as well as a national accreditation program (Panyakul, 2003).

Standards and certification are provided by national and private organizations. At the moment there are only regulations for crop production, standards for livestock are currently being developed.

- **Standards and Certification by National Government**

The government has set up standards for organic crop production in 2000 and developed a certification body for organic products, called “Organic Thailand” (Figure 1). It is managed by the Department of Agriculture (DOA) /Ministry of Agriculture and Cooperatives (Chaivimol, 2003).

Figure 1: State label for organic products

- **Standards and Certification by NGOs**

The first and only Thai certification body accredited by IFOAM is called “Organic Agriculture Certification Thailand”(ACT, Figure 2). This private organization was founded in 1995 and it's members are NGOs, producer groups and other private organizations.

Figure 2: Label of ACT

The label of IFOAM (International Movement of Organic Agriculture Movements, Figure 3) is sometimes found on organic products in Thailand because it can be used by certification bodies accredited by IFOAM (for example ACT).

Figure 3: IFOAM Label

There are also several foreign organizations certifying organic products for export, e.g. Soil Association, BioAgriCoop, BCS Ökogarantie (Panyakul, 2003).

1.1.3. Regulations Concerning GMO

The commercial growing of genetically modified crops or plants is not allowed in Thailand. For research purposes field trials with transgenetic plants are allowed but permission from the government is required (Valyasevi et al., 2003).

Since May 2003 there is a regulation for food products containing genetically modified ingredients. If one of the main three ingredients of a food product has a GMO contamination of 5% or higher, it has to be labeled. But this is only valid for soy and corn at the moment (Greenpeace, 2004). There have been many protests against GMO contaminated food products in Thai supermarkets and environmental groups like Greenpeace are actively campaigning for stricter regulations.

1.2. Market Situation for Health Products in Thailand

Health awareness of Thai urban consumers is increasing, particularly regarding the very high level of pesticide use by Thai farmers and thus the possibility of toxic residues in food. Different studies showing high levels of chemical residues on vegetables and fruit and critical newspaper articles have risen attention among consumers (IPM-DANIDA, 2003; Poapongsakorn et al., 1998). The Ministry of Public Health has launched a campaign informing about chemicals and pesticides which increased the demand for safe products.

A study in 1991 investigating the market potential for pesticide-free vegetables in Bangkok concluded that vegetable consumers had a negative perception of pesticides and a high degree of awareness concerning residues. Over 80 percent of the respondents showed interest in buying pesticide free vegetables (Nelson, 1991).

This indicates that there is a market potential for health products and different products addressing these concerns have already been introduced by supermarkets in Thailand.

1.2.1. Safe and Hygienic Products

A specific feature of the local Thai food market is the coexistence of different environmentally friendly, healthy or hygienic labels. There is often no clear separation of organic and “healthy” food in the shops. Furthermore the labels and the advertising are similar so consumers can easily be misled (Panyakul, 2003).

Therefore governmental institutions started different certification systems for safe food products. These programs and the labels belonging to them are explained in Table 1.

Table 1: Overview of food labels in Thailand and their definitions.

Label	Name, issued by	Background
	'Hygienic fresh fruit and vegetable' Department of Agriculture/ Ministry of Agriculture and Cooperatives	The "hygienic fresh fruit and vegetable production project" was started in 1991 by the Department of Agriculture (DOA)/Ministry of Agriculture and Cooperatives (Chaimivol, 2003). In this program the use of agro-chemicals is regulated and controlled (IPM-DANIDA, 2003). The residues on the products have to be below a specific level that is safe for the consumer.
	'Pesticide-safe vegetables' Ministry of Public Health	The Ministry of Public Health assigns a label to retailers of agricultural products who conduct tests for toxic substances before selling the products (Tops, 2005). These products are from production systems using agro-chemicals but the residues have to be within the levels defined by the Ministry of Public Health.
	'Food Safety' Ministry of Public Health and Ministry of Agriculture and Cooperatives	The Ministry of Public Health and the Ministry of Agriculture and Cooperatives agreed on a common food safety logo which will replace the hygienic logo. Products are tested for residues and if they are below the Maximum Residue Level farmers and producers can use this certificate (IPM-DANIDA, 2003).

1.2.2. Organic Products

Farmers recognized that there might be a potential for domestic consumption of organic foods, especially fresh vegetables and fruits.

Rice, fresh fruits and vegetables are the dominant cultures grown organically in Thailand (Green Net, 2004). There is hardly any organic livestock production because there are no regulations existing yet. Fresh fruits and vegetables, wild herbs and cereals are the main goods at the domestic organic market.

IFOAM quantified continuing growth trends for the domestic organic market (Kung Wai, 2004) and Rundgren (2003) mentioned Thailand as an example for successful development of a local organic market. Whereas local organizations see this market is shrinking due to Thailand's economic recession (Green Net, 2004).

There are three main distribution channels for organic products in Thailand - supermarkets, specialized shops and direct marketing (Panyakul, 2004).

In Bangkok most of the supermarket chains offer organic products, but the range of products depends on the location of the supermarket. In general there is only little variety of organic products available, the most common organic products are vegetables and rice.

Supermarkets offer organic products in the same way as other goods so it's not easy for consumers to make out the organic food. Organic vegetables and fruit are in the same shelf as hygienic products, without any special advertisement. Only Carrefour has a separate shelf for organic and provides information about these products. It is also the only supermarket with its own brand for organic products. The other supermarkets sell organic products with producer brands.

Specialized shops focus on organic products, healthy food, or special dietary needs. As there is only a small range of products - like vegetables, herbs and rice - available in organic quality, conventional goods are also sold. Conventional vegetables, fruit and meat come from hygienic production, bakeries and teas often come from development projects and products which are labeled “GMO-free” can also be found there.

Next to farmer's markets there are home delivery schemes and concepts of community supported agriculture established in Thailand (Panyakul, 2004). People can order via internet or phone fresh vegetables, fruits, rice and herbs which are delivered to their homes (Trippawan Bestfood, 2005). Another example of direct marketing is “Community Supported Agriculture”, a system where a group of people supports a farm by covering parts of the costs and in return is provided with a share of the produce (Roth, 2004).

1.3. Problem Identification

Organic farming is a growing sector in Thailand which is encouraged by the government and many private initiatives (Chaimivol, 2004).

Therefore the production is expected to rise but is there also a domestic market for organic products? The increase of “healthy” foods and the establishment of certificates for hygienic or pesticide controlled vegetables indicates that there is a potential market. But there are no actual studies on the production or consumption of organic foods. To better understand the consumers' demand it is necessary to explore the market situation.

Furthermore information on consumer's perception allows a better knowledge of the market to target the support for farmers more efficiently and to identify which projects are more likely to be successful.

There is a variety of environmentally friendly and healthy products on the market addressing consumers' health concerns. This diversity makes it difficult for the consumer to distinguish the products and will result in the question “Why buy organic food?” if the difference is not traceable. A survey of the Thai farmers research center in 1996 on the health food market showed that there is a lack of trust in organic quality and that it's difficult for consumers to find organic products (Panyakul, 2004).

1. It is a worldwide phenomenon that urban people become more and more separated from the origin of their food (Kloppenburg et al., 1996). Consumers know very little about the production process, there is no identification with the product and its producer. This might be true for the urban areas in Thailand as

well and therefore lead to a low level of confidence in organic production. It would indicate that there is not enough information on the consumer's side about organic production. So it has to be explored how much knowledge of organic farming consumers already have and where they would like to be more informed.

2. Literature Review

2.1. The Role of Values and Attitudes in Consumer Choices

Environmental concerns and buying of environmentally friendly products are the result of the influence of certain values (Grunert and Juhl, 1995). Schwartz and Bilsky (1987 cited in Grunert and Juhl, 1995) outlined five main features of values. “Values are (1) concepts or beliefs (2) about desirable end states or behaviors (3) that transcend specific situations, (4) guide the selection or evaluation of behaviors and events and (5) are ordered by relative importance.” Values serve individualistic and collectivist interests. Individuals use values as criteria for evaluating, selecting and justifying actions so values represent motivations for certain behavior. People within a culture are assumed to share values to a certain extend. So values can be used to describe similarities and differences between cultures and to characterize concrete behaviors (Grunert and Juhl, 1995).

A Swiss study suggests that values, attitudes and buying motives are product specific, often less related to organic farming in general and vary among consumer groups (Sanders and Richter, 2003). Higher processed products are less bought for their organic origin but for other product characteristics (Pedersen,2003). Many regular organic consumers tend to buy only certain products organic. The prime motive for buying organic dairy products for example is animal welfare, followed by personal health concerns and environmental protection (Sanders and Richter, 2003). A study by Wier and Andersen (2003) compares buyers and non-buyers of organic products in Denmark and explores the role of values and attitudes in the organic purchase process. The results show that organic buyers are more concerned about health, residues, animal welfare and environmental issues.

Consumers International, a consumer organization, sees organic agriculture providing different benefits for consumers, namely environmental, health related and ethical ones (Pedersen, 2003). Preservation of biodiversity, ground water protection from pesticides, positive influences on rural and social development are examples for environmental benefits (Pedersen, 2003). A study from Spain (Gil et al., 2000) indicates that lifestyle and attitude towards environmental issues are important factors explaining the consumption of organic products.

Consumers, farmers and retailers have different ideas of quality of products. For consumers and producers aspects such as nutritional value, taste or environmentally sound production reflect good quality, attributes which are not immediately apparent in the shop. Retailers focus more on the appearance of products, which is represented by parameters like size, color, or shape (Lien and Døving, 1996 cited Torjusen et al., 2004). Appearance, taste, freshness and shelf-life are important for consumers in general, so for organic products these quality attributes should be applied as well (Torjusen et al., 2001).

Many consumers regard organic products as pure and less contaminated with pesticides and therefore as good for their health. Organic agriculture is part of a healthier lifestyle development which becomes more popular among consumers. Consumers' concern about food production and quality is increasing (Pedersen, 2003). Consumers associate higher ethical standards with organic. Regular control and inspection are needed to ensure continuing trust in organic production (Pedersen, 2003). Consumers expect added values from organic products compared to conventional ones. Organic food is more expensive so it is regarded as better quality, for example. For some consumers this quality improvement comes from environmental aspects in the primary production, for some it means better taste and others connect it with a different and less exploiting behavior of the producer in the market (Pedersen, 2003).

The benefits derived from organic for consumers depend on their understanding of the production process. The survey of Torjusen et al. (2001) shows that many consumers consider ethical, environmental, social and health aspects when choosing food, attributes which are mostly connected to the production and processing of the food. Many of these can't be observed or experienced directly, information is limited, so trust plays an important role (Torjusen et al., 2001). Pedersen (2003) notes that the consumer can derive ethical and moral satisfaction from purchasing these products and increase his/her psychological well-being (Pedersen, 2003). Ethical and environmental concerns about food production are important to consumers but there are great differences between consumer segments. The influence of these concerns on purchasing depends on whether the consumers are able to connect products with environmental problems or other concerns and values in their lives (Torjusen et al., 2001).

2.2. Motives for Buying Organic Products

Consumers have become distanced from the origin of their food and the context of food production which is less transparent today. This influences how consumers perceive their food and can be seen as part of the increasing interest in locally and organically produced food (Torjusen et al., 2001). Organic consumers are regarded to recognize their role in the food system. Buying organic can be seen as a way of dealing with the complex, modern food system and its perceived risks because certified organic products are controlled and bear information about their production (Torjusen et al., 2001). But for Pedersen (2003) the perception of the choice of organic products as a risk-reducing strategy explains only a part of the decision process and the demand for organic food. He calls for a broader view on this subject and names the search for trustworthy exchange partners, the wish to support local producers or to make a political statement as some of further factors included in the purchase decision.

Worry about one's own health and quality aspects are often mentioned as reasons for starting to consume organic products (Schäfer, 2002). But Schäfer (2002) points out that there is not one specific motive for buying organic, often there are several reasons working together.

Consumers frequently purchasing organic products show concerns for many parts of the food system which are related to health in a wide context, as Torjusen et al. (2001) summarize. These include how the food was produced, processed and handled and how these steps affected people, animals and nature. Schäfer (2002) adds that when people intensify their consumption of organic, altruistic motives like supporting organic farming or protecting the environment become more important.

Income level and the presence of children influence the motives and the buying decision, according to a study by Sanders and Richter (2003). Consumers with high income have a wide range of motives for purchasing organic food and their reasons are more hedonistic and altruistic. For medium and lower income classes animal welfare and health are the main concerns. Households with children also have a wider range of motives, where environment and animal welfare are the main reasons. In contrary to other studies, responsibility for the family and the health of children are only minor arguments for buying organic in Switzerland (Sanders and Richter, 2003).

In the US consumers mentioned health and nutrition before taste and the environment as reasons why they purchased organic food (Hartman Group, 2000 cited in Dimitri and Greene, 2002). Production without chemicals and additives, a taste which reminds of former times, to prevent illnesses and a better taste were the most popular motives for buying organic products in a survey in Germany by Birzler-Harder et al. (2003). Italian consumers surveyed by Saba and Messina (2003) hold positive attitudes towards eating organic fruits and vegetables. They value these products as healthy, environmentally friendly, more tasty and nutritious than conventional ones (Saba and Messina, 2003).

As limiting factors Birzler-Harder et al. (2003) mentioned the price, doubts whether organic is strictly controlled and whether organic products are really healthier. Lockie et al. (2002) see the convenience, the costs and availability of organic as constraints.

2.3. Characteristics of “Organic” Consumers

Many studies dealing with the consumption of organic food try to characterize the “typical” organic consumer i.e. to find common features of those people who are interested in or buy organic food.

Wier and Andersen (2003) concluded that organic budget shares are related to specific household characteristics. Higher income, or age for example increase the purchase of organic products. A study by Lockie et al. (2002) indicates that income has an effect on the consumption of organic food but the authors note that it does not necessarily have an impact on the interest in organic. Torjusen et al. (2001) rise the question whether the relation “higher income-higher propensity for organic” indicates that organic could be too expensive and out of reach for people with lower income.

The influence of education is perceived as strong by Lockie et al. (2002) and Wier and Andersen (2003) confirm that the education level increases the purchase of organic products.

Birzler-Harder et al. (2003) list middle-aged, middle education levels and a household size of two and more people as socio-demographic characteristics of organic consumers. Households with children under 15 years also have a higher budget share for organic products (Wier and Andersen, 2003). Richter and Sanders (2003) also see the trend that larger households are more interested in organic.

Some studies found that women are more interested in organic, for example Birzler-Harder et al. (2003) and Lockie et al. (2002). Richter (2003) mentions that men tend to be less interested in food products in general and Rundgren (2000) states that men between 40-60 years of age are a group with little interest in organic products.

Torjusen et al. (2004) compared the results of several consumer studies on organic in Europe. The authors concluded that there are only few general statements possible. There are differences between the countries and even between studies conducted in the same country. Nevertheless they see tendencies that consumers of organic belong to younger age groups or have higher educational levels. The maturity of the market is an example for a factor influencing the demographic composition of organic consumers. If the organic market is less developed women and higher incomes tend to be overrepresented. In mature markets the socio-demographic features of organic consumers are more diversified (Torjusen et al. 2004). Dimitri and Green (2002) evaluated the organic market in the US, they also determined that it is difficult to generalize the "typical organic consumer" as there are sometimes conflicting results from different consumer surveys, for example concerning the age of purchaser of organic.

2.4. Influence of Price

There are some studies (Gil et al., 2000; Boccaletti and Nardella, 2000) estimating the consumer's willingness to pay premium prices for organic food. Rundgren (2000) concluded that the perception of health risks influences the willingness to pay for food.

Gil et al. (2000) found that people who were identified as 'current' or 'likely' organic consumers were willing to pay a higher premium than others. The willingness to pay premium prices is higher for meat, fruits and vegetables than for other products. The authors assume that organic attributes are more important and easier identified with fresh and perishable products, as well as that for meat food scares (like BSE) play a role (Gil et al., 2000).

Boccaletti and Nardella (2000) gathered that Italian consumers were generally aware and afraid of pesticide residues and mostly willing to pay higher prices for pesticide free products. For about 70% of the consumers a premium of 10% above the regular price was acceptable. Another survey (Bagnara 1995, cited Boccaletti and Nardella, 2000) shows that customers of organic shops were willing to pay a premium up to 20% which can be explained with better information for these customers resulting in more trust in these shops. Yiridoe et al. (2005) mentioned that the acceptable level of a price premium for organic was between 10-20%.

Boccaletti and Nardella (2000) also mention that concerns about risks from pesticide-residues would only increase the willingness to pay higher prices if the products and the certification process were clearly recognizable by consumers.

Low prices are less important for organic buyers than for people who do not buy organic food (Wier and Andersen, 2003). Torjusen et al. (2001) found similar results in Norway, their survey shows that organic consumers are less concerned about low prices, convenience and wider selections of products.

2.5. Distribution Channels of Organic Food

In most of Europe the main distribution channel for organic products are supermarkets. This is especially well developed in Austria, Belgium, Denmark, Sweden, Switzerland and the UK where over 50% of the organic trade takes place in supermarkets (Rundgren, 2000). An exception is Germany where most of the organic is sold in specialized stores, although the supermarkets offer organic products too. In the Netherlands the specialized shops play an important role too (Rundgren, 2000).

Specialized shops are the preferred source to buy organic foods in Lebanon (Bteich, 2004). The discussion with and the advice of the shop owners is important for consumers, who often can't distinguish the organic labels. Another reason might be that products from such shops are seen as more authentic (Bteich, 2004). In Japan the distribution channels for organic products are Teikei systems (a co-partnership between producers and consumers, similar to “community supported agriculture”), home delivery systems and normal supermarkets with equal shares for each (Rundgren, 2000).

The sales channels for organic produce in the USA are natural food stores, conventional supermarkets and “direct to consumer sales” (which includes farmers' markets, “Community Supported Agriculture” or farm-gate sales) with direct marketing and natural food stores being traditionally the most important ones (Kortbech-Olesen, 2002). But the shares for the different distribution channels have changed completely in the recent years. In 2000 49 percent of organic sale took place in supermarkets, followed by natural food stores with 48 percent and leaving the remaining percent for direct sales (Dimitri and Greene, 2002).

2.6. Research about Organic Consumption outside Europe and the US

There is not that much research available about organic consumption and consumers' perception of organic food outside the major markets Europe and the USA.

A survey with a small sample size in Mumbai, India showed that about 25% of the consumers were aware of the existence of organic products, 9% also bought organic products, mainly for health reasons. A lack of knowledge and awareness was the main reason for not buying organic (Garibay and Jyoti, 2003).

Another study from India resulted that around 71% of consumers perceived organic vegetables as tastier and healthier, but only 54% of them knew what organic production of vegetables meant (Rundgren, 2000).

A consumer survey among households in Turkey (Akgüngör, 1999 cited in Rundgren, 2000) showed that about 9% of the households have heard about organic food. Depending on the kind of product between 1% and 10% prefer organic products. For 75% of the interviewed persons nutritional value and absence of residues are important when buying food (Akgüngör, 1999 cited Rundgren, 2000).

A study (Bteich, 2004) exploring the options for organic agriculture in Lebanon attended part of the survey to analyze the consumers. In Lebanon organic farming is still at an early stage without national regulation and standards. Organic farming developed as a response to the growing demand and consumers also encouraged retailers to sell more organic. The typical Lebanese organic consumer lives in an urban area, is relatively wealthy and has a high education level (Bteich, 2004).

Product quality is a main issue for all Lebanese consumers. For middle aged people health and safety reasons are important aspects for selecting food products. Young adults follow their beliefs and ideology when buying food, they are more open for new products. There are also consumers who buy local organic products without certification consciously to support the farmers and the development of organic agriculture (Bteich, 2004).

2.7. Research about Organic Consumption in Thailand

As organic farming is still at an early stage in South East Asia there is only little research available about the purchase of organic food or the consumer's perception of organic. For Thailand two relevant studies were identified.

A survey by Nelson (1991) explored the market for pesticide-free vegetables in Bangkok. There was a high awareness of pesticide residues and their negative effects among the consumers. Four groups of vegetable purchaser were analyzed: those who were aware that pesticide free vegetables were sold and who had also bought them, those who were aware but had not purchased pesticide-free vegetables, those who did not know about pesticide-free vegetables but would be interested in buying them and those who did not know and were not interested in buying pesticide free vegetables. The groups of actual and potential purchaser of pesticide-free vegetables were characterized as well-educated females with middle or higher incomes. They mentioned to be willing to make compromises concerning the quality of these vegetables. They also stated to be willing to pay higher prices for pesticide-free products. Those who knew about pesticide free vegetables but did not buy them mentioned the price and the location of the stores where these products were sold as obstacles for buying. The survey also showed that around 50% of the group of buyers of pesticide-free vegetables recognized the packaging of these products, over 80% of the other groups did not recognize any of the packages.

A study by the Thai Farmers Research Center in 1996 investigated the market for pollution free/health food in Bangkok. 62,3% of the 780 participants had already bought pollution free food. 71,1% of the respondents thought that consuming health food would make them healthy, 18,1% were afraid of pollution in the food (Panyakul, 2004). The main obstacles in buying health food were: lack of trust in organic quality (applies for 61,2% of the interviewees), difficulties to find this kind of products (30,5%) and the price (8,4%). 58,6% of those who didn't buy yet mentioned the difficulties to find these products as main obstacle, 17,6% thought it was not necessary to buy health food (Panyakul, 2004).

3. Aims

The aim of this study is to get a general overview of the consumers' perception of organic food in Thailand. It shows the hindering factors for buying organic foods and how much knowledge of organic production exists among consumers. As it contributes to identifying product groups with a growth perspective, the results of this study help farmers, processors and retailers to design their offer according to the consumers' wishes and demands.

As it is the first study of this kind the research area is limited to the city of Bangkok which is expected to be a major center of the demand for organic products. It is assumed that there -due to higher income levels- more potential consumers and the greatest offer of organic products can be found. It is further assumed that among urban people the awareness concerning food is higher.

Three main objectives can be identified:

3.1. Knowledge of Organic Products

In a first step the consumers' knowledge about organic production and its distinction from other “health foods”-i.e. hygienic/safe- is explored. The results of the study provide a more detailed picture of the associated factors and arguments involved in the purchase decision process. They also point out which obstacles those consumers, who would like to buy organic products, face.

3.2. Develop Consumer Profiles

Different studies try to classify people who purchase and consume organic products into groups as mentioned in Chapter 2.3. Can the models be applied to the South-East Asian consumers? This study attempts to get a more detailed picture of the demographic characteristics of the Thai organic consumer, his/ her purchase habits and those people who do not purchase organic products.

3.3. Identify Constraints and Prospects for the Market

The consumers' attitudes towards organic products and their level of knowledge indicates the market potential. But they also point out where more information and communication is needed. Consumers' wishes and demand for new products will be identified that finally product groups are detected which are missing on the organic market.

4.Hypotheses

For this study the following hypotheses and research questions were developed, based on the results of the literature research.

➔ **The variety of labels on food products confuses the consumer. He/she is not able to distinguish the labels and their background.**

➔ **There is little knowledge about organic production among consumers.**

Thai consumers are confronted with a variety of labels on their food products (see Chapter 1.1.2. and 1.2.1.).

Distrust in organic production or organic labels is often the result of a lack of information on these subjects (Richter, 2004). Consumers demand clear and understandable information on products. The labeling must enable the consumers to make informed choices. On the other hand are labels on a product only of little value for customers if they do not recognize the logos or are unsure what they stand for. (Madelin, 2004).

Questions:

Which labels do Thai consumers know?

What do consumers know about the different labels?

What do consumers know about the difference between organic and the other food types?

Can Thai consumers identify the organic labels and organic products?

What do Thai consumers know about organic farming?

What do they know about the production conditions for organic products?

➔ **There is a specific type of consumer who buys organic products.**

Many studies in Europe show a positive correlation between consumption of organic food and demographic features like income and education (for example Wier and Andersen, 2003; Sanders and Richter, 2003). The typical consumer of organic products is sometimes characterized as female, well-educated and with a high income (see Rundgren, 2000; Bteich, 2004). Nelson (1991) concluded that the typical consumer of pesticide-free vegetables in Bangkok was well-educated, from middle or upper income group and female.

Questions:

Who buys organic food?

Which types of consumers can be identified?

➔ **The offer of organic foods in supermarkets doesn't meet the consumers' demand and preferences.**

In the European organic markets besides vegetables and fruit also dairy products, eggs, and cereals represent important product groups. The consumers are offered a great variety of organic product groups (Fuchshofen and Fuchshofen, 2000). At the time of this study the variety and availability of organic products in Thai supermarkets was limited.

Questions:

Which products are bought?

Which products consumers would like to purchase?

What are the reasons for not buying?

5. Methods

A literature survey which gives an review of the current status of organic farming in Thailand and consumers' perception of organic food in different countries is the first step of this research. This is followed by an exploratory research in the form of qualitative interviews with local experts and key actors.

The quantitative data collection is carried out with a standardized questionnaire in Thai language which is designed with the assistance of Thai experts. After a testing period the data collection tis carried out in different supermarkets in Bangkok by students from Thammasat University. The survey is limited to supermarkets which offer organic products, the target group are all customers shopping at these supermarkets.

5.1. Interviews with Key Actors

Following Gilbert and Churchill (1995) an exploratory study makes the analyst more familiar with the problem and provides information on the practical possibilities of the research. The author of this thesis has no experiences with Thailand so the exploratory part is essential for the further research work.

Key actors from different organizations and companies dealing with and involved in organic farming are consulted to get a better understanding of the situation of organic farming in Thailand. The interviewees are: persons in charge from the Ministry of Agriculture and Cooperatives Thailand, the management of different supermarkets, NGOs and organic farmers who supply directly to supermarkets (see list in Appendix 9.1.).

The interviews follow a semistructured guide which covers the following topics.

Interview guide

- How are you/is your organization involved in organic farming?
- What are the projects and aims of your organization?
- Is there promotion from your organization for organic farming?
- When and how did safe / hygienic food develop in Thailand?
- What actors were involved? Was it consumer driven?
- Do you think consumers can distinguish between safe, hygienic and organic produce?
- Do you think consumers know about the labels and their meaning? Do they trust the labels?
- Are genetically modified organisms (GMO) an issue in Thailand?
- Which organic product groups are available & bought?
- What are the reasons for consumers to purchase organic products?
- Who buys organic, any ideas about consumers of organic products?
- Influence of health and safe foods on the market for organic?

Depending on the interviewee and his/her background the questions differ. The results of these interviews are used to evaluate and revise the questionnaire.

5.2. Questionnaire

5.2.1. Development of the Questionnaire

In a first step the questionnaire was drafted in English according to the instructions found in specific literature (i.e. Atteslander, 2000; Gilbert et al. 1995). The issues raised were based on the results from the literature research and the expert interviews.

This draft was discussed with Assoc. Prof. Dr. Suthichai Somsook and students from Thammasat University. In this first evaluation step the focus was to see whether the topics covered were relevant for the Thai situation. Another aspect was to find out which issues should be added or addressed more in detail.

The final draft of the questionnaire was analyzed and corrected by Mrs. Patcharin Chitaurjaisuk from Carrefour and Mr. Vitoon Panyakul from Green Net Foundation. Both are experts concerning organic farming and marketing organic products in Thailand. They were consulted to ensure that the questionnaire was convenient for surveying consumers.

The English questionnaire was then tested with professors from Thammasat University to see whether the questions were appropriate and made sense for Thai people. There was also focus on the administration of the questionnaire, i.e. how to handle it and fill it out.

Finally the questionnaire was translated by Dr. Suthichai Somsook and a student into Thai language. The translation was controlled by Mr. Vitoon Panyakul and re-translated from Thai to English to ensure the meaning of the questions was correctly translated. This process of translation and control was accompanied by intensive discussions with Dr. Suthichai Somsook and a student.

The Thai version of the questionnaire was finally tested with the interviewers, students from Thammasat University. The testing was part of their introduction into the interviewing process.

5.2.2. Content of the Questionnaire

Thematically the questionnaire is divided into 3 parts. The first part surveys the interviewee's knowledge of common labels found on vegetable products and explores if he or she has ever heard of organic and what is associated with 'organic'. The interviewees are shown different labels which are very common on vegetable products (detailed information about these labels in Table 1). The target is to find out whether there is knowledge of the meaning of these labels and of organic in general. Then there are questions about concerns regarding pesticide residues and the use of GMO in food products.

The next part contains questions about the purchase and consumption of organic products and looks for the reasons why people buy or do not buy organic products. The interviewees are further asked about their previous purchase of vegetable and fruit, e.g. what they bought and what label it carried.

In the final part several statements about organic farming and products are presented. The task for the interviewee is to give an opinion on these statements e.g. whether they agree or not. This should help to complete the evaluation of the interviewee's knowledge of organic and provide information about the consumers' ideas about organic farming. At the end demographic features are asked. The questionnaire (in Thai and English) can be found in the appendix.

The questionnaire contains questions which do not concern all interviewees. Figure 4 gives an overview of the selecting questions and the corresponding number of interviews. Those people who have not heard of organic - this group is named “never heard” - are only asked the general questions (i.e. whether they are concerned about pesticide residues on food, which labels they usually purchase and demographic information). All others are also asked questions about their knowledge of organic food and production and about their opinion concerning the statements mentioned before.

A question about the purchase of organic products is the second selecting question, which is used to distinguish between following two groups:

- Those who have never purchased -the group “non-buyers”- are asked about their reasons for not buying.
- The group of interviewees –named “buyers”- who have already bought organics in the past are asked about the frequency of consumption, their satisfaction with the current product selection available and their reasons for buying organic products.

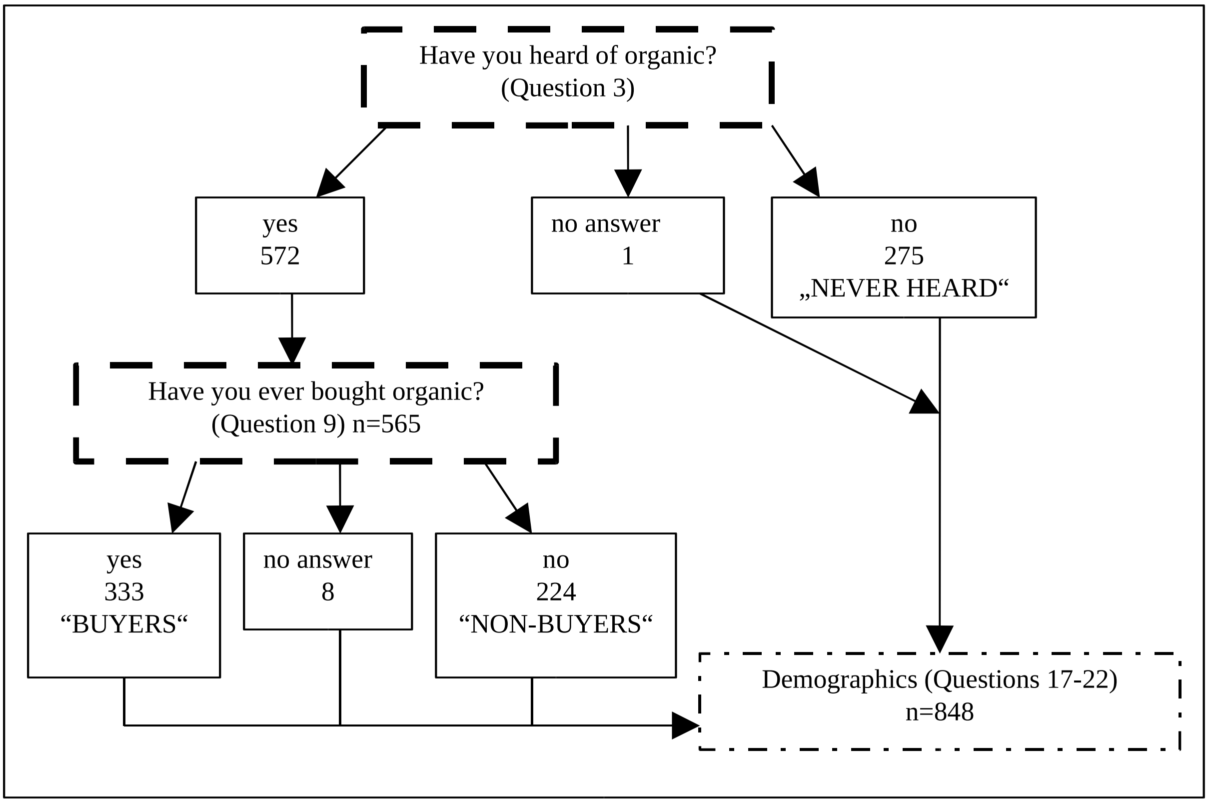

Figure 4:Structure of questionnaire and resulting groups of interviewees

5.3. Selection of Supermarkets

The aim is to survey different types of supermarkets in different areas to get a broader picture but also to see if there are differences between the supermarkets. This means to take interviews in hypermarkets, supermarkets and small health food stores in the center of Bangkok and in the outskirts. Shops where especially business people, government officials and tourists do their shopping are excluded, mainly because they have very specific customers which means only a very small part of the population is represented. Another criteria is to survey only supermarkets carrying organic products.

So the following companies are selected: Carrefour, Lemon Farm, Tops, Villa Market (a detailed description follows in chapter 6.1.).

For a better understanding and knowledge of the supply of safe and organic food several supermarkets are visited and their range of products is examined. Special attention is paid to how the products are presented and what labels and brands can be found on the packages.

Additionally the manager in charge of vegetables or organic products is interviewed. The main questions asked cover:

- What organic products are offered?
- What are the consumers' attitude towards organic products?
- How are employees who work with organic products educated?
- How is the control of the organic production chain organized?

5.4. Data Collection

5.4.1. Interviewers

The interviews were taken by students from Thammasat University. Before the data collection a training session for the interviewers was held. They were introduced to the questionnaire and the data collection method. After a question-by question discussion of the questionnaire the focus was on practicing interviews. Special attention was paid that all interviewers were confident and well prepared for the interviews. Altogether there were 8-12 students working as interviewers.

During the data collection the interviewers were assisted by the researcher and got personal feedback.

5.4.2. Sampling

The survey took place on 6 successive days at the end of April, beginning of May 2005. The intention was to survey two branches of each supermarket chain. There was only one branch of Villa at Sukhumvit Road surveyed because only this one had organic products, which was not known before. For Carrefour and Tops one branch was located in the center of Bangkok and at the outskirts.

The planned minimum sample size was 100 interviews for each branch of Tops and Carrefour and 50 interviews for each shop of Lemon farm and Villa. These targets were reached at every supermarket. The interviewers took altogether 848 interviews.

All the interviews were taken inside the shops. The interviewers were instructed to select the interviewees according to their educational level - the minimum requirement for each interviewer was 2 persons per education level. The idea was to get equal numbers of interviews per education group. The interviewers were also advised not to focus on a special group of people but to interview people of different age and sex.

In practice it was not so easy to achieve these goals in every supermarket. Especially people with higher education like a Master's degree were rare. The author was present during the interviewing time to answer questions and to secure the correct data collection.

5.5. Data Analysis

The collected data were entered into a MS Access database by three Thai students. They also translated the written answers and comments from the questionnaire. The data was organized and prepared for analysis with MS Access. A main focus was on data cleaning, i.e. to eliminate errors caused by data entry and to ensure complete datasets.

The data was then processed with SPSS 11.0 for Windows, the methods applied were descriptive analysis, cross-tables and the Chi-square test. The Chi-square test was carried out at a significance level of 5 percent. In case the condition for this test ($e_{ij}>5$) was not fulfilled this was noted in the results. The data was tested for differences between the three groups of consumers and between the supermarkets. The books of Backhaus et al. (2005) and Bühl et al. (2002) were consulted to ensure a correct statistical data analysis.

5.6. Limitations

There are some factors influencing the research process and the results which have to be considered.

The interviewer and the interview atmosphere itself affect the answers and results. Hence the interview situation has to be planned carefully and the interviewer has to be aware of his/her role. The results have to be interpreted in the context they emerged from (Atteslander, 2000). Although there was a focus on these aspects during the preparation of the interviews some problems arose during the survey.

One challenge were the language differences between the interviewers and the author of this study. Although there was a lot of time spent on explaining the study and the process of taking interviews there still might have been problems of understanding.

The translation of the questionnaire and the results is a potential source of error. There are terms which can not be translated precisely, either because there are more words describing the same subject or because the expression doesn’t exist in the other language. The persons who did the translation for this research were not professional translators.

In the case of this study, there were some difficulties to translate the word 'organic'. The Thai language has different words for organic, for example it distinguishes between organic farming, agricultural products and organic food. Another problem which emerged during the research was the somehow not very accurate use of the term 'organic'. Even experts did not always differentiate between 'organic' and 'hygienic' during the interviews. The expression 'organic' did not always mean 'certified organic' but was often mentioned in the context of natural food or sustainable farming.

A similar problem exists with the terms 'hygienic', 'safe' and 'healthy' food. Neither intensive literature and internet research nor the expert interviews resulted in distinct definitions of these terms. Sometimes products 'with the “hygienic fresh fruit and vegetable”-label from DOA are called hygienic' while 'safe' represents products labeled with the “Pesticide-safe” label from the Ministry of Public Health. But sometimes 'hygienic' and 'safe' are used synonymously.

Another point is the cultural aspect. People have different values and attitudes which influence their behavior, they are biased by their own cultural background. In the case of this study the author is very familiar with the development and the situation of organic farming in Europe. But she has no concrete experiences within the South-East Asian context. This might be a disadvantage for the realization of this project as she doesn’t know the cultural specifics of Thailand and has no skills of the Thai language. In any case it is important to keep in mind that the cultural and historical background in Thailand is different and that the results of this study have to been seen in this context.

6. Results

6.1. Supermarket Visits

All visited supermarkets offer a broad range of “safe” products from different brands. These are normally in a separate shelf, some supermarkets have a sign above the shelf showing that this is the section with hygienic/safe products. The availability of organic products varies depending on the location of the supermarket. For example in the center of Bangkok there are in general more organic products offered than in suburban areas such as Rangsit.

6.1.1. Description of Supermarkets and Offer of Organic Products

Carrefour has hypermarkets with a size of more than 10.000 m² and a great variety of products ranging from food products, household goods to clothing and more.

Carrefour has a quality policy named “Carrefour quality line -safe from farm to table”. In the shop information about this program is provided. In the vegetable section is a big board with pictures explaining the production of safe vegetables and showing their way from the farm to the supermarket. On the packages of organic products is information what organic means- it says: “no chemical fertilizers, no pesticides, no herbicides, no synthetic hormones, no GMO”. There is also a number called traceability-code.

Figure 5: Logo of "Carrefour Quality-Line"

Organic vegetables and rice are labeled with the Carrefour quality-line logo and the word 'organic', they are certified by the Department of Agriculture, Ministry of Agriculture and Cooperatives, Thailand and BCS. The quality line label is also used for non organic products such as meat and fruit. Leaflets explaining the quality-line policy are available for fruit and pork-meat.

In every Carrefour supermarket, the organic vegetable shelf is separated and marked clearly with the Carrefour quality-line logo. Organic products from other producers are on another shelf but also separated from hygienic/safe products.

The organic rice from Carrefour's own brand is indicated with a big sign whereas organic rice from other brands is not specially advertised.

Tops is one of the largest supermarket chains in Thailand. The organic offer comprises different kinds of vegetables, herbs and rice. In the vegetable section there is a separate place for hygienic products where hygienic, pesticide safe, hydroponic and organic vegetables and herbs are offered. The store also sells organic rice but this is not clearly marked or announced. Not every branch of Tops has the same range of organic products. At Tops Marketplace in Central Chidlom there is a separate shelf with organic vegetables from Rangsit organic farm (certified by Organic Thailand). This shelf is managed by the producing farm itself. At other branches it is sometimes difficult to get organic products.

Villa supermarket is a smaller chain with some shops on Sukhumvit Road, Bangkok which is an area highly frequented by expatriates and tourists. The bigger shop on Sukhumvit Rd. 33 offers mainly food products and some basic household stuff and additionally a broad selection of imported food stuff. Next to the offer of hygienic/safe vegetables there are organic vegetables from two producers available. The organic products are on a separate shelf but there is no special announcement for this section. This shop also has some other organic products but it requires some search-work to find them as they are in the same shelves with conventional products.

Lemon farm is a company running health food stores focusing on products for a healthy and balanced nutrition with seven branches in Bangkok. It is quite small compared to the other supermarkets and is specialized on natural products. The aim is to “supply organic and natural products, develop healthy homemade foods, provide support to the Thai rural communities and save the environment” (found on Lemon Farm News-brochure from Feb 2005). There is also a farm which is called “Lemon Farm” belonging to the company. It produces organic vegetables but is not certified.

6.1.2. Price of Organic Products

The comparison of the prices of organic and conventional vegetables in one of the supermarkets with a good offer of organic products pointed out price differences between 53% and 410% (Table 2).

As rice is a major food there are many kinds of this product available, differing in quality and therefore also in price. This comparison only looked at jasmine rice of similar quality and the same packaging size. However, the price difference still ranged between 13% and 130%.

Table 2: Prices of organic and conventional vegetables and rice, taken from price tags in a supermarket in Bangkok in April 2005.

Product	Price organic	Price conventional	Price difference in %
white cabbage	49 baht/kg	32 baht/kg (safe)	53,1
spring onion	69 baht/kg	40 baht/kg	72,5
broccoli	139 baht/kg	65 baht/kg	113,8
long eggplant	45 baht/kg	21 baht/kg	114,3
long bean	89 baht/kg	39 baht/kg	128,2
young chinese kale	75 baht/kg	32 baht/kg	134,4
short cucumber	49 baht/kg	18 baht/kg	172,2
bitter gourd	55 baht/kg	20 baht/kg	175,0
white cabbage	49 baht/kg	17 baht/kg (special offer)	188,2
chao phaya eggplant	50 baht/kg	15 baht/kg	233,3
chinese cabbage	69 baht/kg	19 baht/kg	263,2
small hot chilies	250 baht/kg	49 baht/kg	410,2
jasmine rice	159/165 baht/ 5kg	71-140 baht /5kg	13,6 %-132,4 %

6.2.Key Actors Interviews

In this section the main results from the interviews with the key actors involved in organic farming in Thailand are summarized. Mr Poolsawat gave a lot of background information on organic farming and especially on organic standards and certification in Thailand. Mr. Ritkhachorn explained the concept and history of his farm and informed about his production. These two interviews are not taken into account in the following summary as the information provided does not target the main questions of this survey.

The considered interviews are:

- Chaivimol, Supote
- Chitaurjaisuk, Patcharin
- Panyakul, Vitoon
- Pornsirichaivatana, Prinya
- Ratanawaraha, Chanuan

6.2.1. Knowledge about Labels and Organic Products

All five interviewees agreed that there is a lack of knowledge about organic production among consumer and that consumer education is a big issue. Most of them were not sure whether consumers know the difference between 'organic' and 'hygienic/safe'. They mentioned that it is difficult to look behind the labels and that consumers might be confused by the labels. “Too much labeling, too many different labels make it difficult for consumers to decide which products to choose”, Pornsirichaivatana postulated. Chaivimol believed that people would be willing to pay more for products if they find a trusted label on a product.

Chitaurjaisuk and Panyakul explained that 'hygienic' and 'safe' mean the same, that is to say less chemicals are used. But Panyakul assumed that the difference between 'organic' and 'hygienic/safe' food is not clear for consumers. Chaivimol thought that 'hygienic/safe' is no competition for organic but he admitted that many people don't know the difference between these production methods.

Chitaurjaisuk and Pornsirichaivatana thought that customers are sceptical about safe and doubt whether it is really true what is said on the package/by the label. In Mrs. Chitaurjaisuk's opinion consumers in general go for labels, the preferred ones are official ones from governmental institutions whereas Pornsirichaivatana assumed that customers just look for the cheapest products.

Pornsirichaivatana remarked that customers at supermarket do not really know about organic, so they don't look for it, while the informed consumers go to specialized shops. Chitaurjaisuk suggested that consumers know well about hygienics, but only little about organic, they cannot identify organic products. So her company carries out promotion activities for hygienic or organic products with the aim to inform the customers and increase their knowledge.

6.2.2. Reasons for (Not-) Buying Organic Products

A growing concern about health -the own and the health of the family- is the main reason why consumers buy organic food according to the interviewed experts. Chaivimol and Pornsirichaivatana also mentioned environmental concerns as further factors. Both thought that price issues are limiting the purchase of organic food. According to Ratanawaraha there is a group of people looking for green products, but it is often difficult to find these products. He mentioned a lack of knowledge and understanding of organic production as main reason why people are not interested in organic products. Chaivimol thought that a lack of understanding of the benefits of organic limits the consumption of organic food.

Chitaurjaisuk observed that consumers ask for products with less chemical residues respectively less chemicals used for production. She mentioned a survey by Carrefour where 95% of the customers said they would like to buy safe vegetables, the actual purchase of safe vegetables was about 20% of the products. She states that the price of organic products is still an obstacle for consumers, as they mainly look for cheap products.

6.2.3. Attitudes towards GMO

Chaivimol, Panyakul and Pornsirichaivatana thought that consumers are somehow concerned about GMOs and have a negative attitude towards them, but they are not so sure how much consumers really know about GMO. Producers are very much concerned about GMOs and there is a strong resistance against growing GMO-crops in Thailand as Panyakul and Pornsirichaivatana informed.

6.2.4. Price of Organic Food

Chitaurjaisuk explained that in general there is a price difference between low and high value vegetables. High value vegetables are for example salads and hydroponics, where the seed has to be imported. These products have generally a high price and the difference between organic and normal is not so big, about 30-50%. Low value vegetables are “everyday-vegetables” like different kinds of cabbage which are the main vegetables for Thai people. They are quite cheap and so the difference to organics is very high, for example organic white cabbage is 8 times more expensive than the conventional one. Chaivimol estimated that organic vegetables are about 10 times more expensive than the conventional ones. He further mentioned that organic fruits have very high production costs so people in cities are more likely to be able to afford them. He believes that people will be willing to pay more for products if they find a trusted label on a product. Informed consumers are not concerned about price of organic products -that's the assumption of Pornsirichaivatana.

6.2.5. Issues

“The government promotes organic farming but not the consumption of organic products” was the assessment of an expert. This was confirmed by another interviewee who said that the main interest of the government is to promote production for supermarkets and export. It was critically remarked that there is still only little implementation of the government policy and therefore little outcome.

All interviewees agreed that the focus of further activities has to be on consumer education. Pornsirichaivatana mentioned that consumers need to be educated especially concerning the different farming practices as urban people don't know about farming anymore.

Panyakul mentioned a limited choice of organic products and logistic problems as obstacles for an increase of purchase. Ratanawaraha observed that it is difficult to find organic products at supermarkets. Organic is still to expensive for school and hospital kitchens. Panyakul presumed that further growth of organic farming will be related to export opportunities.

6.3. Consumer Survey

During six days of data collection 848 consumers were interviewed in seven different supermarkets (Table 3).

Table 3: List of supermarkets, date of survey and number of interviews.

Name and Location of Shop	Date	Number of Interviews
Carrefour Ratchadapisek	Thursday 28.04.2005	147
Carrefour Rangsit	Friday, 29.04.2005	164
Lemon Farm Chaeng Wattana	Saturday, 30.04.2005	77
Lemon Farm Prachacheung	Saturday, 30.04.2005	60
Tops Bang Na	Monday, 02.05.2005 (public holiday)	194
Tops Central Chidlom	Tuesday 03.05.2005	142
Villa Market, Sukhumvit Rd.33	Wednesday 04.05.2005	64

33% of the consumers belong to the group “never heard”, they answered that they have never heard of organic before the interview. 40% of all respondents are “buyers” and 26,9% have already heard of organic but do not buy organic, they belong to “non buyers”.

6.3.1. Demographic Features

96,3 % of the interviewees came from Thailand, 2,4% were from Europe, the USA or Australia and 0,7 % from other Asian countries. A few interviews (2,6%) were taken in English, the majority (97,4%) was held in Thai language. Almost all interviewed foreigners were living in Thailand, only two of them were visiting tourists.

The average age of the interviewees was 37,6 years, over 50 % of them were between 21 and 40 years old. 65,9 % of the interviewees were women. 49,2 % of the people interviewed had children under 18 years living in their household, in 57,6 % of these cases the youngest child was under 6 years of age. It was planned to interview equal numbers of people from every educational level. But in practice interviewees with a master’s degree or higher were underrepresented (only 11,8%) whereas 34,9 % of the people had a Bachelor’s degree. 31,7 % have completed High School as their highest educational level and 21,1% finished only the compulsory education (secondary school).

The distribution of income levels was as follows: 10,9% of the interviewees had a monthly family income less than 10.000 Thai baht, 26,1% had between 10.000 and 20.000 Thai bath per month at their disposal, 15,3% had between 20.001 and 30.000 Thai baht and 45,9% had a monthly family income of more than 30.000 Thai Baht. For comparison, the average monthly household income in Bangkok area (including the neighbouring provinces of Pathum Thani and Nonthaburi) was around 28.200 Thai baht, the average for the whole country was around 13.700 Thai baht (JICA, 2002).

6.3.2. Knowledge about Labels

The label that was recognized by more than half of the interviewees was 'hygienic fresh fruit and vegetable' from the Department of Agriculture (DOA). All the other labels are not very well known. Nearly 14% of the respondents had seen the 'Quality Line' label of Carrefour (for comparison: 23,2% of those interviewed at Carrefour shops recognized the label), the two Thai certified organic labels were recognized by around 10%. A smaller number of people than those who recognized the labels said they knew about the meanings and mentioned concrete associations or could describe the meaning (Table 4).

Table 4: Labels and percentage of interviewees who recognized and knew about them.

Label	% have seen it	% have not seen it	% said they knew its meaning	% mentioned ideas about meaning
Hygienic fresh fruit and vegetable	53,1	46,9	46,6	45,8
Carrefour Quality Line	13,7	86,3	9,1	9,1
Pesticide-safe vegetables	11,7	88,3	9,2	8,5
Food Safety	11,4	88,6	7,7	7,0
Organic (DOA)	10,3	89,7	7,7	7,4
Organic (ACT)	9,8	90,1	7,1	7,1
IFOAM	2,5	97,5	0,9	0,5

The interviewees' associations with the labels were combined in groups to allow for a better overview. There are quite some overlaps between the labels and the associations mentioned (Table 5). For example both the ‘safe’ and ‘hygienic’ labels are associated with the concepts of ‘hygienic’ and ‘non-toxic’. The table also shows that the label ‘hygienic’ was the one most interviewees had a clear association as to its meaning. On the other hand, there is little difference between the associations made with the labels ‘organic’ (DOA) and ‘Carrefour’.

Table 5: Number of responses for each idea about the meaning of the labels (only the most common categories are included, multiple answers possible).

Labels/ Associations	Hygienic	Safe	Organic (DOA)	Carrefour	Organic (ACT)	IFOAM	Food safety
hygienic	183	22	6	6	4	-	7
non toxic	73	18	7	7	-	-	3
safe	35	9	2	2	-	-	-
non chemical	32	4	0	4	5	-	1
quality	12	-	2	11	-	-	5
Governmental projects, DOA	5	-	-	-	-	-	20
organic	3	-	23	-	17	2	1
some standard, certification	3	-	-	-	11	-	4
other	6	18	13	15	6	3	18
Carrefour	-	-	-	17	-	-	-

The 'hygienic fresh fruit and vegetable' label was associated with 'hygienic', 'non toxic', 'non chemical' and 'safe' products. Few respondents thought it had something to do with 'quality'. The organic labels were associated with 'organic' and partly with 'non toxic' or 'non chemical'. The label of ACT was also connected with 'some kind of standard' (Table 5).

Those interviewees who recognized the labels and knew about the meanings were also asked whether these labels marked organic products. The Thai organic labels from ACT and DOA were recognized as 'organic' by 82% and 78% respectively. But more than half also thought that the 'hygienic fresh fruit and vegetable' label and the label for 'pesticide-safe vegetables' were organic labels.

6.3.3. Purchase Habits

The question about the actual purchases (what products with which labels they had bought) in the week before the interview (Table 6) showed that the respondents preferred the normal/conventional produce, with the exception of salad and lettuce, where more safe/hygienic products were bought. Between 2,6% and 4,1% of all interviewees bought organic fruit or vegetables (Table 6). Hydroponics were only relevant for one product group so they were included in the category 'none of these'.

Quite a lot of respondents did not buy any of the listed products although these are all staple foods. In the interviews with experts, these mentioned that people in Bangkok eat out a lot and many people do not cook themselves.

Table 6: Purchases of the previous week- what products with which labels were bought.

Product	Normal/ conventional %	safe/hygienic %	organic %	didn't buy any of these %	I don't know %
Cabbages	26,8	20,5	3,5	42,1	5,1
Kale	26,1	21,9	3,5	40,7	5,5
Long beans	24,2	17,8	2,7	48,5	5,4
Salad, lettuce	17,6	21,7	4,1	49,0	5,3
Other Vegetables	27,8	23,7	4,0	33,3	7,1
Herbs	22,2	12,0	2,5	56,0	5,1
Fruit	43,4	18,4	2,6	21,0	13,9
Rice	26,3	13,6	3,7	43,9	10,9

6.3.4. Concerns about Pesticides and GMO

Asked about their concerns regarding pesticide residues on vegetables and fruits 52 % of the interviewees answered they were very much concerned and 10,6 % were not concerned at all. The objections as to the use of GMO in food products were different. 46,3 % of the interviewees were not concerned at all and only 10% were very much worried about GMOs in food products (Table 7).

Table 7: Concerns about Pesticide Residues and GMO in percent

	Very much %	Often %	Sometimes%	Not at all %
Concerns about pesticide residues on vegetables and fruit.	52,0	18,2	19,1	10,6
Concerns about GMO use in food products.	10,0	9,4	27,5	46,3

6.3.5. Knowledge about Organic

67,5 % of all interviewees had already heard of the term 'organic'. But 51,6 % of these people said that they were not sure what organic meant. 45,4% estimated their knowledge of organic as 'little' and only 3% percent thought they knew a lot about organic products.

Almost 90 percent agreed that organic farming was 'good for the environment' and that organic products were 'healthy' (Table 8). A little over 70% knew that organic was produced without using synthetic pesticides or chemical fertilizers and did not carry pesticide residues. On the other hand 54% agreed that organic uses pesticides, but less than other farming systems. For 65% of the respondents organic was the same as natural or traditional farming and 43% thought that there was no difference between organic and hygienic products.

More than 50% agreed that organic food didn't contain GMOs but almost one third said they didn't know if GMOs could be found in organic products.

Table 8: People's opinion about organic farming (n=549, those who have heard of organic farming; the missing percent did not give an answer)

Statement	'Yes I agree' in %	'I do not think so' in %	'I don't know' in %
Organic farming is good for the environment.	90,0	1,3	6,0
Organic products are healthy.	88,0	3,5	5,5
Organic products do not carry pesticide residues.	72,0	12,9	12,6
Organic farming does not use synthetic pesticides or herbicides.	72,0	11,7	13,5
Organic products are produced without using chemical fertilizers.	70,1	11,8	14,8
Organic farming is the same as natural/traditional farming.	65,2	16,8	13,7
You can trust a product that carries an organic label and/or organic certificate.	64,9	17,9	13,8
The rules for organic production are stricter than for other production methods (for example safe, hydroponic).	57,4	15,9	23,3
Organic farming uses synthetic pesticides, but less than other production methods.	53,7	28,6	14,9
Organic food products never contain GMOs.	51,2	12,9	32,4
The production and processing of organic products is strictly controlled.	47,5	22,8	26,4
There is no difference between organic products and hygienic products.	43,0	31,7	21,7
'Organic' is just a marketing gag/promotion.	42,4	41,9	12,4

6.3.6. The "Buyers"- Purchase and Consumption of Organic Products

Those people who have already heard about organic where asked whether they had ever purchased organic products. 58,9% answered positively, these "buyers" were asked further questions about their purchasing habits. 50,8% of them buy organic products every week, 24% purchase organic at least once per month and 23,1% less than once per month.

The main reasons why consumers buy organic products were positive effects for their health and for their children and the lack of pesticides respectively lower contents of residues (Table 9). Another important aspect was that organic farming was good for the environment. More than half of the interviewees also bought organic because these products were fresher than others. That it was 'fashionable to buy organic' was a reason for purchasing for only few people.

Table 9: Reasons why consumers buy organic products (n= 333 interviewees who have already bought organic= group of ”buyers”)

I buy organic products because...	applies for ...%	does not apply for ... %
They are good for my health.	93,1	6,3
They do not contain pesticides / have lower residues.	91,9	7,5
They are good for my children.	85,3	13,5
They are good for the environment.	83,8	15,6
They are fresher than the other products.	54,1	43,2
They have a better taste.	29,1	68,8
I just wanted to try them /try something new .	22,2	75,7
It is trendy/fashionable to buy organic products.	7,5	89,8

The majority (58%) of “buyers” was satisfied with the range of organic products available at supermarkets. 40,8% said they would like to buy more organic products. Some interviewees also mentioned what kind of products they would like to find in organic quality at supermarkets. The most common answer was more and different kinds of vegetables and fruit. For 59,5% the price of organic food was not a problem.

6.3.7. The “Non-Buyers”

Those interviewees who did not buy organic products (39% of those who have already heard about organic said they had never bought organic before) were asked for their reasons not to purchase organic food. Different aspects influence the decision against the purchase of organic products but the insecurity what organic means was one of the main arguments (Table 10). Almost 30% thought organic was not so special that it was worth a higher price. Nearly 40% were satisfied with hygienic products which were perceived as safe enough.

30% of those who do not buy organic products said that organic food was too expensive for them. Distrust in organic labeling was for only about 14% a reason not to buy organic. Additionally some interviewees mentioned that they normally don't do the shopping of food products or don't cook themselves.

Table 10: Reasons why consumers do not buy organic products (n= 208, group of “non-buyers”)

I do not buy organic products because...	applies for ...%	does not apply for ....%
I don't know what organic means.	51,0	47,6
Hygienic/safe is enough for me.	39,4	55,3
They are too difficult to get.	38,9	53,9
I don’t think there is anything special about them which justifies a higher price.	29,8	65,9
They are too expensive.	29,3	65,4
I do not trust the label / I do not think it is really organic.	14,4	80,3

6.4.Statistical Data Analysis

6.4.1. Characteristics of the Groups

The statistical analysis suggests that there are significant relationships between demographic features and the affiliation to one of the groups (Table 11). Consumers with lower incomes and a low level of education are overrepresented in “never heard” whereas people with university degrees and from the highest income group are less. The “buyers” consist of more respondents with higher education and the highest incomes, here the lower incomes and the compulsory school level are underrepresented. For “non buyers” these relationships are not so clear. The relationship between sex and the groups is also significant. Men are underrepresented in the group “never heard” and overrepresented in “non buyers”, the tendency for women is the other way round. The “buyers” have not such a clear relationship to the sex. The “buyers” are significantly older than the other two groups. The presence of children in the household is independent from the groups. Children also do not have an influence on the purchase frequency.

Table 11:Frequency of the demographic characteristics for each group(significance of relationship:* $p<0.05$; ns-not significant, nv-test not valid ($e_{ij}<5$))

Variable	Number of respondents	Never heard	Non-buyers	Buyers	total
Average age (yrs) *		34,3	34,5	42,0	
Sex *					
Female	551	37,0%	23,4%	39,6%	100,0%
Male	280	25,0%	33,9%	41,1%	100,0%
Children in household? ns					
Yes	409	29,8%	26,7%	43,5%	100,0%
No	419	36,0%	27,2%	36,8%	100,0%
Highest education *					
Secondary	174	51,1%	25,9%	23,0%	100,0%
High School	265	34,7%	28,3%	37,0%	100,0%
BSc	291	23,0%	28,5%	48,5%	100,0%
MSc	98	25,5%	21,4%	53,1%	100,0%
Income/Month *					
< 10.000 Bath	91	51,6%	30,8%	17,6%	100,0%
10.000– 20.000 Bath	217	43,8%	25,3%	30,9%	100,0%
20.001 – 30.000 Bath	128	28,9%	30,5%	40,6%	100,0%
> 30.000 Bath	380	23,9%	26,3%	49,7%	100,0%
Country of origin nv					
Thailand	801	33,6%	27,7%	38,7%	100,0%
Other	31	19,4%	6,5%	74,2%	100,0%

The division in the groups is not independent from the shops (for these analysis the branches of the shops were put together) where the interviews were conducted as the Chi-square test showed (Table 12). For example the “never heard” are significantly overrepresented at ‘Tops’ but underrepresented at ‘Lemon Farm’. The opposite is the case with the “buyers”. They are significantly more at ‘Lemon Farm’ and underrepresented at ‘Tops’. The result for the “non buyers” is not that definite, but there is a tendency that they are more likely to be found at ‘Carrefour’.

Table 12: Overview of frequency of the groups per surveyed supermarket; the relationship is significant with p=0,00.

	Number of respondents	Never heard	Non-Buyers	Buyers	Total
Carrefour	308	28,2%	31,8%	39,9%	100,0%
Tops	326	42,0%	24,2%	33,7%	100,0%
Lemon Farm	136	20,6%	22,1%	57,4%	100,0%
Villa Market	62	37,1%	27,4%	35,5%	100,0%

There is also a significant relationship between the place of the interview and the frequency of purchasing organic products (Table 13). Customers at 'Lemon Farm' tend to buy 'every week', there the most regular consumers can be found. The occasional customers who buy organic 'once a month' can be found more often at Villa supermarket.

Table 13: Relationship between purchase frequency and shop; it is significant with p=0,049

	Number of respondents	every week	once/month	less than once/month	total
Carrefour	122	43,4%	28,7%	27,9%	100,0%
Tops	107	50,5%	22,4%	27,1%	100,0%
Lemon Farm	78	65,4%	20,5%	14,1%	100,0%
Villa Market	22	50,0%	36,4%	13,6%	100,0%

The results indicate that there is a difference between the groups regarding their level of concern about pesticide residues respectively the use of GMO in food products (Table 14). The Chi-square-test confirmed that the group of “buyers” is significantly more concerned about pesticide residues and the use of GMO in food products than the “non buyers” and the “never heard”.

Table 14: GMO- and pesticide residue related concerns per group (significance of these relationships:* p<0.05)

Are you concerned about …in food products?	Number of Respondents	Very much	Often	Sometimes	Not at all	total
The use of GMOs? *						
Buyers	318	17,3%	12,3%	31,1%	39,3%	100%
Non-buyers	213	6,1%	9,4%	27,7%	56,8%	100%
Never heard	248	6,0%	8,5%	29,8%	55,6%	100%

Are you concerned about …in food products?	Number of Respondents	Very much	Often	Sometimes	Not at all	total
Pesticide residues? *						
Buyers	333	64,9%	17,7%	10,5%	6,9%	100%
Non-buyers	224	46,4%	17,0%	25,4%	11,2%	100%
Never heard	274	42,0%	19,7%	24,1%	14,2%	100%

The concerns about pesticide residues as well as concerns about the use of GMO in food products are not independent from the shops as well (Table 15). Consumers at Villa are more likely to be ‘sometimes' or ‘not at all' concerned about pesticide residues whereas consumers from 'Tops' and 'Lemon farm' are less likely not to be concerned. At 'Carrefour' consumers are less often ‘very much' concerned about GMOs, whereas consumers at 'Lemon Farm' are more likely to answer 'sometimes'.

Table 15: GMO- and pesticide residue related concerns per supermarket (significance of these relationships:* p<0.05)

Are you concerned about …in food products?	Number of Respondents	Very much	Often	Sometimes	Not at all	total
The use of GMOs? *						
Carrefour	295	6,4%	11,5%	29,8%	52,2%	100,0%
Tops	302	13,6%	8,3%	27,5%	50,7%	100,0%
Lemon Farm	132	12,9%	9,8%	37,1%	40,2%	100,0%
Villa	62	12,9%	12,9%	21,0%	53,2%	100,0%
Pesticide residues? *						
Carrefour	311	52,4%	20,6%	13,8%	13,2%	100,0%
Tops	335	52,8%	16,1%	22,7%	8,4%	100,0%
Lemon Farm	137	56,2%	20,4%	16,1%	7,3%	100,0%
Villa	64	37,5%	12,5%	32,8%	17,2%	100,0%

There are significant relationships between the groups and the purchase of products from different production systems (Table 6). The purchase of safe/hygienic and organic products is related to the group “buyers”, who are overrepresented in all categories of vegetables. The “buyers” are underrepresented among the purchasers of conventional products (except fruit), the group “never heard” is underrepresented among the purchasers of safe/hygienic and organic products. Not for every conventional product such a clear and significant relationship exists. There is a significant relationship between “never heard” and the purchase of conventional cabbage, kale and salad.

6.4.2. Knowledge of Labels

The analysis of the recognition and knowledge of the different labels shows that they are significantly related to the groups of respondents. The “buyers” are overrepresented in recognizing the labels whereas the “never heard” are underrepresented. Only the ‘IFOAM’ seal has no significant connection with any of the groups but it is in general hardly known (as mentioned in Table 4).

Table 16: Knowledge of labels per group and significance of these relationships (Chi square test: * p<0.05; ns- not significant)

	Number of respondents	Never heard	Non-buyers	Buyers	Total	sign.
Safe						
I know the label	98	20,4%	26,5%	53,1%	100,0%	*
I can describe the label	78	20,5%	25,6%	53,8%	100,0%	ns
Hygienic						
I know the label	444	23,4%	27,0%	49,5%	100,0%	*
I can describe the label	389	22,6%	25,7%	51,7%	100,0%	*
Organic – State/DOA						
I know the label	87	11,5%	19,5%	69,0%	100,0%	*
I can describe the label	65	13,8%	18,5%	67,7%	100,0%	*
Carrefour						
I know the label	113	23,0%	21,2%	55,8%	100,0%	*
I can describe the label	74	24,3%	16,2%	59,5%	100,0%	*
Organic - ACT						
I know the label	83	15,7%	20,5%	63,9%	100,0%	*
I can describe the label	60	15,0%	25,0%	60,0%	100,0%	*
IFOAM						
I know the label	21	14,3%	33,3%	52,4%	100,0%	ns
I can describe the label	8	12,5%	25,0%	62,5%	100,0%	ns
Food Safety						
I know the label	97	15,55%	30,9%	53,6%	100,0%	*
I can describe the label	65	15,4%	32,3%	52,3%	100,05	*

The picture is similar when looking at the knowledge about the labels (Table 16). The “buyers” know more often about the labels than the other groups.

The recognition of the labels ‘hygienic’,’Carrefour’ and ‘'organic' (ACT) is significantly related to the shop where the interview took place. The recognition of the ‘hygienic’ label is overrepresented at 'Lemon Farm' and ‘Villa supermarket’. Consumers from Carrefour are more likely to recognize the ‘Carrefour’ label whereas consumers from branches of ‘Tops’ and ‘Lemon Farm’ recognizing the Carrefour’ label’ are less than expected. Those who recognize the label ‘organic (from ACT)’ are overrepresented at ‘Carrefour’ and underrepresented at ‘Tops' and 'Villa'. For the other labels no such relationship exists.

There is a similar picture when looking for a relationship between knowing what the label means and the shops. The knowledge about the meaning of the labels ‘hygienic’, ‘Carrefour’, ‘organic (from ACT)’ and ‘organic (from DOA)’ is not independent from the shops. Consumers at Carrefour know more often about the meaning of the labels 'Carrefour and 'organic (ACT)' and less about 'hygienic' and 'organic (DOA)'than statistically expected.

6.4.3. Knowledge about Organic

The self-evaluation of the respondents about their knowledge of organic food is significantly related to the groups “non buyers” and “buyers”. The “non buyers” are overrepresented saying ‘not sure what organic means’ and underrepresented answering ‘know a little about organic’. For the “buyers” the opposite applies. The evaluation of the own knowledge of organic is independent from the place of interview.

Table 17: Evaluation of organic knowledge per group; the relationship is significant with p=0,00

How do you evaluate your knowledge of organic food?	Number of respondents	Non-Buyers	Buyers	Total
I have heard of organic but I am unsure	283	52,3%	47,7%	100,0%
I know a little about its meaning	257	28,8%	71,2%	100,0%
I know a lot about organic	17	11,8%	88,2%	100,0%

There are some significant connections between the statements (mentioned in Table 8) and the groups “non buyers” and “buyers”. Table 18 shows the statements and where a significant relationship with the groups exists.

Table 18: Relationship between statements and group (Chi square test: * p<0.05; ns- not significant)

Statement	Significance
Organic products are healthy.	*
Organic products do not carry pesticide residues.	*
Organic farming does not use synthetic pesticides or herbicides.	*
Organic products are produced without using chemical fertilizers.	*
Organic farming is the same as natural/traditional farming.	*
You can trust a product that carries an organic label and/or organic certificate.	*
Organic’ is just a marketing gag/promotion.	*
Organic farming uses synthetic pesticides, but less than other production methods.	ns
Organic food products never contain GMOs.	ns

The production and processing of organic products is strictly controlled.	ns
There is no difference between organic products and hygienic products.	ns
The rules for organic production are stricter than for other production methods (for example safe, hydroponic).	ns
Organic farming is good for the environment.	Test not valid

The detailed analysis of these relationships shows that the “non buyers” are overrepresented in the answer category ‘I don’t know’, the only exception is the statement about fertilizer, there is no such conjunction. The buyers are overrepresented in the answer category ‘I don’t know’ in two cases, that are the statements ‘organic is just a marketing gag/promotion’ and ‘organic products are healthy’ The data does not suggest any further direction of the relationships.

Interestingly the statements “organic farming is the same as natural/traditional farming” and “you can trust a product that carries an organic label” are not independent from the respondents self-evaluation of their organic knowledge. People who think they ‘know a little about organic’ are more likely to agree to the first statement and less likely to say ‘I don’t know’. For the second statement people who are 'not sure what organic means' and those who 'know a lot' are more likely to say 'I don’t know' whereas people who ‘know a little about organic’ are less likely to answer ‘I don’t know’. For all other statements no such connection exists.

6.4.4. Reasons for Buying

It was tested whether the reasons for buying organic products (the reasons are listed in Table 9) were connected with any of the demographic features. The different reasons for buying organic products are all independent from sex, education and the presence of children in the household of the respondents. The independence from income could not be tested because the precondition for the Chi-square-test were not fulfilled.

In three cases there is a significant relationship between the reason for buying organic and the shops. Consumers at ‘Lemon Farm’ are less likely to buy organic to “try organic out/try something new”. At villa supermarket respondents buying organic “because it is trendy” are overrepresented but also those people who said ‘no’ when asked whether they ‘buy organic because it is healthy’ are overrepresented.

There are significant connections between the purchase frequency of organic products and some reasons for buying organic. It shows that people buying organic less than once per month more often disagreed with “organics are good for my health”, “organics are good for my children”, “organics do not contain pesticide residues” as being their reasons for buying. There are no significant relationships between the purchase frequency and the satisfaction with the range of products offered or the price.

The reasons why people do not buy organic are independent from sex, education, income and the presence of children as well. There is a relationship between the reason for not buying organic and the shops in two cases. Consumers from ‘Tops’ are underrepresented in answering “organic is difficult to get” and “organic is too expensive”.

7. Discussion

7.1. Knowledge about Organic/ Consumer information

One of the main issues is the lack of knowledge about organic production among consumers. Around two-thirds of the interviewees had heard of organic farming before, which is much more than Garibay and Jyoti (2003) found in Mumbai, India or Rundgren (2000) cited from Turkey. Although most of those who have heard about organic hold positive attitudes towards organic farming and thought it is good for the environment and their health, they have less knowledge what organic production includes, as Table 8 has shown. Especially the “non-buyers” were more likely to say “I don't know” when asked about some basic issues of organic farming (for example pesticide use).

The interviewed customers also feel not well informed, as quite a lot of them evaluated their organic knowledge as little or even less. Especially the “non buyers” said that they had heard of organic, but were not sure what it meant. They mentioned the lack of knowledge about organic as a main reason for not purchasing organic food. A similar result from an US survey was mentioned in Yiridoe et al. (2005).

This could also explain why around 40% of them were satisfied with hygienic products (which still can have pesticide residues even if they are limited) although they are concerned about pesticide residues.

The interviewed experts did not have much more positive expectations concerning the consumers' knowledge about organic either. They thought that consumers are not well enough informed about organic. Yiridoe et al. (2005) said that consumer knowledge and awareness will be a main issue in the organic market.

7.2. Knowledge about Labels

Only one label -the 'hygienic'- was recognized by more than half of the interviewees, all other labels are hardly known. When looking at the groups of customers, the “buyers” are more likely to recognize and know about the labels. Nelson found in 1991 that 50 percent of the purchasers of pesticide-free vegetables were able recognize the packaging of these products.

To some extend the consumers misunderstand the labels. The associations with the labels are quite unspecific, it appears that the consumers have an idea what the label could be about, but it is hardly mentioned who issues the label or what exactly is controlled. This result is not surprising as it was difficult during the research to get information about the labels. Even the interviewed experts had different ideas about these labels.

Consumers are concerned about pesticide residues on their food so it could be assumed that they are looking for certified or controlled products. But as they don't know the corresponding labels they might not find these products. Some labels are quite new and only a few years on the market, maybe this explains to some extend why they are not so well known by the consumers yet.

7.3.Who Buys Organic

The consumers from Bangkok who purchase organic products can be characterized according to the results of this survey as follows.

The “buyers” are on average around 42 years old, that is older than the members of the other groups. Although women are often mentioned as being more interested in purchasing organic (Birzler-Harder et al., 2003; Lockie et al., 2002), this survey doesn't confirm this assumption. The buyers consist of almost equal shares of each sex, men tend to be found more often in the group of “non-buyers” whereas women are more likely not to have heard about organic. Children do not have an influence on buying organic. The “buyers” also have higher income levels and more often an university degree than the consumers from the other groups which agrees with the results from Torjusen et al. (2004) or Wier and Andersen (2003). The household size, which is sometimes mentioned as an influence factor (for example by Richter and Sanders, 2003) was not researched in this survey. But as the literature review has shown (chapter 2.3) it is difficult to generalize demographic results and to compare them.

Those who have not heard of organic farming before are more often people with lower incomes and less educated.

7.4.Purchase Patterns

Health is a big issue- it is the main reason for buying organic and a lot of people believe that organic products are good for their health. Health concerns are also reported in literature as major motives for the purchase and consumption of organic food, for example in the US (Dimitri and Greene, 2002), in Europe (Schäfer, 2002) or in India (Garibay and Jyoti, 2003).

There is in general a high level of concern about pesticide residues in food products, which was already documented by the research of Nelson (1991). GMO is an issue at expert-level but not so much for the surveyed consumers. Their concerns are mainly focused on possible pesticide residues in their food. The detailed analysis showed that the “buyers” are those who are most concerned. They also mentioned positive effects for their health as main reasons for buying organic despite concerns about the environment.

The “buyers” had a preference for hygienic and organic products which confirms their classification as “buyers”. About half of them stated to buy organic regularly (i.e. every week). But many consumers didn't buy any vegetables in the week before the interview, so it is difficult to say how many of the “buyers” are really regular purchasers.

Organic buyers are mainly found at “Lemon Farm” which is specialized on products for a healthy, balanced diet, often from farms participating in the “hygienic fresh fruit and vegetable production” project or from organic agriculture. It could be assumed that the “buyers” are the target customers of these shops. On the other hand it might be that the “buyers” are more attracted by this kind of shop, as the availability of organic products at other supermarkets is not so good.

As most consumers evaluate their knowledge of organic as little and around 90%of them do not recognize the organic labels it is difficult to say how reliable the results concerning the purchases are.

7.5.The Role of the Price

As Yiridoe et al. (2005) estimated, consumers were willing to pay a premium up to 20% for organic products, but the price comparison (Table 2) showed that in Thailand the premium for organic products is much higher. For example cabbage – a very common vegetable in Thai cuisine - has a price difference between the conventional and the organic of almost 190%. Padel and Foster (2005) noted that price is still a main reason for not purchasing organic products. Three interviewed experts stated that the price of organic food would limit the purchase. But the results of the survey do not confirm this estimation. The higher price of organic products was not the main reason for people not to buy organic food, around 30% mentioned it as an obstacle. Of those who buy organic almost 60% were satisfied with the price of organic products. But the group of 'buyers' is more likely to consist of higher income classes which could explain why they are not so much concerned about the price.

Although organic products are much more expensive in Thailand than is normally accepted by consumers, the consumers themselves do not mention this as main obstacle. This could be explained that the lack of knowledge is the primary/much more important issue for them.

8. Conclusion

There is a lack of information at both ends of the food chain and a missing link between them. Producers don't get feedback whether the quality and quantity of their organic products meet the consumers' demand. On the other hand face consumers a confusing market with different “healthy” products and have no forum to state their questions and proposals.

There are three main obstacles influencing the purchase of organic in Bangkok.

The lack of knowledge about organic in general, about the specifics of this production method and its distinction from other labeled products/programs.

Consumers are not able to identify organic products, as they don't know the organic labels well. The variety of labels makes it difficult to find the kind of product they are looking for. Neither is the availability of organic products always satisfying nor is their presentation in some supermarkets.

Although people do not mention price directly as an obstacle, the price of organic products might be a barrier as well. Organic products are quite expensive in Thailand compared to the accepted premiums found in literature.

There is a need for more and better information about the different food labels and the production methods. It should be the government's and certification bodies' task- who assign the labels- to make their certificates more transparent and provide information on these issues. The supermarkets' turn will be to present organic products more offensively if they have an interest in increasing the sales of organic products.

There is a consumers interest in pesticide-free food products and a desire to buy healthy food which indicates a market potential for organic products. But as long as people are not able to identify these products the growth opportunities for the organic market will be limited.

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Links

The following links provide information on organic and safe/hygienic food. It cannot be guaranteed that the links are still active.

http://greennetorganic.com (Green Net & Earth Net Foundation)

http://www.lemonfarm.com/home.htm (Lemon Farm)

http://www.carrefour.co.th/english/quality_line9.php (Carrefour, quality-line program)

www.doikham.co.th www.doikhamthailand.com (Doi Kham project, safe food)

www.thaiorganicfood.com (Thai organic farm)

www.doctorveg.com (Doctor's vegegetables, brand of hygienic vegetables)

www.ku.ac.th/kps/kufresh (Kasetsart University organic products)

10.Appendix

10.1.List of Experts Interviewed

Name, first name	Organization	Contact
Chaivimol, Supote	Department of Agricultural Extension, Ministry of Agriculture	pothorganic@hotmail.com, organicthailand@yahoo.com
Chitaurjaisuk, Patcharin	Shopping Mall Department Manager Carrefour	patcharin_chitaurjaisuk@carrefour.com
Panyakul, Vitoon	Green Net/ Earth Net Foundation	vitoon@greennetorganic.com
Poolsawat, Paitoon	Department of Agriculture, Ministry of Agriculture	ppoolsawat@yahoo.com
Pornsirichaivatana, Prinya	Rangsit Farm, Amaranth Restaurant	organicsiam@asia.com, rangsitfarm@thai.com
Ratanawaraha, Chanuan	formerly Ministry of Agriculture; lecturer at Thammasat University	chanuan@yahoo.com,
Ritkhachorn, Kaan	Thai Organic Food, Anotai restaurant	ganesh_neo@yahoo.com

10.2.Questionnaire

Survey of health food consumers in Bangkok

We are students from Thammasat University conducting a survey on the consumption of health foods in Bangkok. We would be pleased if you could contribute to our survey and answer some questions for us. The questionnaire will take about 10 minutes.
Thank you very much for your participation.

0) Interviewer-questionnaire Nb: …. - …..

Knowledge of health foods

1) Do you know any of these labels? (*show labels*) 01

2) Do you have any idea what they say about a product? 02

Label	Do you know it?	Do you have any idea what it says about a product? If yes, what does it say? *(please write the ideas down)*	Is it Organic?
	1☐ yes 2☐ no 01safe	1☐ yes: 02safe 2☐ no	1☐ yes 2☐ no 06safe
	1☐ yes 2☐ no 01hygien	1☐ yes: 02hygien 2☐ no	1☐ yes 2☐ no 06hygien
	1☐ yes 2☐ no 01state	1☐ yes: 02state 2☐ no	1☐ yes 2☐ no 06state
	1☐ yes 2☐ no 01carfor	1☐ yes: 02carfor 2☐ no	1☐ yes 2☐ no 06carfor
	1☐ yes 2☐ no 01act	1☐ yes: 02act 2☐ no	1☐ yes 2☐ no 06act
	1☐ yes 2☐ no 01ifoam	1☐ yes: 02ifoam 2☐ no	1☐ yes 2☐ no 06ifoam
	1☐ yes 2☐ no 01gap	1☐ yes: 02gap 2☐ no	1☐ yes 2☐ no 06gap

3) Have you heard of the term 'organic' (as in organic farming, organic food?) 03heard

1☐ yes 2☐ no *(if 'no' please go to question 7)*

4) What do you associate with the word 'organic' (in the context of food)?
(please write down all suggestions) *04assoc*

5) How do you evaluate your knowledge of organic food? 05orknow

1☐ I have heard of it, but am not sure what it means.
2☐ I know a little about what 'organic' means.
3☐ I know a lot about organically produced foods.

6) Do any of these labels indicate that the product comes from a certified organic farm? *(Please tick the appropriate answer in the table above)* 06

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Purchase and consumption of health foods

7)Are you concerned about the use of GMO in food products? 07GMO

1 ☐ very much 2 ☐ often 3 ☐ sometimes 4 ☐ not at all

8)Are you concerned about pesticide residues on vegetables and fruit? 08pres

1 ☐ very much 2 ☐ often 3 ☐ sometimes 4 ☐ not at all

If person has never heard of the term organic ("no"☐ at question 3) please go to question 14.

9) Have you or a member of your household ever purchased organic products?

1 ☐ yes 2 ☐ no (*if 'no' please go to question 14)* 09bought

10) Do you buy organic products regularly? 10buyreg

1 ☐ every week 2 ☐ at least once per month 3 ☐ less than once per month

11) For what reasons do you buy organic products? 11whybuy

I buy organic products because...		applies	does not apply
They have a better taste	11taste	1☐	2☐
They are fresher than the other products	11fresh	1☐	2☐
They are good for my health	11health	1☐	2☐
They are good for my children	11child	1☐	2☐
They do not contain pesticides / have lower residues	11resid	1☐	2☐
I just wanted to try them / try something new	11new	1☐	2☐
They are good for the environment	11envir	1☐	2☐
It is trendy/fashionable to buy organic products	11trend	1☐	2☐
Other, specify:	11other	1☐	2☐

12) Are you satisfied with the range of organic products offered in the super-markets? 12satis

1☐ yes, I can find all the products I would like to buy.

2☐ no, I would like to buy more organic products.

if no: Please specify what products are missing:

13)Is the price of organic products a problem for you? 13price

1☐ yes 2☐ no

14) Which products with what labels did you buy in the last week?

(please show this table to the person so that it is easier to fill out)

Products		safe/hygienic	organic	normal / conv.	hydroponic	none of these	I do not know
Cabbages	14cabbag	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Kale	14kale	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Long beans	14longbe	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Salads,Lettuce	14sallet	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Other vegetables	14otveg	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Herbs	14herbs	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Fruit	14fruit	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐
Rice	14rice	sahy ☐	org ☐	conv ☐	hydro ☐	none ☐	99 ☐

If person has <u>never heard</u> of the term organic (“no” at question 3) please go to demographics-question 17
If person has <u>never purchased</u> organic products (“no”□□ at question 9), please go to question 15
All other persons please go to question 16

15) Why don’t you buy organic products?
15whynot

I do not buy organic products because...	**applies**	**does not apply**
I don't know what organic means. 15notkno	1 ☐	2 ☐
I don’t think there is anything special about them which justifies a higher price. 15nworth	1 ☐	2 ☐
I do not trust the label / I do not think it is really organic 15trust	1 ☐	2 ☐
Hygienic/safe is enough for me 15safen		
They are too expensive 15expens	1 ☐	2 ☐
They are too difficult to get 15diffget	1 ☐	2 ☐
Other, specify: 15other	1 ☐	2 ☐

16) Finally; we would like to present you some statements regarding organic foods and ask you for your opinion. Which of the following statements do you agree to or do you not agree to?

Statement	**Yes, I agree**	**I do not think so**	**I don’t know**
Organic products do not carry pesticide residues 16nperes	1 ☐	2 ☐	99 ☐
Organic farming is good for the environment 16godenv	1 ☐	2 ☐	99 ☐
There is no difference between organic products and hygienic products 16difsaf	1 ☐	2 ☐	99 ☐
Organic farming does not use synthetic pesticides or herbicides 16useph	1 ☐	2 ☐	99 ☐
Organic farming uses synthetic pesticides, but less than other production methods 16lespes	1 ☐	2 ☐	99 ☐
‘Organic’ is just a marketing gag/promotion 16margag	1 ☐	2 ☐	99 ☐
Organic products are healthy 16helthy	1 ☐	2 ☐	99 ☐
Organic farming is the same as natural/traditional farming 16trad	1 ☐	2 ☐	99 ☐
You can trust a product that carries an organic label and/or organic certificate 16truslb	1 ☐	2 ☐	99 ☐
The production and processing of organic products is strictly controlled 16ctrpro	1 ☐	2 ☐	99 ☐
The rules for organic production are stricter than for other production methods (for example safe, hydroponic) 16strule	1 ☐	2 ☐	99 ☐
Organic products are produced without using chemical fertilizers 16nfert	1 ☐	2 ☐	99 ☐
Organic food products never contain GMOs 16ngmo	1 ☐	2 ☐	99 ☐

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Demographics: May I ask a few questions about you?

17) Age: ______ years 17age

18) Sex: 1 ☐ Female 2 ☐ Male 18sex

19) Are any children living in your household?
1 ☐ yes 2 ☐ no 19child
If Yes: what is the age of the youngest child? _____ years 19chage

20) What is the highest education level you have completed? 20educat
sec ☐ secondary school high ☐ High school bs ☐ Bachelor ms ☐ Master or higher

21) In what range is your approximate monthly family income: 21income
10 ☐ less than 10.000 Bath
12 ☐ between 10.000 and 20.000 Bath
23 ☐ between 20.001 and 30.000 Bath
30 ☐ more than 30.000 Bath

22) Where do you come from? 22origin
thai ☐ Thailand asia ☐ other country in Asia
eur ☐ Europe/USA/Australia oth ☐ other:

22E) Are you 1 ☐ a visiting Tourist 2 ☐ living in Thailand **?.....** 22Etour

Thank you very much for your participation!

23) Name of the interviewer:... 23interv

24) Date of the interview: ...... April 2005 ...... May 2005 .... 24date

25) At what shop was the consumer interviewed: 25shop
carrat ☐ Carrefour Ratchadapisek
carang ☐ Carrefour Rangsit
vila11 ☐ Villa Sukhumvit Rd 11
vila33 ☐ Villa Sukhumvit Rd 33
other ☐ other
topran ☐ Tops Rangsit
topchi ☐ Tops Central Chidlom
lempra ☐ Lemon farm Prachacheun
lemcha ☐ Lemon farm Changwattana

Remarks of the interviewer *(please write down if anything special happened, any answers, statements that could be important! For example a interviewee that was very much in a hurry or who did not seem to concentrate on the interview)*

แบบสำรวจผู้บริโภคสินค้าสุขภาพในกรุงเทพมหานคร

ขอให้ลูกค้า/ผู้บริโภค ให้ความร่วมมือในตอบคำถามในแบบสอบถาม ใช้เวลาประมาณ 10 นาที

0) Interviewer-questionnaire Nb: .... - .....

ความรู้เกี่ยวกับสินค้าเพื่อสุขภาพ

1) ท่านรู้จักเครื่องหมายตราสัญลักษณ์เหล่านี้หรือไม่ ? (ให้ดู ตราที่เตรียมมา) 01

2) ท่านทราบหรือไม่ว่าตราเหล่านี้บอกอะไรเกี่ยวกับผลิตภัณฑ์ ? 02

ตรา	ท่านรู้จักรึไม่?	ท่านทราบหรือไม่ว่าตราเหล่านี้บอกอะไรเกี่ยวกับผลิตภัณฑ์? *(โปรดเขียนแสดงความคิดเห็นของท่าน)*	ใช่ผลิตภัณฑ์เกษตรอินทรีย์รึไม่?
	1☐ รู้ 2☐ ไม่รู้ 01safe	1☐ ทราบ: 02safe 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06safe
	1☐ รู้ 2☐ ไม่รู้ 01hygien	1☐ ทราบ: 02hygien 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06hygien
	1☐ รู้ 2☐ ไม่รู้ 01state	1☐ ทราบ: 02state 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06state
	1☐ รู้ 2☐ ไม่รู้ 01carfor	1☐ ทราบ: 02carfor 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06carfor
	1☐ รู้ 2☐ ไม่รู้ 01act	1☐ ทราบ: 02act 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06act
	1☐ รู้ 2☐ ไม่รู้ 01ifoam	1☐ ทราบ: 02ifoam 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06ifoam
	1☐ รู้ 2☐ ไม่รู้ 01gap	1☐ ทราบ: 02gap 2☐ ไม่ทราบ	1☐ ใช่ 2☐ ไม่ใช่ 06gap

3) ท่านเคยได้ยินคำว่า"อินทรีย์"หรือไม่(เกษตรอินทรีย์, อาหารอินทรีย์, ผักอินทรีย์ ?)

03heard

1☐ เคย　　2☐ ไม่เคย *(ให้ไปคำถามข้อที่ 7)*

4) ท่านคิดว่าคำว่า "เกษตรอินทรีย์" เกี่ยวข้องกับอะไร ?

(โปรดระบุ)

04assoc

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5) ท่านคิดว่าท่านมีความรู้เกี่ยวกับอาหารเกษตรอินทรีย์อยู่ในระดับใด ? 05orknow

1☐ เคยได้ยิน แต่ไม่แน่ใจว่า หมายความว่าอะไร

2☐ มีความรู้บ้างเล็กน้อยเกี่ยวกับอาหารเกษตรอินทรีย์ / ผลิตภัณฑ์เกษตรอินทรีย์

3☐ มีความรู้ดีเกี่ยวกับอาหารเกษตรอินทรีย์ / ผลิตภัณฑ์เกษตรอินทรีย์

6) ตราที่ท่านเห็นในข้อแรก แสดงให้ท่านทราบหรือไม่ว่าเป็นผลิตภัณฑ์ที่ได้รับรองว่าเป็นผลิตภัณฑ์เกษตรอินทรีย์ ?

(ให้ทำเครื่องหมาย / ตอบในตารางของข้อ 2) 06

การซื้อและการบริโภคสินค้าเพื่อสุขภาพ

7) ท่านกังวลเกี่ยวกับการใช้ GMOs (สิ่งมีชีวิตดัดแปลงพันธุกรรม) ในผลิตภัณฑ์อาหารหรือไม่ ?

1 ☐ กังวลมาก 2 ☐ กังวลอยู่บ่อย 3 ☐ กังวลบ้าง 4 ☐ ไม่กังวล 07GMO

8) ท่านกังวลเกี่ยวกับยาปราบศัตรูพืชตกค้างในผักและผลไม้หรือไม่ ?

1 ☐ กังวลมาก 2 ☐ กังวลอยู่บ่อย 3 ☐ กังวลบ้าง 4 ☐ ไม่กังวล 08pres

ถ้าผู้ถูกสัมภาษณ์ไม่เคยได้ยินคำว่า อินทรีย์ *(ตอบ " ไม่" ที่ข้อ 3)* ให้ไปยังคำถามข้อที่ *14*

9) ท่านหรือสมาชิกในครอบครัวของท่านเคยซื้อผลิตภัณฑ์เกษตรอินทรีย์หรือไม่ ?

1 ☐ เคย 2 ☐ ไม่เคย *(ให้ข้ามไปคำถามข้อที่ 14)* 09bought

10) ท่านซื้อผลิตภัณฑ์เกษตรอินทรีย์บ่อยแค่ไหน ? 10buyreg

1 ☐ ทุกสัปดาห์ 2 ☐ อย่างน้อยเดือนละครั้ง 3 ☐ หลายๆเดือนต่อครั้ง

11) เหตุผลที่ท่านซื้อผลิตภัณฑ์อินทรีย์ ? 11whybuy

ฉันซื้อผลิตภัณฑ์เกษตรอินทรีย์เพราะว่า...		ใช่	ไม่ใช่
มีรสชาตดีกว่า	11taste	1 ☐	2 ☐
สดใหม่กว่าผลิตภัณฑ์อื่นๆ	11fresh	1 ☐	2 ☐
ดีต่อสุขภาพของฉัน	11health	1 ☐	2 ☐
ดีต่อลูกหลานของฉัน	11child	1 ☐	2 ☐
ไม่มีสารปราบศัตรูพืชตกค้าง / มีสารพิษตกค้างต่ำ	11resid	1 ☐	2 ☐
ต้องการลอง / อยากลองของใหม่	11new	1 ☐	2 ☐
ดีต่อสิ่งแวดล้อม	11envir	1 ☐	2 ☐
เป็นที่นิยม เป็นแฟชั่น	11trend	1 ☐	2 ☐
อื่น, โปรดระบุ:	11other	1 ☐	2 ☐

12) ท่านพึงพอใจกับความหลากหลายของผลิตภัณฑ์เกษตรอินทรีย์ที่มีวางขายในซูเปอร์มาร์เก็ตหรือไม่ ? 12satis

1 ☐ ใช่, ฉันสามารถหาซื้อผลิตภัณฑ์ได้หลากหลายตามที่ฉันต้องการ

2 ☐ ไม่, ยังไม่พอ ฉันต้องการได้ผลิตภัณฑ์เกษตรอินทรีย์ที่หลากหลายมากขึ้น

ถ้าไม่: โปรดระบุชนิดผลิตภัณฑ์ที่ท่านต้องการ..

13) ราคาของผลิตภัณฑ์เกษตรอินทรีย์เป็นปัญหาสำหรับท่านหรือไม่ 13price

1 ☐ เป็นปัญหา 2 ☐ ไม่เป็นปัญหา

14) ผลิตภัณฑ์ประเภทใดที่ท่านซื้อเมื่อสัปดาห์ที่ผ่านมา ? *(โปรดแสดงตารางกับผู้ถูกสัมภาษณ์)*

ผลิตภัณฑ์		อนามัย/ปลอดสารพิษ	อินทรีย์	ผักทั่วไป	hydroponic	ไม่ได้ซื้อ	ไม่ทราบ
กะหล่ำปลี	14cabbag	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
คะน้า	14kale	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
ถั่วฝักยาว	14longbe	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
ผักสลัด	14sallet	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
ผักอื่นๆ	14otveg	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
สมุนไพร	14herbs	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
ผลไม้	14fruit	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐
ข้าว	14rice	sahy ☐	org ☐	Conv ☐	hydro ☐	none ☐	99 ☐

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ถ้าผู้ถูกสัมภาษณ์ไม่เคยได้ยินคำว่า "เกษตรอินทรีย์" (ตอบ"ไม่"ที่ข้อ 3) ให้ไปคำถามข้อที่ 17
ถ้าผู้ถูกสัมภาษณ์ "ไม่เคยซื้อผลิตภัณฑ์เกษตรอินทรีย์"เลย (ตอบ"ไม่"ที่ข้อ 9) ให้ไปคำถามข้อที่ 15
กรณีอื่นนอกจากนี้ให้ไปยังคำถามข้อที่ 16

15) เหตุผลที่ท่านไม่ซื้อผลิตภัณฑ์เกษตรอินทรีย์ ? 15whynot

ฉันไม่ซื้อผลิตภัณฑ์เกษตรอินทรีย์เพราะว่า...	**ใช่**	**ไม่ใช่**
ไม่ทราบว่า เกษตรอินทรีย์หมายถึงอะไร 15notkno	1 ☐	2 ☐
ไม่คิดว่ามีอะไรที่พิเศษ เพียงแค่รู้ว่าราคาสูงกว่า 15nworth	1 ☐	2 ☐
ไม่เชื่อตราที่ติดกับสินค้าเหล่านี้ / และไม่คิดว่าจะเป็นเกษตรอินทรีย์จริง 15trust	1 ☐	2 ☐
ผักอนามัย/ผักปลอดสารพิษ ปลอดภัยเพียงพอสำหรับฉัน	1 ☐	2 ☐
มันมีราคาแพงเกินไป 15expens	1 ☐	2 ☐
มันหาซื้อยาก 15diffget	1 ☐	2 ☐
อื่นๆ, โปรดระบุ: 15other	1 ☐	2 ☐

16) ท้ายสุด; เรามีข้อความเกี่ยวกับอาหารเกษตรอินทรีย์และต้องการสอบถามความคิดเห็นของคุณว่า คุณเห็นด้วยเกี่ยวกับข้อความเหล่านี้รึไม่ ?

ข้อความ	**เห็นด้วย**	**ไม่เห็นด้วย**	**ไม่ทราบ**
ผลิตภัณฑ์เกษตรอินทรีย์ไม่มีสารเคมีปราบศัตรูพืชตกค้าง 16nperes	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์ดีต่อสิ่งแวดล้อม 16godenv	1 ☐	2 ☐	99 ☐
ไม่มีความแตกต่างกันระหว่างผลิตภัณฑ์เกษตรอินทรีย์และผลิตภัณฑ์อนามัย16difsaf	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์ไม่ใช้สารเคมีสังเคราะห์ปราบศัตรูพืช 16useph	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์ใช้สารเคมีสังเคราะห์ในการปราบศัตรูพืช แต่ใช้น้อยกว่าการผลิตแบบอื่น 16lespes	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์เป็นเพียงแค่จุดขายทางการตลาด 16margag	1 ☐	2 ☐	99 ☐
ผลิตภัณฑ์เกษตรอินทรีย์เป็นผลิตภัณฑ์เพื่อสุขภาพ 16helthy	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์เหมือนเกษตรธรรมชาติ หรือเกษตรพื้นบ้าน 16trad	1 ☐	2 ☐	99 ☐
ท่านสามารถเชื่อใจผลิตภัณฑ์ที่มีตรารับรองเกษตรอินทรีย์ หรือ มีใบรับรองเกษตรอินทรีย์ 16truslb	1 ☐	2 ☐	99 ☐
การผลิตและการแปรรูปของผลิตภัณฑ์เกษตรอินทรีย์มีการควบคุมอย่างเข้มงวด 16ctrpro	1 ☐	2 ☐	99 ☐
การผลิต ผลิตภัณฑ์เกษตรอินทรีย์ มีกฎเกณฑ์เข้มงวดกว่าการผลิตสินค้าอื่นๆ (เช่น สินค้าปลอดสารพิษ, hydroponic) 16strule	1 ☐	2 ☐	99 ☐
เกษตรอินทรีย์ไม่ใช้ปุ๋ยเคมี 16nfert	1 ☐	2 ☐	99 ☐
ผลิตภัณฑ์เกษตรอินทรีย์ไม่มี GMOs เป็นส่วนประกอบอยู่เลย 16ngmo	1 ☐	2 ☐	99 ☐

ข้อมูลเกี่ยวกับผู้ถูกสัมภาษณ์

17) อายุ: _____ ปี 17age

18) เพศ: 1☐ หญิง 2☐ ชาย 18sex

19) มีเด็กในครอบครัวท่านหรือไม่**?**

1☐ มี 2☐ ไม่มี 19child

ถ้ามี: เด็กที่อายุน้อยที่สุด อายุเท่าไร? ____ ปี 19chage

20) ท่านจบการศึกษาสูงสุดที่ระดับใด**?** 20educat

sec☐ประถม/มัธยมต้น high☐ มัธยมปลาย/ปวช./ปวส.

bs☐ปริญญาตรี ms☐ ปริญญาโท หรือสูงกว่า

21) รายได้ของครอบครัวโดยประมาณ 21income

10☐ น้อยกว่า 10,000 บาท

12☐ ระหว่าง 10,000 และ 20,000 บาท

23☐ ระหว่าง 20.001 และ 30.000 บาท

30☐ มากกว่า 30.000 บาท

22) คุณมาจากประเทศ/กลุ่มประเทศใด **?** 22origin

thai ☐ ประเทศไทย asia ☐ ประเทศอื่นในเอเชีย

eur ☐ ยุโรป/สหรัฐอเมริกา/ออสเตรเลีย oth☐ อื่นๆ:

ขอขอบพระคุณคุณในความร่วมมือของท่าน

23) Name of Interviewer: 23interv

24) Date of Interview: ...... เมษายน 2548 (April 2005) ...... พฤษภาคม 2548 (May 2005) 24date

25) At what shop was the customer interviewed? 25shop

carrat ☐ Carrefour Ratchadapisek topran ☐ Tops Bangna

carang ☐ Carrefour Rangsit topchi ☐ Tops Central Chidlom

vila11 ☐ Villa Sukhumvit Rd 11 lempra ☐Lemon farm Prachacheun

vila33 ☐ Villa Sukhumvit Rd 33 lemcha ☐Lemon farm Changwattana

ข้อเสนอแนะแก่ผู้สัมภาษณ์ (*กรุณากรอกรายละเอียด เหตุการณ์ คำตอบที่เกิดขึ้นเป็นพิเศษและสำคัญ เช่น ผู้ถูกสัมภาษณ์รีบร้อนตอบมาก หรือ ผู้ถามสังเกตเห็นว่าผู้ถูกสัมภาษณ์ไม่ค่อยตั้งใจตอบเท่าใดนัก หรือ ผู้ถูกสัมภาษณ์ไม่สามารถตอบคำถามนั้นได้*)