ECONOMIC EMPOWERMENT THROUGH A FOOD CART MICRO LEASING PROGRAM IN THAILAND

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Executive Summary

The towering high-rises of Bangkok’s contemporary skyline give a sense of the modernization that has occurred in Thailand over the past few decades. Bangkok aspires to reach the ranks of other modern cities; however, poverty is still prevalent down on the crowded streets. Despite the progress Bangkok has made, Thailand remains a developing country, reliant on small and medium-sized enterprises (SME) to support its economy. Scholars and policy makers alike have recognized the importance of SMEs in economic development of many developed and developing countries. Many developed countries host capital-intensive large corporations while industrializing economies have owed much of their success to SMEs (Abdullah & Beal, 2003). The importance of SMEs is evident. Fujimaki (1995) reports that roughly 70 percent of the whole labor market in urban Thailand is comprised of small-scale private enterprise workers. Still, too many people end their workday with the equivalent of three US dollars as their income. Recently the Thai government has officially recognized the role of SMEs in developing the nation’s economy (Sirisambhand, 1995).

Although there is an enormous presence of food carts in Thailand, it is often difficult for entrepreneurs to start a business due to the troubles with accessing capital funds. High interest rates from loan sharks and scarce loans from SME banks present challenges to potential food cart vendors. Our co-sponsor, Mr. Chris Schlesinger, had a vision of addressing this challenge with the micro leasing of food carts. This idea of micro leasing was foreign to most vendors and administrators that we spoke with in Thailand. Thai people are used to micro lending, a more conventional form in which money is lent to entrepreneurs for the purchase of a cart. Micro leasing differs from micro lending by leasing equipment instead of loaning money. In this case of food cart micro leasing, the vendor is the owner of the cart at the end of the set leasing period. Although micro leasing has many advantages over micro lending, such as built in collateral, the feasibility in Bangkok was yet to be determined. Therefore, our goal was to research and design an economic empowerment program that would extend food carts as a micro enterprise opportunity to the disadvantaged of Thailand.

This economic empowerment program was developed through the fulfillment of four objectives: determining average vendor’s net income, determining cart costs, finding potential administrators, and finding program enhancements. The research and fieldwork methods used to accomplish these objectives were interviews with vendors, web research, library research and meetings with local contacts regarding business, sanitation, manufacturing, and administration. Several key findings emerged through the analysis of our data. These findings include the need for a flexible lease plan, local contacts to administer the program, educational material to enhance the program and consideration of implementation difficulties.

The need for a flexible leasing plan appeared through variations in vendor income and cart design. The first indication of the need for flexible lease plans was the differences in food cart design. Through our interviews of 50 vendors we observed 5 major cart designs. This observation was supported with information that we gathered from interviews with
officials from the “Clean Food Good Taste” project and from SameSame Ltd., a food cart manufacturer and franchise. The five categories of cart design were: flat, fried, grilled, noodle and prepared meal (Refer to Chapter 4, section 1). These styles can be described as basic, addition, or subtraction carts (Refer to Chapter 4, section 1). The basic flat cart is generally used to display drinks, fruit, or snacks and requires no sources of energy other than that needed to power an occasional light bulb. Fried and Grilled carts are addition carts because of their basic design with added wok and grill features, respectively. These addition carts require either gas burners or coal. Subtraction carts include prepared food and noodles. They have the basic design with sections cut out. For prepared food carts, small prepared food compartments are inserted and heated by a steam bath. Similarly, for a noodle cart, a large drum is inserted and heated by a gas burner. There are exceptions to these five generalizations, but we have found that these styles encompass almost all carts and accommodate for vendors’ cooking needs. SameSame Ltd. manufactures carts that are versatile and can be used as a flat, fried, noodle, or prepared cart. There is one price, 50,000 Baht, that accompanies this multipurpose cart; however, we were informed that cart prices would vary according to the design. Although it was difficult to obtain specific prices of food carts from manufacturers because they are not widely publicized, we collected information indicating that flat carts would be priced significantly lower than noodle carts. Furthermore, different food items are sold on carts of the same type causing variation of income levels within each category. Therefore, we recommend that leasing plans should be established not only with respect to the type of cart used, but also to the type of food sold on the cart.

The second indication of the need for flexible lease plan was through results showed that disparities in vendor income exist due to variances in food sold at each cart. Values of daily net income were calculated from gross income and expenses. The raw data was collected from 50 vendors in five different areas of Bangkok where it is reported that food carts are prevalent. Vendors selling full meals, such as noodle and curry dishes, have daily incomes reaching 3200 Baht, whereas those selling beverages and small snacks make much lower incomes sinking to 100 Baht. This was our first indication that the leasing plans needed to be flexible because installments could not be the same for each vendor. An individual that makes 2000 Baht each day can afford to pay a much higher installment than those struggling to bring home 200 Baht from a day’s work. Hence, the leasing plan must be flexible to accommodate for a wide range of income.

The next program detail was with respect to the administration of the economic empowerment program. Finding a valuable local contact was crucial for the success of this program. We conducted web searches and used our contacts in Thailand to identify potential administrators and details of their operations and projects. We compiled a list of organizations that might be interested in implementing the next steps of this project. From this list we identified four promising organizations using criteria to determine their compatibility. The criteria included experience with leasing or lending, experience with micro enterprises, existing contacts in impoverished areas of Bangkok, and capability to locate potential entrepreneurs who would benefit from our project. CARE, the Duang Prateep Foundation, Food for the Hungry, and Step Ahead MicroEnterprise all met a large
portion of our criteria. However, it was difficult to meet with representatives and seek their interest in our project because of the recent tsunami in southern Thailand and their involvement with the relief efforts. We did have the opportunity to meet with Ms. Supatra Sirisomruthai, Program Manager of Step Ahead, to discuss our project and the possibility of partnering together for the administration of its future phases. Although she showed interest for our project during our discussion, she expressed concerns with the financial and leasing aspects of the plan. She informed us she would consult with her director and respond later with any conclusions; however, in the following weeks of our project, we were unable to contact Step Ahead due to their relief efforts in southern Thailand. In recommending these four organizations as potential administrators, we suggest further meetings should be arranged to discuss project details when the officials have more time for additional projects. These organizations can also be resources in contacting additional potential administrators.

Necessary and beneficial business management and sanitation educational tools were obtained to enhance our program. We searched through the World Wide Web and contacted the Credit Union League of Thailand for business education material which met our criteria of containing basic entry-level business management guidelines, being prepared for small enterprises, being easy to understand, and being adaptable for a Thai audience. The acquired material was developed for small hill tribe enterprises. We modified this educational tool from its original version to make it more appropriate for a food cart vendor audience. This was done from our research of food carts in Thailand and with the help of Dr. Achara Chandrachai from the Faculty of Commerce at Chulalongkorn University. The topics covered in the manual teach vendors very basic business management skills such as “Profit and Loss,” “Marketing,” “Promotion and Advertising,” “Production,” and “Capitalizing Your Business.” The manual also contains an appendix with a case study of a Thai couple starting a food cart business. This provides easy comprehension for the vendors through examples.

We also obtained education material covering sanitation and hygiene issues through the “Clean Food Good Taste” project. These manuals and videos are prepared specifically for food carts in Thailand and are visually engaging. The material has been implemented with widespread success; therefore, it was unchanged from its original version. While other material exists, this is most appropriate for the Thai food vendors. These two enhancements make the leasing program unique, well-rounded and appealing for potential entrepreneurs.

For successful implementation of the project there are more specifics that must be considered. From our meetings with contacts, we learned details pertinent to working with food carts located in Bangkok. Officials from the “Clean Food Good Taste” project provided us with information regarding difficulties in conducting a pilot study in Bangkok. There are 50 districts within Bangkok and each individual vendor would have to register their cart and “Clean Food Good Taste” membership with the official of the Bangkok Metropolitan Agency for their chosen district. It was suggested that a single district within Bangkok be selected so that all carts would be cooperating with the same district official. This would create easier facilitation and ensure the same standards on each cart.
Difficulties in trying to spread carts throughout Bangkok were also expressed to us in our meeting with SameSame Ltd. Their plan to work in multiple districts impeded their project to the extent that all carts were removed from the streets and placed at gas stations.

While we were informed of difficulties, we generated other viable locations for the pilot study. We recommend Ayuthaya, Chonburi, Nonthaburi, Pattaya, Phuket and Suphunburi if there is no other option but to work in a province outside of Bangkok. Amicable ties between the local departments of these provinces and the “Clean Food Good Taste” project would allow easy facilitation of sanitation training and certification of vendors. Conducting the pilot study in a different province would require further investigation of vendor income levels, available manufacturers, and administrators specific to each province. Vendor income levels might vary due to consumer population and tourism levels. Investigating manufacturers in those provinces would avoid transportation of carts from Bangkok, a factor that would raise the cost of carts. Finally, organizations in Bangkok selected for administration would have difficulty running the program from such a distance and might not have ties in these communities; therefore, potential local administrators must also be investigated in these provinces.

In conclusion, the economic empowerment program would be administered by a non-governmental organization that would find potential entrepreneurs in Bangkok who otherwise might not have the opportunity and means to start a business. These entrepreneurs would be trained in business and sanitation education and given a leasing plan to accompany the cart they desired depending on the food they planned to sell. Once all arrangements were in order, the vendor would have a food cart, a “Clean Food Good Taste” sign, apron, hat, and the tools necessary to maintain their business with optimized success.
Economic Empowerment through a Food Cart Micro Leasing Program in Thailand

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Abstract

Our goal was to research and design an economic empowerment program that would extend food carts as a micro enterprise opportunity in Thailand. This was initiated due to the lack of existing lease programs that provide entrepreneurs with the means and educational tools to establish and optimize their business. We surveyed vendors, observed current food carts, researched possible administrators, and developed materials that would enhance this program. We concluded that this project is viable through the implementation of recommendations made for its various components.
Acknowledgements

This project would not have been possible without the help and guidance from various individuals and organizations. We would like to first recognize Mr. Chris Schlesinger and Mr. Thawach Imraporn for creating the vision for this project and providing us the opportunity to realize its potential in Thailand.

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We thank Ms. Naiyana Chaitiemwong and her colleagues in the Department of Health and the “Clean Food Good Taste” project for their expressed interest and support for this project. The staff has been very generous in allowing us to use their sanitation educational material for this project.

We would also like to express our thanks to Ms. Pattareepan Pongwat and the Credit Union League of Thailand for providing us with their material on business management for hill tribes in northern Thailand. They have been very kind in allowing us to modify the material for this project.

The modification of the manual for business education would not have been possible without the guidance of Dr. Achara Chandrachai from the Faculty of Commerce at Chulalongkorn University. We thank her for her time and valuable comments.

We would also like to recognize Mr. Witoon Chunhasomboon and his company SameSame Ltd. for providing us with valuable information about working procedures in Bangkok. He has also been kind to share cart designs from his company.

We appreciate the help of Ms. Suptra Sirisomruthai at Step Ahead MicroEnterprise Development who provided us with valuable information about her organization’s goal and vision. Her information on micro lending gave us extended knowledge that will be useful for the execution of this project.

We would also like to thank other individuals who contributed to the fulfillment of this project. To Ms. Jenny who took time out of her schedule to join us in meetings and help us with translating. To Mr. Panya “Tom” Lekwilai, one of our translators who went out of his way to aid us in conducting interviews; it would have been difficult to interview vendors without his participation.

Last but not least, to our advisors and the directors of the Bangkok Project Center: Professors Robert Krueger and Stephen W. Pierson, and Professors Chrys Demetry and Rick Vaz respectively. We are extremely grateful that we were able to conduct this project in Thailand. We thank the advisors for their guidance, insight and direction.
1 Introduction

The towering high-rises of Bangkok’s contemporary skyline give a sense of the modernization that has occurred in Thailand over the past few decades. Bangkok aspires to reach the ranks of other modern cities; however, poverty is still prevalent down on the crowded city streets. Despite the progress Bangkok has made, Thailand remains a developing country, reliant on small and medium-sized enterprises (SME) to support its economy. Scholars and policy makers alike have recognized the importance of SMEs in economic development of many developed and developing countries. Many developed countries host capital-intensive large corporations while industrializing economies have owed much of their success to SMEs (Abdullah & Beal, 2003). The importance of SMEs is evident. Fujimaki (1995) reports that roughly 70 percent of the whole labor market in urban Thailand is comprised of small-scale private enterprise workers. Still, too many people end their workday with the equivalent of three US dollars as their income. Recently the Thai government has officially recognized the role of SMEs in developing the nation’s economy (Sirisambhand, 1995).

Although these enterprises are contributing to the improvement of Thailand’s economy, with proper assistance they could reach a new level of success. Street food carts are an example of one enterprise that has room for improvement because it is not reaching all of its prospective clientele. Currently there are no programs that provide food cart owners with the means to optimize their business potential by tapping into the lucrative tourist market. Today, tourism stands as one of Thailand’s biggest industries; at times tourism generates more income than Thailand’s largest export, textiles (Bao, Cummings, Martin, Williams, 2003). Tourists are urged to be wary of food items sold by vendors on the streets due to hygiene and health concerns. Because most food vendor sanitation levels are sub-par, there is a large untapped market. Without a prosperous business it is difficult to dedicate the time and resources necessary for providing sanitary food services. Therefore, business management skills are also needed to create and maintain a successful business. If food carts appealed more to westerners, the street food market could rise to an entirely new level of success, which could eventually result in hygienic carts for all.
Programs have been initiated to resolve the issues being addressed in this project. Four programs in particular have been developed to either alleviate poverty or promote cleaner food carts; unfortunately, not all have been successful with their endeavors. Step Ahead MicroEnterprise Development is a non-governmental organization (NGO) based in Bangkok that provides poor entrepreneurs the opportunity to expand their businesses through small business loans. The second program, “Clean Food Good Taste,” is a government-sponsored project intended to ensure sanitary service at restaurants and food carts. The third program was done by SameSame Ltd., a food cart franchise and manufacturer that experienced difficulties when implementing their sanitary and multifaceted carts into different districts in Bangkok. The last program was conducted by The Bangkok Metropolitan Administration (BMA). This program failed when the BMA attempted to distribute aesthetically improved carts to vendors during an APEC conference held in Bangkok. They neglected to incorporate the design needs of vendors, resulting in disinterest in the project. The goal for our project was to research and design an economic empowerment program that would extend food carts as a micro enterprise opportunity to the disadvantaged in Thailand. We studied the specifics that form the foundation behind these existing programs, such as the leasing agreements of Step Ahead, application process of the “Clean Food Good Taste” project, and the problems that occurred with the implementation of the SameSame Ltd. and BMA carts. To ensure success, our project combined the fundamental concepts and intentions of these programs by providing well-equipped carts meeting vendors’ need and establishing good cooperation with local government administrations.

Although it is possible to obtain financing to start a food cart business, there are no food cart leasing programs that also educate vendors about starting and maintaining a successful business that targets the tourist market. This project will eventually lead to the creation of new opportunities by providing a program that will lease well-equipped readymade carts to vendors and teach them about proper sanitation and business management. The sanitation standards aim to eradicate food borne diseases so that a wider range of clients can trust and enjoy the services of food carts. The business management education aims to teach the vendors better financial practices that will induce more reliable record keeping and
financial stability. We integrated the “Clean Food Good Taste” project by incorporating their logo and sanitation standards to certify our carts. The potential administering organization will facilitate the application, leasing, and business education process of this project. The participation of “Clean Food Good Taste” and the administering organization are to solidify the structure of this project in Thailand.

In order to achieve our goal of researching and designing an economic empowerment program that will extend food carts as a micro enterprise opportunity the disadvantaged in Thailand, we addressed four objectives. First, we determined the daily net income of vendors. We then determined a suitable design and cost of a prototype cart that incorporates the needs of vendors and the sanitations standards we want them to uphold. The project needed an administrator based in Thailand who would carry out and oversee the leasing and education portion of the project, thus we had to identify organizations for this responsibility. Finally, the project required the use of successful educational materials from similar projects that have worked to help the poor. We specifically evaluated the successful methods of the “Clean Food Good Taste” project for sanitation education and a similar project called “Street Food Made Safer” conducted jointly by the Food and Agriculture Organization and the Department of Health of South Africa. The “Handbook on Small Enterprises for Hill Tribe People in Thailand” from the Credit Union of Thailand Ltd. was utilized to obtain the business management education material. Upon the completion of these four objectives, a program that gives both the physical asset and educational means to run a successful business sets the foundation for the future implementation of this project.
2 Background
The proverb “Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime,” is used to teach people about the virtue of educating others to become self-sufficient and self-reliant. With this concept in mind, this project was initiated by our sponsors Mr. Chris Schlesinger and Mr. Thawach Imraporn in hopes to provide people with the economic opportunity to help themselves.

Mr. Schlesinger has always been interested in helping people and what better way to do so than with the thing he’s best at: food. As a famous chef, he has always had a passion for every type of food and anything that has to do with food. When it was proposed that he sponsor a project that would have social implications in Thailand, he thought it would be an excellent way to implement his plans for helping people. His idea entailed the creation of micro-enterprise opportunities for the poor by raising them above the current proficiency level in the street food market. This would not only include handing out the means for generating income, but also teaching the skills that would allow the disadvantaged to climb the economic ladder out of poverty. Anyone that has ever walked the streets of Bangkok, or most other provinces in the country, can see that street food is a ubiquitous and competitive market. Improving food carts would undoubtedly improve the vendors’ lives and eventually have its effect on the Thai economy.

2.1 Thai Economy
Researching the Thai economy provided information on the stability of the food cart market and the feasibility for conducting this project. This research also informed us of the appropriateness of Thailand as the location for this project. In addition, it revealed whether or not the food carts were the right venture and profitable enough to help people. It indicated the stability of the food cart market and its ability to withstand growth. Positive effects of food carts within the economy were made known. By investigating Thailand’s economy in relation to the rest of the world and the history of the economy, we could see if there were any economic trends that may affect entrepreneurial activity in the future.
Throughout the past twenty years the status of the Thai economy has fluctuated more than any other time in history. The Thai economy experienced rapid growth rates of 8% to 12% per year until 1995 (Sussangkarn, 1998). This economic success made Thailand an example for less developed economies to follow. Sussangkarn (1998), a researcher from Thailand’s Development Research Institute, stated there was overconfidence that the Thai economy would continue its rapid growth. In 1997, the Asian economic disaster left Thailand with a US$17.2 billion debt in short-term loans to the IMF (International Monetary Fund). This tragedy caused many banks to close and a ten percent decrease in the Thai economy. Since then, the government has been working feverishly in hopes of bringing the country back to where they stood in the 1980’s (Bao, Cummings, Martin, Williams, 2003).

The Thai government has officially recognized small and medium-sized enterprises (SME) for having a large role in developing the nation’s economy and has made a conscious effort to develop SMEs throughout Thailand (Sirisambhand, 1995). One example of the Thai government taking an active role in the encouragement of new businesses is their creation of the BOI (Board of Investment) (Somjai, 2002). The Board of Investment works to provide information about economic activity to entrepreneurs, promote competition, and also motivate them with tax reductions. Somjai (2002), a respected economist, also noted that the people of Thailand, with their predominantly Buddhist beliefs throughout the country, support entrepreneurial activity. Buddhism promotes the view of success and failure as extraneous as long as a visible effort was put forth.

Although food carts currently offer many job opportunities and there is high entrepreneurial activity in Thailand, a state of elevated unemployment remains throughout the nation (Bao, Cummings, Martin, Williams, 2003). Somjai (2002) expects that the number of newly established enterprises will continue to grow in time, resulting in a decrease in unemployment. Research done by Entrepreneurship professors at Babson College showed that eighteen percent of all Thai citizens between the age of 18 and 65 are entrepreneurs, compared to the United States with only 11 percent (Bygrave, Neck,
Reynolds, Zacharakis, 2003). Given the amount of entrepreneurship interest in Thailand, the enthusiasm towards an entrepreneurial food cart opportunity looked promising.

It was important to evaluate how much food cart vendors earned on average compared to other occupations to see if this profession was desired for economic reasons. The first step in assessing this was to look at the country’s census as a whole. Sarntisart and Warr (2004) state that as of 2002, 9.8 percent of the aggregate population in Thailand was living below the poverty line. The United Nations stated that the “poverty line” for Thailand is 44 Baht per day (slightly over US$1.00) (Stickman, 1998) and Bangkok’s minimum daily wage as of 2002 was US$3.93 (Bao, Cummings, Martin, Williams, 2003). In contrast, reports of the Thai food market indicated much higher wages. Bhat (2000) reports that in Chonburi, Thailand the daily income of the vendors ranged from 90 to 504 Baht, with the lower end enough to support a family of 4-5 persons. “In Nonthaburi, Central and Rachawat, the majority of vendors declared earnings of more than 1,000 Baht (US$25) per day. The most lucrative area was Central, where eight vendors declared that they earned more than 2,000 Baht per day” (Boccas, Dawson, and Liamrangsi, 1996). These numbers suggest that many food cart operators earn well above the poverty line. Allain and Winaro (1991) reported that on average, vendors earned three to ten times more than the minimum wage, which is analogous to what skilled workers earn. Bhat (2000) also stated that in 1994, on average in Bangkok, 50% and in Chonburi, 47% of a person’s food budget was spent on street food. From this information, it was clear that the food market entrepreneurs do very well for themselves, and this could be a desirable profession.

The street food market undoubtedly contributes to Thailand’s economy. The market for more food carts exists for the appropriate audience; both current food cart entrepreneurs and unemployed Thai citizens could find ways to become part of the food cart industry in a more effective manner. If Thai vendors were economically well-off with carts that have sub-par sanitation and physical structure, then the possibility of becoming involved with an already established food cart program including business and sanitation training would be particularly appealing to future vendors. Furthermore, the positive effects of street food on the Thai economy and society provide added support to the feasibility of this project.
2.2 Positive Effects of Street Food

Food carts have always been an enormous benefit to developing countries (www.fao.org). Along with the desirable economics of food carts, there are many social properties that helped explain their popularity and reiterate their importance in society. Although research showed some negative aspects of street food vending, there were many more positive aspects. Sound reasons for the existence of food carts included cheap food, endless variety, nutritious value, basic facility requirements, low capital expenditures, and employment for women. These qualities of street food make buying food simple and worthwhile and make it easy for individuals to join the business. Inferior qualities of the food cart business include the poor sanitation that comes with the lack of education as well as the low status that is given to this position. The following paragraphs analyze these key issues that continue to be associated with food carts and street food vending.

The price of street food appeals to many low and middle income families. Allain and Winaro (1991) stated that these families depend almost solely on street food. Street food is not only cheaper than purchasing food from restaurants but is often cheaper than preparing food at home. Allain and Winaro (1991) reported that the cost of a single serving at food carts is cheaper than home-cooked meals because vendors cater for numerous consumers and purchase their food at wholesale prices from markets. Cooking at home also requires equipment that many families might not have the money to initially purchase or even run. All aspects of street food make it convenient and beneficial when compared to home-cooking, therefore being the main choice for city dwellers and sometimes even rural Thais.

The wide variety of food within the food cart business brings many advantages. Experts at the meeting on “Improving Street Foods in Calcutta” concluded that consumers are able to receive their daily nutritional requirements from eating a combination of street food all at an affordable price (Winarno, 1997). The variety also prevents customers from becoming bored by a limited menu and allows vendors to specialize and perfect their food while maintaining stable business. Fast food restaurants in developed countries such as the United States and those of the European Union, sell only a small variety of food (i.e. hamburgers, pizza, fries), Thai street food offers a large selection of generally nutritious
food. Of the estimated 20,000 total street food vendors and hawkers in Bangkok, there are roughly 213 different foods sold including full meals, beverages, and snacks (Bocca, Dawson, and Liamrangsi, 1996).

The nutritional values that are associated with street food in developing countries surpass those of the fast food industry everywhere else. The mass production of food at fast food franchises leads to lower quality; however, street food is made by hand from locally grown fruits, vegetables and meat and consequently tends to be of higher quality and nutritional value. In Thailand, street food is one of the main sources of food for urbanites. Without this nutritious, quick, and inexpensive style of obtaining prepared food, many Thais would not be able to eat the amount of food necessary for healthy living. Despite the sanitation concerns, people still eat at the food carts because of the nutritional value that street food provides and the inexpensive menu items. Bocca, Dawson, and Liamrangsi (1996) state that children between the ages of 4 and 6 obtain approximately 88 percent of their energy from street food and adults almost half. It is also calculated that street food provides the average person with 44 percent of their total iron intake and 39 percent of their protein intake. All these advantages make it worthwhile to eat from street food vendors.

Street food vending also makes it possible for uneducated people to obtain and maintain a job. Unschooled citizens who have difficulty finding employment in the professional workplace need to only know basic cooking skills and how to manage money in order to run their own food cart. However, there are reports that show poor sanitation at food carts. Studies have revealed that the percentage of positive tests for Salmonella spp. in meals ranged from zero to ten percent. The percentage of positive tests for Clostridium perfringens ranged from zero to 0.33 percent while Staphylococcus aureus ranged from zero to 30 percent (Bocca, Dawson, and Liamrangsi, 1996). These bacteria can cause typhoid-like fever, pig-bel disease, and staphylococcal intoxication respectively (FDA). There have also been findings of high counts of contaminants including aflatoxins and lead exceeding permitted levels in foods and drinks. Their absence of education could be a reason for the poor maintenance of the food. Lack of adequate sanitation is a problem especially for foreigners who are not accustomed to local bacteria.
In addition to the uneducated citizens, women are also allowed easy admission to the food cart business. This gives women an opportunity to take a large role in providing for the family. Women are typically in charge of running the household, which includes the preparation of food. Because street food is simply a multiplication of one of their everyday tasks, they can make food and provide for their family at the same time. A mother can work the cart throughout the day while her children are at school because of the flexible work hours that are involved in running a food cart business. Busy hours usually tend to be during late afternoon and early evening. The mother can then either close up shop after the busy lunch period to take care of her family or have her children assist her with business when they get home from school.

There is a drawback to flexible hours and self-sustainability and that occurs when business is not faring well. It would then include extended hours, which might drain the vendor of energy and in the end still might not bring in as much money as a person might earn in the formal sector. This flexibility in work hours increases the availability for Thais to own a food cart and run their own business. Although flexible work hours contribute to the availability of owning and running a food cart business, the lack of access to capital is a problem for most prospective entrepreneurs.

2.3 Micro Leasing
A way to ease the access to capital is by providing the actual equipment needed for the business through a micro lease. Micro leasing was an important subject to research since our program implements food cart businesses through the scheme of a small business lease. This information provided us with pros and cons of the system as well as examples of specific projects that utilized micro leasing to finance entrepreneurs.

Micro financers provide resources that allow entrepreneurs to start small-sized businesses. Micro financers have several types of schemes to provide clients with money. A traditional scheme used by lenders is the direct exchange of cash. Lending institutions, however, have been looking to equipment leasing as a new scheme to providing resources
for business startups. Known as micro leasing, this is a financial system that is structured to finance entrepreneurs. Micro leasing assists entrepreneurs in purchasing equipment or machinery (Dupleich, 2000). In this financing system, the client will use the equipment for an agreed period of time and pay the leaser on fixed installments. The idea is that once the lease period is over, the client obtains full ownership of the equipment.

When a lease is in operation, there are of several components that must be considered. One component is the lease term, which defines the time range the equipment will be leased to the client. The lease term usually does not exceed three to five years, so that the equipment does not run out of its useful economic life (Deelen, Dupleich, Othieno, Wakelin, 2003). However, lease terms can be made longer depending on the cost and size of the equipment. The second component of a lease operation is the lease payment. Payments are made throughout the entire lease term and the amount depends on the various factors: the value of the equipment, the interest rate, the duration of the lease term, and the options given to the client of buying or returning the equipment after the contract expires. The amount of payment can be fixed or variable. In the case of variable, the amount will respond to market interest rate. The third component is the end of lease option. This deals with the options available to the client when the lease term has expired. Depending on the contract of the lease, a client can have the option to buy the equipment at a lower price, return the equipment, or renew the lease (Deelen, Dupleich, Othieno, Wakelin, 2003).

It was also important to know that a lease can be categorized into different types according to its arrangement. The first type of lease is called the financial lease. In this lease type, the lease term is set according to the economic life of the equipment, at the end of the term the client may opt to purchase the equipment. A second type of lease is called an operating lease. These lease types are intended for short-term use of the equipment. The client leases the equipment and makes profit by further renting the equipment to other clients. The difference of this lease type form others is that the lender holds the risk of obsolescence of the equipment. The final lease type is called the hire-purchase lease. Hire-purchase is very similar to the financial lease; however this lease type is used to
finance the purchase of small equipment such as sewing machines. In this lease system, ownership of the equipment is given to the client with each payment. Once the last payment has been made the client will become the owner (Deelen, Dupleich, Othieno, Wakelin, 2003). The hire-purchase is the type of lease that best suited our project since food carts are small equipments and we wanted entrepreneurs to have a systematic payment option that leads to full ownership of their very own food cart.

Leasing has various advantages over traditional money lending. A very important advantage of micro leasing is that the equipment can be used as collateral. Another advantage of leasing is that the risk of fund diversion is eliminated; leases ensure that a client will use the equipment only for the intended purposes (Deelen, Dupleich, Othieno, Wakelin, 2003). Leasing also lowers transaction cost because leases are arranged quickly and simply, allowing the lender to estimate the cash return of the equipment accurately. Knowing the return of cash allows the lender to set the best payment and lease term options. This also allows lenders to be lenient when setting these options; leniency makes financing accessible to entrepreneurs.

Although leasing has advantages, it also has some drawbacks that must be acknowledged. One disadvantage is that the lender owns the equipment during the lease term, thus the lessor has to deal with the costs related to obsolescence and depreciation. Some countries have banking regulations that may not allow institutions to conduct leasing programs, or they might require leasing to be conducted by only a leasing subsidiary. Another disadvantage of leasing is the likelihood of misunderstandings and legal battles between clients and lessors. Such problems arise due to the differences in understanding between lenders’ ownership and the clients’ possession of the equipment (Westley, 2003).

Finally, it is important to cite examples that proved leasing was a viable option for financing low-income entrepreneurs. The Grameen Bank is a micro financier that operates in Bangladesh. The institution experimented with leasing power-looms to weavers in the Araihazar area in 1992. By 1996, the institution had established leasing programs in all 14 zones of Bangladesh, with loans amounting to 1.5 million dollars. 358 of the 1,951 leases
moved into ownership by the client, and the loan repayments were consistent with the institutions program. The Grameen Bank has now extended its leasing projects to finance battery chargers, ball-point pen production, sugarcane grinders, shallow machines, and power tillers to mention a few (Gallardo, 1997). This example of micro leasing small equipment to low-income entrepreneurs provides support to the feasibility for executing a similar micro leasing project in Thailand. In this case, food carts would be the small equipment that is leased.

While food carts proved to contribute to the Thai economy, provide employment opportunities to the underprivileged, and be useful in micro leasing schemes, it was not determined that they were upholding a high level of sanitation. Although food carts serve a variety of quick and nutritious food, there is widespread concern over the poor sanitary conditions that exist on many carts. Information on sanitary and hygienic regulations would shed light on the present efforts to improve the food cart scene in Thailand.

2.4 Food and Sanitation Laws and Regulations
Besides providing entrepreneurs with the opportunity to better their lives by leasing a food cart, our sponsors also hope the project will result in the creation of sanitary food carts that guarantee to provide healthy food items to customers. While locals trust and frequent food carts, tourist clientele is minimal. More often than not, tourists are warned to be cautious about eating from food carts because of poor sanitary conditions that lead to unsanitary food. In order to create sanitary food carts, information on sanitation regulations that promote hygienic cart and appeal to both tourists and locals would prove beneficial. Thai organizations that worked on public health and sanitation were likely to have useful information about standards that food establishments must uphold, if any. Other important information included the actions of the Thai government in promoting sanitary practices in the food service market and any regulations that they currently enforce.

As a response to concerns over sanitation, Thailand’s government has taken action and developed the Food Act of B.E. 2522 and the “Clean Food Good Taste” Project to promote food safety and quality. As a result, these high sanitary conditions would produce a good image and reputation, appealing to both the locals and tourists. Laws and regulations
concerning food storage and preparation were important because they established a set of standards that should be abided by food vendors. The standards that we decided to implement would aim to prevent unacceptable sanitary conditions, increase sales to potential clientele, and promote economic growth at an individual and national level.

2.4.1 Thai Food Governing Body and Laws
The Food Control Division of the Food and Drug Administration, a subdivision of the Ministry of Public Health, is responsible for “protecting the consumers’ health from hazardous and deteriorated foods” (http://www.fda.moph.go.th). It is through this government institution that laws and regulations are made and applied to most areas pertaining to food, such as manufacturing, exportation, importation, labeling and preparation.

The major law directed towards "protecting and preventing consumers from health hazards occurring from food consumption" (http://www.fda.moph.go.th) is the Food Act of B.E. 2522 passed in 1979. Ministerial regulations describe the procedures for applications for manufacturing licenses, importation licenses, and registration and fees for the identification card of the competent officers and the labeling of food products for exports (http://www.fda.moph.go.th). The law aims to ensure quality and safety of food by “1.1 setting up food standard and specification as well as hygienic and labeling requirements,” and “1.7 sampling and quality assessment of food products” (http://www.fda.moph.go.th) among other areas of the Food Act. Refer to Appendix A for the food act categories.

Although the Thai government has established laws and regulations to uphold standards on the level of safety and hygiene via the Food Act, it does not specify whether the laws can be applied to food establishments such as food carts. It is also unknown whether the laws were intended for, or directed towards, promoting economic growth in the food sector. The “Other Foods” category in the Food Act seems to focus primarily on the types of food served on the carts, but does not specify whether food carts fall within this category. Fortunately, several years later a government program directed specifically towards sanitary conditions on food carts and promoting economic growth was developed.
2.4.2 The “Clean Food Good Taste” Project

In 1989 the Department of Health of the Ministry of Public Health, the Tourism Authority of Thailand and the Ministry of Interior along with the support of numerous groups and agencies, joined forces in a project to protect consumers and promote good tourism in Thailand, called the “Clean Food, Good Taste” project. This project’s objective is to assure good sanitation in all restaurants and food vendors in Thailand, directly benefiting the local people while reassuring tourists, as Kongchuntuk (2002) states, “that food in Thailand is safe as well as looks and tastes good.”

According to Kongchuntuk (2002), the three main goals of this project are:

1) To reduce the risk of food borne diseases in restaurants, cafeterias and vendors;
2) To promote clean and good sanitary food service in tourist areas and also around the country;
3) To support and encourage local authorities in managing for safe food for consumers and tourists in their areas of jurisdiction.

The reported success of this project, according to Kongchuntuk (2002), was the use of four strategies based on: partnership and co-ownership, quality assurance, sustainability, and public awareness and involvement. These four strategies are described as follows:

Partnership and co-ownership is restaurants, food vendors, and cafeterias being inspected and controlled by local authorities empowered by the Sanitation Act of 1992. Through this strategy, other partners are involved: the private sector and consumer groups, with all stakeholders.

Quality assurance is the “inspection conducted according to different criteria set by the Department of Health for restaurants, cafeterias vendors” (Kongchuntuk, 2002). The procedure involves ten samples drawn; 5 from food, 3 from containers and utensils and 2 from food handlers' hands. In order to receive a “Clean Food Good Taste” logo, 9 out of 10 coliform tests for bacteriological criteria must result negative. If the establishment does
not pass the inspection, improvements must be made as recommended by the local authorities. Inspections are conducted every two months.

Sustainability is the continuous training sessions held for food service personnel and consumer groups so that the “concept of good sanitary practices are well understood and then correctly and efficiently applied” (Kongchuntuk, 2002). Restaurants and vendors are encouraged to form associations by regional offices, while receiving from them management quality, technical and financial support.

Public Awareness and Involvement is the establishment of publicity campaigns through media such as television and billboards in order to draw attention to the project and its logo. This aids in reporting the progress of the project, indicating the names of the establishments where the logo has been revoked, and pushing the project forward. As a result, consumers now know the meaning of the logo and choose establishments that display it.

The success of this project, as reported by Kongchuntuk (2002), is that “5,377 restaurants (of 11,731 applied) and 3,045 vendors (of 6,843 applied) have passed the criteria and been awarded the “Clean Food Good Taste” logo to be displayed at their businesses. Thirty percent of the awardees are randomly chosen and assessed twice a year.” If good sanitary conditions are not found, the award and logo are revoked from the establishment. With the large numbers of vendors who have applied and passed the criteria, the project has been deemed successful. However, we anticipate that there are many more vendors, as well as prospective vendors, whose plans do not include implementing such standards to their business.

This project established 12 regulations to be followed by vendors, consisting of basic instructions to uphold sanitary conditions. These involve maintaining surface cooking surfaces and utensils clean, using clean containers for storing food, beverages and utensils. These regulations also focus on making sure that the food handler takes measures to not contaminate food and utensils (Refer to Appendix B for the actual regulations).
The “Clean Food Good Taste” project appears to be a potentially useful tool in achieving our project goal of promoting sanitary carts. Perhaps, many of these regulations are not being enforced by local authorities, ignored due to negligence from the vendor’s behalf or because many carts might not have the necessary accommodations to fulfill these regulations. The laws set by this project give a good idea of the type of measures that have been taken to promote good sanitation conditions and gave us a base from which we can make improvements if deemed necessary. An important aspect to keep in mind is that not only were we trying to improve the sanitation conditions on food carts for the benefit of the locals, but also the regulations are to project assurance to tourist of sanitary conditions. An effective manner to improve these conditions was to provide vendors with the educational tools to aid them in becoming aware of sanitary practices and business skills.

### 2.5 Educational Material

The vision of this project aside from providing a well-equipped food cart through a micro leasing program was to provide educational tools for vendors. Since many of the people that we focused on helping were the disadvantaged of Thailand, they might not have had the education needed to maintain a stable and sanitary business. Their business could potentially be more successful if they received education on better business and sanitation practices. Information about any business and sanitation educational materials that had been developed in the past was critical to provide suggestions for our purposes. As a way to establish more credibility for our project, we looked at different organizations and projects that have goals and methods similar to ours. There are three movements, in particular, that have made an impact on the food cart markets in Thailand and South Africa.

#### 2.5.1 Business Education: FAO Hill Tribe Handbook

The foundation of a prosperous business lies in having basic business knowledge. We decided to incorporate business education, along with basic sanitation practices, as an attached program to benefit vendors. There was a project done with the Hill Tribes of Thailand by the Credit Union League of Thailand in conjunction with Food and Agriculture Organization, called “Handbook on Small Enterprises for Hill Tribes in
Thailand”. This project taught hill tribe villagers fundamental business concepts that they could use to develop their business (see Fig. 2.1).

![Handbook on Small Enterprises for Hill Tribe People in Thailand](image)

**Fig. 2.1 Cover of Business Education Handbook**

The Credit Union League of Thailand (CULT) has established credit union cooperatives in hill tribe communities. The purpose was to provide small cash loans to groups in communities with members willing to work with each other. The groups use the funds to run their enterprises of producing accessories such as handbags, shirts, small trinkets, etc. In hopes to help their cooperatives enhance their businesses, CULT prepared a business education handbook for small enterprises. The handbook covers basic business topics including: business planning, capitalizing business, marketing, finances and account keeping, profit and loss, and management. This material is also appropriate and beneficial for food vendors.

### 2.5.2 Sanitation Education: Street Foods Made Safer & “Clean Food Good Taste”

A major issue pertaining to street food is the unsanitary conditions in which some carts are operating. Teaching vendors basic sanitation skills would benefit both the consumers and the vendors. A project similar to ours was conducted on street food vendors in South Africa, entitled “Street Food Made Safer”. The Food and Agriculture Organization designed manuals and videos that informed vendors about improving their basic sanitation practices. It was reported by Enrico Casadei, nutrition officer in FAO's Food Quality and Standards Service, that the project was a great success and was hoped to be implemented in
other parts of the world. Catherine Bessy, a consultant in FAO’s Food Quality and Standards Service, stated that the food vendors appreciated all the given advice and recognized that it would improve their business greatly (Food and Agriculture Organization of the United Nations, 2001).

The previously mentioned “Clean Food Good Taste” project designed by the Department of Health within the Ministry of Public Health, the Tourism Authority of Thailand and the Ministry of Interior in 1989 is also another source of sanitation education. Because this project’s objective is to assure good sanitation in all restaurants and food vendors in Thailand, as mentioned in previous food sanitation laws and regulations section, there are many educational materials that could be useful to our project. They use sanitation manuals, programs, videos, and routine checkups to teach and maintain high food sanitation (see Fig. 2.2).

![Fig. 2.2 Clean Food Good Taste Sanitation Manual](image)

The “Clean Food Good Taste” resources and the manuals from the South African project teach similar topics that would be vital in building a successful establishment from our project. This could improve the individual’s business by providing quality food and service, as well as increasing clientele by bringing in foreign customers. Simultaneously, this would raise the customers’ standards for food carts, increase competition between vendors, and increase economic self-sufficiency for impoverished citizens.
2.6 Administrators

Finally, the last portion of this project that needed to be explored was the possible organizations that could administer the future phases of this program. Even if all the funding for the program and the prototype carts was acquired, the finished project would be futile without an organization to run it and advertise lease programs and carts to prospective entrepreneurs. Information on potential administrators such as if they were government organizations, non-governmental organizations, or private individuals completed the package that would create micro enterprise development through food carts and would assist underprivileged Thai citizens in bettering their lives.

In order for individuals to mobilize and become economically sufficient, they would need to acquire small loans to start up a business. Organizations have been established to address the issue of financial assistance to poor entrepreneurs throughout the world. Non-governmental organizations and international aid agencies exist to provide credit to entrepreneurs who are unable to receive loans from banks. Robinson (2002) has reported that 90% of households in the developing world are unable to get financial service from larger financial institutions. Instead, these households must rely on organizations and agencies that provide small loans to low-income individuals to startup businesses. The loans provided are usually small, ranging from $50 to $2000 (Cornford, 2002). Individuals are able to receive credit from these agencies because they offer collateral-free loans, with interest that follows the market interest rate (Coleman, 2002). This project used a different approach to giving out loans. Instead of using monetary exchange, we proposed that agencies lend out food carts to entrepreneurs that would be interested in the food service market. The plan has collateral built into it, since the cart can be repossessed if the entrepreneur is unable to make payments on the cart.

Having understood the need for administrators to carry out and manage the project, we were able to establish some criteria we expected administrators to meet. Since we are aware of the existence of organizations that offer financial assistance, and the project has an important aspect of leasing food carts, we wanted administrators with knowledge and experience of running financial assistance programs. We also wanted to look for
organizations with established offices in Thailand, since the project’s pilot study will be implemented in Thailand. These criteria were needed to narrow our list of likely administrators for this project.

2.7 Summary
This project will research and design an economic empowerment program that will extend food carts as a micro enterprise opportunity in Thailand. By obtaining the information in the sections above, we were then able to determine the tasks and processes for our methodology. Finding materials on the Thai economy and the positive effect of street food helped establish the project’s feasibility. We researched micro leasing to learn how it is managed and the financial assistance it provides. We learned about the sanitation laws and regulations that currently exist in Thailand along with other similar business and sanitation projects that we could incorporate into our plan. These similar projects would award credibility and assist in creating a solid business and sanitation educational program. Finally, we learned that NGOs were the best option to administer the future of the project.

The information that we gathered assisted us in developing the objectives and methods we needed to carryout in order to complete this project. We would have to conduct interviews with vendors to obtain more information on the operation of food cart businesses. We also would have to contact individuals involved with existing sanitation laws and regulations. Also contacts with organizations and authors that prepared the educational materials were needed to obtain hardcopies of the manuals. The execution of these objectives would lead to the completion of providing an economic empowerment program through food cart micro leasing.
3 Methodology

Our primary objectives were to determine the vendors’ income level, determine cost of prototype carts, find potential administrators, and determine attached programs to enhance the lease program. After achieving these four objectives, we were able to meet our goal of researching and designing an economic empowerment program extending food carts as a micro enterprise opportunity to the disadvantaged in Thailand. The vendors’ income level and the cost of prototype carts would allow us to provide suggestions for developing lease plans. The chosen organization would then administer this leasing plan with the cart to the vendors. They would also provide the attached program, which would educate the vendors and increase their potential for business optimization.

3.1 Determine Leasing Specifics

The first objective was to determine street food vendors’ income to aid in establishing an appropriate leasing program. To achieve this objective we looked for expert knowledge on the income of street food vendors. Unfortunately, we were unable to find any experts that focused on food carts. Therefore, we decided to go directly to the vendors and investigate for ourselves. Using questionnaires allowed us to obtain actual numbers for income of vendors rather than relying on estimates from other sources. We conducted interviews with street food vendors about the amount of sales and expenditures that they have during a full day.

To ensure the efficacy of our survey, we conducted a pilot survey with the aid of our co-sponsor, Mr. Thawach Imraporn, and his assistant, Jenny, in an open market during our first week in Thailand. Each question on the survey was deemed successful if the question was answered with a likely response, which would show us that the questions were translated accurately and were asking the necessary information. The survey as a whole was deemed successful if the vendor answered all questions, with the exception of those not relevant to their business. An example of a question on the survey that would not be relevant to a fruit vendor is asking how much money is spent on coal for energy. However, from this pilot study, we found that vendors were reluctant to answer questions because of the order and content. One error in our questionnaire was asking weekly and yearly income
as the first two questions. These questions were too forward and a relationship had not been formed before asking this personal information. With the help Mr. Imraporn and Jenny, we created an acceptable set of questions in a proper order to determine income (See Appendix D for vendor questionnaire). Our original questions regarding weekly and yearly income served no purpose since vendors operate on a day-to-day basis as Mr. Imraporn informed us. We corrected our errors by first asking introductory questions such as name, age, etc; this helped us form a relationship with the vendor and made the vendor comfortable with us before asking questions about income. The results of our corrections produced a questionnaire that starts broadly and funnels to questions regarding daily income and expenses.

In order to achieve statistical significance and credibility, we conducted 50 interviews with food cart vendors. We decided that interviewing 50 vendors was sufficient for our results, taking into consideration the time needed for conducting, translating and analyzing each interview. Conducting 50 vendor surveys allowed us to observe and analyze several carts within each cart category. The decision was also made due to the lack of interpreters available to us. It was difficult at times to conduct interviews because the presence of an interpreter was necessary.

We created our surveys in English and had them translated them to Thai. An interpreter was also necessary to assist us with the interviews by giving the vendors a more detailed explanation of our intentions and project goals. The interpreter was useful in translating and answering any questions that the vendors had about the project. Once the surveys were completed, they were then translated back from Thai to English for analysis.

Locations where food carts are prevalent in Bangkok were chosen as sampling spots. The areas of Bangkok where we conducted our interviews were Chinatown, Klong Toey, Pratunam, Siam Square, and Suan Luan. These locations were selected because they were apt to have food cart activity during most hours of the day according to Gordon and Yee (2001). A variety of vendors from each location who might experience different market cycles were randomly selected in order to avoid biased data. The time of day when we
conducted our interviews were late-mornings and mid-afternoons, with a few conducted in the evening hours. We concluded that these would be the best times since they are slow business hours and most vendors would have the time to answer the questions.

After the interviews were conducted and translated, they were categorized according the type of food sold and the type of generalized cart that matched the food preparation. Once each questionnaire was grouped into its respective categories, we began the process of analyzing each category for average income.

By figuring the daily income, we were able to estimate the weekly income since our interviews also gathered information on the number of days each vendor worked per week. The average weekly income would then be compared to the manufacturer’s price of a cart in that category which would allow us to determine feasibility for that cart and provide suggestions for an adequate leasing plan.

We dedicated four weeks to creating and translating our interview questions, conducting a test pilot, conducting fieldwork, translating the interview answers, and compiling the data we gathered in Microsoft Excel. The database was made as an easy way to evaluate the data we collected into an organized chart and graphs.

### 3.2 Evaluate Cost of Prototype Carts

Our second objective was to determine the cost of the improved carts. In order to accomplish this objective, there were three sub-objectives that we needed to fulfill. These were to determine cart generalizations, sanitation standards that must be upheld on the cart and manufacturing costs for the cart. Depending on what food the vendors were selling there were likely to be various designs of the cart that accommodated the food preparing requirements and additions to the cart necessary for maintenance of sanitary conditions. We then needed to find the manufacturing price of each category of carts. The categories would have different prices because they each require different appliances. Once the three objectives were satisfied we were able to determine the cost for a cart given each design.
This allowed us to compare the vendors’ income to the manufacturer’s price so that we could make suggestions for the leasing plan.

### 3.2.1 Categorize Current Carts and Their Features

The objective here was to identify cart generalizations and the typical appliances that equip food carts. This was important because by identifying the appliances used by vendors, we were able to generalize design categories for individual cart. We expected appliances on food carts to be major cost drivers and determined how cost effective the cart would be.

We had to rely on observational data and interviews since we could not find statistical data on the prevalence of various features on food carts. Our questionnaire included the question “What appliances do you use?” and once we received the completed questionnaire we made note of what type of appliances we saw. Observational data, such as photographs, were used to support the information obtained through interviews. We knew what names to associate with each appliance through our findings in the Thai Hawker Food book.

We studied current appliances and conducted surveys in Chinatown, Klong Toey, Pratunam, Siam Square, and Suan Luan. As we conducted the questionnaire, we took note of which cart style group applied with determining design cost. The interview information was later entered into a Microsoft Excel spreadsheet that we created to aid in the categorization of food carts. By categorizing the carts, we were able to present our information to manufacturers to inquire about the cost of building such carts. The data collection was made easier with the assistance of translators when communicating with vendors. This was conducted during the four weeks while we were interviewing vendors.

### 3.2.2 Assess Sanitation Standards

The second sub-objective would allow us to determine the appliances needed by carts, and thus help determine the cost of the cart depending on the appliance needed. However, since we wanted our carts to uphold high sanitation standards, the price of the carts might raise with the addition of the sanitation features. Upon finding a set of standards we would
know additions necessary to fulfill these standards and their influence on the total cost of the carts.

We wanted food sanitation standards that had been established by Thai officials and were adaptable for street food vendors. To find such standards we conducted searches on the web to gather a list of Thai government departments that could possibly be involved with food hygiene and sanitation standards. In conducting our search queries, some of the keywords included “department of health,” “department of public sanitation,” and “Thai food sanitation standards.” Prior to arriving in Bangkok, we learned about the existence of a Thai government project called “Clean Food Good Taste” that was related with food hygiene. We followed up on the project to learn if they possibly had sanitation standards already established. Our searches led us to the Thai Department of Health website to search for programs relating to food sanitation standards. We dedicated our second week to searching for such sanitation standards and program contact information.

### 3.2.3 Identify Price Range for Manufacturing Food Carts

The last sub-objective was to identify the price range for manufacturing a food cart in Thailand. Manufacturing prices were compared with vendors’ income to determine appropriate leasing options that would allow vendors to eventually become owner of their own carts.

We were unable to find manufacturer information at libraries and online so we decided that meeting with the companies would be the best way to obtain the necessary information. We obtained a list of manufacturers in Bangkok from our contacts in the Department of Health of Thailand. Mr. Imraporn, helped us contact and set up appointments to meet with them. Our criteria when selecting a manufacturer was: a company that can construct the desired carts incorporating all the additions we established to fulfill sanitation standards for a price of no more than $1200 USD. The maximum amount of $1200 USD was established by Mr. Schlesinger as feasible amount to create a well-equipped food cart. We visited companies and interviewed them with a translator about cart specifics.
We investigated how much manufacturers charge for a single cart as well as five and ten carts to achieve economies of scale. We also determined the specific prices for each prototype style by asking the different prices for each style of cart. We compiled the information from each manufacturer into a Microsoft Excel spreadsheet with columns for company name, price quote for ordinary cart, price quote for our cart, ability to construct the five cart generalizations, and ability to incorporate requested additions to fulfill sanitation standards. After assessing the information from all companies, we determined which manufacturer was most suitable for this project. This was accomplished by the fifth week after completing interviews with vendors.

The purpose of these three sub-objectives: identifying current carts and their features, establishing sanitation standards, and manufacturer pricing, was to achieve our goal of determining price for prototype carts. Identifying current carts and their features lead us to establish the five cart generalizations we would use for our project and the appliances that they require. These five cart generalizations require additional equipment in order to fulfill the sanitation standards that we established. By presenting manufacturers with our five generalizations of carts along with the required additions, we obtained a final price for each style of the prototype carts.

3.3 Locate Potential Administrators
The objective of this part of the project was to find organizations in Thailand that would administer the future phases of this program. Although the money exists to initially fund the program, it would only work if there were an organization in Thailand that would be able to find potential entrepreneurs and maintain the project. There were several qualities that we were hoping to encounter while looking for a good administrator; we wanted one that had experience with leasing equipment or lending money, had previously worked with micro enterprises, had office or headquarters in Bangkok, and had contacts in impoverished areas of Bangkok that allow them to locate potential entrepreneurs who would benefit from our project.

We developed a list of potential partners with the help of our co-sponsor Mr. Schlesinger during our first week in Thailand. The list of potential administrators contained contact
information, address, and a brief description of each organization. After compiling the list of compatible organizations, we assessed which would be most interested in our particular plan. The selection for potential administrators was made based on the criteria stated above. As our time in Thailand progressed, we continued to look for other potential administrators.

From the contact and background information provided, we conducted web searches to learn more about each potential partner. These searches were important to conduct because when we met with organizations we wanted to ask informed questions and not waste their time with questions that could easily be answered from the information on their webpage. From these searches we were also able to narrow down the list to a few organizations that we felt were the most compatible and appropriate for our project. We provided Mr. Imraporn with our gathered information and he helped us arrange meetings with representatives from the various organizations. Upon meeting with them, we asked questions about what leasing programs they had in existence and any complications with the programs, such as members not making payments. In addition, we gave them a copy of our most recent IQP report, a summary of our project, and asked if they would be interested in partnership.

3.4 Develop Program Enhancements
In the food cart market, there is also a need for improvement in sanitary and business management skills. Our objective here was to find resources that could be attached as part of an educational program. We wanted our project to not only have the unique aspect of leasing an actual well-equipped cart, but also offer an educational program that would have applications in other aspects of the vendor’s life. The attached educational programs would teach basic business management and sanitation skills.

We first conducted basic searches on the web to find educational materials beneficial for vendors. We searched for instructional material relating to business management and sanitation education. We used search engines with keywords such as “training manuals”, “sanitation education material”, and “business education material”. We hoped to find published material related to street food vending in any part of the world. Although we
attempted to search for educational material in the Chulalongkorn University library, the limited amount of successful materials lead us to use the Internet more often. The advantage of using the Internet was the ability to narrow down our search from broad topics to specific keywords. Our next step was to find contact information for the organization that either conducted the project or provided the material. Once contact was made, we tried to obtain more information on the project and the educational materials.

We wanted the business education material to meet the criteria of: containing basic entry-level business management guidelines, prepared for small enterprises, easy to understand, and adaptable for a Thai audience. We reviewed and altered the material that we were able to obtain and kept only the information that we deemed appropriate for our project. Any information such as deciding what specific products to sell was not necessary because our project was dealing solely with food. On the other hand, any information discussing determining the strengths and weaknesses of a product was deemed useful for our project. Unable to rely on our own opinions of what we had selected to be appropriate or necessary for basic business education, we sought after professional guidance. After we made our corrections, we brought the material to Dr. Achara Chandrachai, the director of the Faculty of Commerce at Chulalongkorn University. She reviewed the material and advised us on any additional modifications that should be made.

With regards to the sanitation educational material, we required material that met the criteria of containing general guidelines and visual aids to make topics more understandable and being specifically prepared for food vendors. Our background research informed us of a project conducted by the Food and Agriculture Organization (FAO) in South Africa entitled “Street Foods Made Safer.” From the contact information found on the website and some of our own investigation, we were able to obtain email address for Catherine Bessy, a consultant in FAO’s Food Quality and Standards Service. We contacted Catherine Bessy via email and requested the manuals and training booklets that were created and used in the project. At the same time, we became aware of the existence of the Food and Agriculture Organization Asian and Pacific regional office here in Bangkok and decided it was beneficial to also contact a local representative, Simon Fungesmith.
Although Catherine Bessy nor Simon Fungesmith were unable to help us directly, we were directed by Mr. Fungesmith to search the FAO database and other search engines in order to find the sanitation education material developed for the project. We were able to find the exact sanitation educational material used in the South African project on the South African Department of Health website. Upon obtaining the sanitation educational material, we read and analyzed the training manuals. From our own expertise and judgment, we made the suggestion to modify only the original pictures it contained. However, to also add more credibility to the material, we decided that it was better to present the educational material for review to professionals in the field of sanitation and hygiene at the Department of Health in Bangkok.

In addition, we felt that partnering with a recognized organization could enhance the project in Bangkok by obtaining a trademark symbol. We conducted web searches to find organizations in Thailand that were involved with the food service market. We wanted a project or organization with an already recognized symbol and reputation of clean sanitation standards in Thailand. Once we found what looked like a promising organization, we reported our results from the web searches to our co-sponsor Mr. Imraporn. He helped us contact representative and arrange meetings during our first week in Bangkok.

3.5 Summary
After executing the methods for each objective we were able to devise a complete program containing business and sanitation education designed for economic empowerment using food carts as a micro enterprise tool. The second objective was established to determine the cost of the new carts, in order achieve this objective it had to be divided into three smaller objectives. We first had to establish a generalization of cart categories since the price of each cart type differs according to the appliances it requires. Secondly, we had to establish the sanitation standards to determine other equipment the carts would need. Finally, upon finding the generalizations and standards we presented our list of cart types and required equipment to manufactures to find their prices for each cart. The third objective required finding potential organizations that would administer the future of this project. The identified organizations had to meet the criteria we established so they would
be able to assist our project. Finally, the fourth objective was related to finding means of making our project attractive both to interested entrepreneurs and also to customers utilizing the services of food carts. For this, we attached an education program for sanitation and business management skills, and provide certification for our sanitary conditions to acquire consumer trust.
4 Findings and Discussions
There are a vast number of diverse food carts that impede traffic on the sidewalks and sometimes hinder the flow of cars on the streets of Bangkok. Regardless, due to the immense variety of food sold and carts used there is plenty of room for the addition of new carts. Our proposal for using food carts as a tool to provide economic self-sufficiency to the disadvantaged of Thailand was a good start but still needed further investigation before execution of the project. Through our research, we have made several conclusions and findings that will be most useful for the success of the project.

4.1 Cost of Prototype Carts
From our research, we determined that there are five distinct cart categories. For each of these categories we determined that a different cost for manufacturing is associated with each different cart category. The varying costs of each category are according to the cooking appliances and additional features needed to uphold sanitary standards.

An important aspect of this project was to determine the cost of building an ideal well-equipped cart for each category with the required additions to fulfill sanitary standards. Our findings on the costs of manufacturing carts are divided into two classifications; addition and subtraction carts (Refer to Fig. 4.1). To fully understand these carts, you can think of them as basic carts with appliances either added or subtracted. The basic cart is the flat cart with a stainless steel surface and is used for selling beverages or other such products. This basic cart requires no source of energy, other than that needed to power an occasional light bulb. The basic cart would then include either additions or subtractions to create the other four cart designs. The addition carts would form the frying cart by adding a wok and gas burner or a grilling cart by adding a charcoal grill. The cart surface is typically used for storage and display of the cooked food or the raw food before it is cooked. The subtraction carts are for serving noodle and prepared foods. For these, the flat food carts have areas cut out, and basins inserted. The basins are heated either by a steam bath or a propane burner. These variations are shown in Appendix E.
Furthermore, to uphold desired sanitation standards, all carts needed surfaces of stainless steel, coverings for all containers, water containers with spouts, coolers for ice, separate water basins for washing and rinsing cooking utensils, and a trash bin for waste material.

![Fig. 4.1 Additions and Subtractions to Food Carts](image)

While determining cart costs proved more challenging than we expected, we found what we believe to be an upper limit for the cost of the cart. SameSame Ltd., a convenience food company focused on creating well-equipped hygienic food carts, showed us the cart they currently use. Their cart was similar to our cart design, meeting a large number of our established criteria: stainless steel surfaces, covered containers for utensils, washing basins, coolers for ice, and a trash bin. While our intentions were to find individual prices...
for each cart category equipped with the required additions, the SameSame food cart surpassed our expectations.

Their cart is versatile and can be used as a noodle cart, prepared food cart, beverage cart and fried food cart, all with the modification of adding or removing the heating source (refer to Fig. 4.2).

This cart was designed to accommodate two interior gas tanks and two burners. There also is the option of using both burners for one function or for different functions. For example, two burners for boiling water or one for boiling water, the other for steaming water. All carts are designed to have two steam bath compartments with six stainless steel containers to maintain food warm, and one insulated compartment holding three containers to be used as cold storage. The carts are all fold away models with removable roofs that become the lid for storing and all have hitching systems for easy transportation. The price of this versatile cart is 50,000 Baht (about $1,300), with all components included in the price. Although it does not meet all the requisites for our established sanitation standards, such as water containers, the SameSame cart is approved by “Clean Food Good Taste” and is appropriate for our project. Adding the excluded addition of the grill in the future would not be a problem. We were informed that these carts were available as one single type upon request and are also available to interested entrepreneurs for purchase.
We were aware that only one price for carts was obtained and that other manufacturers who would be able to make carts with our requirements existed. However, a list of food cart manufacturers that we obtained through contacts resulted in only a limited amount of them existing. The price of 50,000 Baht obtained from SameSame confirms that having additions different from usual features found on basic carts such as compartments, stainless steel surfaces, and containers, increases the value of the cart. We established a list of questions (Refer to Fig. 4.3) to present to other manufacturers and inquire about pricing, but we were not able to meet with them due to our allotted time in Bangkok.

<table>
<thead>
<tr>
<th>MANUFACTURERS</th>
<th>SAMESAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of carts manufactured</td>
<td>Noodle/Prepared/ Flat</td>
</tr>
<tr>
<td>Price of ordinary grill cart?</td>
<td>N/A</td>
</tr>
<tr>
<td>Price of ordinary fried cart?</td>
<td>N/A</td>
</tr>
<tr>
<td>Price of ordinary noodle cart?</td>
<td>N/A</td>
</tr>
<tr>
<td>Price of ordinary prepared cart?</td>
<td>N/A</td>
</tr>
<tr>
<td>Price of ordinary flat cart?</td>
<td>N/A</td>
</tr>
<tr>
<td>Ability to build prototype grill cart/ price?</td>
<td>Yes/ 50,000 Baht</td>
</tr>
<tr>
<td>Ability to build prototype fried cart/ price?</td>
<td>Yes/ 50,000 Baht</td>
</tr>
<tr>
<td>Ability to build prototype noodle cart/ price?</td>
<td>Yes/ 50,000 Baht</td>
</tr>
<tr>
<td>Ability to build prototype prepared cart/ price?</td>
<td>Yes/ 50,000 Baht</td>
</tr>
<tr>
<td>Ability to build prototype flat cart/ price?</td>
<td>Yes/ 50,000 Baht</td>
</tr>
<tr>
<td>Ability to incorporate required additions?</td>
<td>Yes</td>
</tr>
<tr>
<td>Price of stainless steel surface?</td>
<td>Included in price</td>
</tr>
<tr>
<td>Price per covered container?</td>
<td>Included in price</td>
</tr>
<tr>
<td>Price per water container?</td>
<td>N/A</td>
</tr>
<tr>
<td>Price per ice cooler?</td>
<td>Included in price</td>
</tr>
<tr>
<td>Price per water basin?</td>
<td>Included in price</td>
</tr>
<tr>
<td>Price per trash bin?</td>
<td>Included in price</td>
</tr>
<tr>
<td>TOTAL COST</td>
<td>50,000 per cart category</td>
</tr>
</tbody>
</table>

Fig. 4.3 Manufacturer Questions

We suggest the further investigation of other manufacturers and carts styles in the future to provide a wider range of options. Determining different prices for our carts was needed to later provide suggestions for adequate leasing plans. However, since we only obtained one manufacturing quote, it was used for our suggested leasing plan.
4.2 Flexible Lease Plan
Once we established that there are different cart generalizations, we deduced that street food vendors generate various income levels according to the product that they sell appropriate to the category of cart they use. Daily net incomes were calculated by taking the total daily income and subtracting the various expenses that each vendor incurs daily. These expenses included price of raw materials, ice, gas, coal, packaging materials, electricity, rent for selling location as well as storage, and under the table fees. Since vendors might not know the amount of money spent on all of their expenses combined, we retrieved our answers by asking them questions such as how much is the price of one bag of ice and how many bags are bought each day. Each income was calculated individually since not every vendor has the same daily total income or the same expenses. Flat vendors for example do not encounter gas expenses nor do they have to spend money on coal. Noodle vendors might have to pay for gas but not coal and some might even use ice to keep the vegetables cold. The data showed that flat cart vendors have a much lower net income than prepared and noodle vendors. This information is reasonable because flat cart vendors do not typically spend as much time preparing their products whereas noodle vendors must prepare the meat and vegetables and then cook it in accordance to each customer’s requests. The effort put into preparing these full meals is perhaps what accounts for the higher income. It can be understood that vendors with the flat carts have the lowest incomes because their products have the least value added.

From analyzing the vendors’ incomes we determined that in order to have vendors selling various products involved in our lease program, the lease contract must be flexible to accommodate the distinct levels of income. This flexibility would involve different lease terms and interest rates independent of any categorization. Vendor incomes averaged by cart categories, location and types of meals all indicate the great need for flexibility in the leasing plans. All incomes calculated from interview information were put into a database and analyzed. Graph 4.1 shows data collected from our questionnaires designed to determine average income of vendors according to which category of cart they use. The five categories of vendors have average income levels ranging from 400 to 1200 Baht per day. As you can see from the graph, flat cart vendors make the least amount of money
with an average daily income of roughly 400 Baht. When additions are made to the cart, vendors make an average of 500 Baht with a frying cart and 1000 Baht with a grilling cart. When subtractions are made to the cart, vendors make even more money with incomes reaching 1250 Baht for a prepared food cart and 1100 Baht for a noodle cart. Other graphs were created showing incomes averaged by groups according to the location of their cart (i.e. Chinatown, Klong Toey, Pratunam, Siam and Suan Luan) and types of food sold (i.e. snack, meal and dessert). As you can see from Graph 4.1 not a single average has a standard deviation within a ¼ of the total value. While the standard deviations for most averages are approximately 1/2 to the full equivalence of the value, some are even double the value. The other two graphs also showed the variations that existed in the income of vendors. These large deviations signify that vendor incomes cannot be generalized into specific categories. Because of this inability to generalize, lease contracts must be specific to each individual vendor. If, for instance, there is a lack of flexibility and all vendors using a prepared cart must pay the same installments, some vendors might incur problems of debt. While some vendors might be able to make each payment with a large excess of spending cash, others might have to default their installment continuing in a downward cycle.

Therefore, it is recommended that each vendor come to agreement with the administrating organization regarding their own leasing plan. If the vendor is making more money than expected, they will have the opportunity to raise the value of installments and in accordance shorten the leasing terms. However, if the vendor begins to make less than expected and is unable to pay the installments, he or she must immediately consult with the administrating organization. The administrator can then either extend the leasing terms and lower the installments or, as a last resort, terminate the lease and revoke the cart.
Due to the allotted time and the limitation of our expertise we were unable to develop the specifics of an adequate lease plan. We did, however, develop general lease schemes based on the 50,000 Baht cart. We calculated that a vendor would have to pay roughly 30 Baht per day for a five year lease with a five percent annual interest rate. By looking at the loan analysis worksheet in Chart 1, a monthly payment can be chosen and then matched with accompanied lease terms and interest rates. Inversely, an interest rate and lease term can be selected to then find the corresponding value for monthly payment. Note that the worksheet shows dollar signs but as long as loan amount is input as the numerical Baht value, the monthly payment amount will be the numerical Baht value associated with that loan amount. This was all done with the assistance of a loan calculator that we downloaded from Microsoft Office Online.
4.3 Potential Administrators

After finding information on cost of the cart and income of vendors, we still needed an organization to determine final lease terms and administer the project. From our research we deemed Step Ahead MicroEnterprise Development, a non-governmental organization; most appropriate because of the nature of the program they are currently running to aid impoverished communities. We found from our research that CARE, Food for the Hungry International, and Duang Prateep Foundation, also qualified as administrators; however, more detailed information was needed. The selection of potential administrators for the future phases of this project was made based on the criteria mentioned in our methodology: 1) organizations being based in Bangkok; 2) working with micro and/or small enterprises; 3) having established ties in impoverished areas; 4) expressing interest in our project; 5) being experienced with lending money or leasing equipment; and 6) knowledgeable of government regulations. An organization focused on working with micro and/or small businesses was the most suitable for our food carts, due to our program’s direct involvement with micro enterprises. With prior experience of leasing money or leasing equipment, the chosen administrator would be knowledgeable of the responsibilities...
involved with enforcing any terms established in the lease contract and collecting owed money. By having knowledge of government regulations, the project will be able to avoid potential complications during implementation. Without an administrating organization to manage the details of the leasing program, the implementation and execution of this project would not be feasible.

4.3.1 Step Ahead MicroEnterprise
Step Ahead MicroEnterprise Development is a non-profit organization aimed at assisting poor people in Bangkok and different regions in Thailand. The organization gives micro loans to micro entrepreneurs who wish to upgrade their business. The loans are between $100 and $300 US dollars, which are gradually paid back in weekly payments. The program not only includes a payment plan but also includes a savings program and weekly meetings that help with personal growth, provide social collateral and facilitate payments. The applicants must allow Step Ahead to run a credibility check, must have a relative that has proof of income, and have been in the business for at least a year. The organization proves to be successful with their repayment rate of 97 percent.

Their microfinance program is maintained by the clients’ repayment. With every payment made the capital available for new clients’ loans increase. We met with Ms. Supatra Sirisomruthai, Program Manager of Step Ahead, to discuss our project and the possibility of partnering together for the administration of the future phases of this project. She informed us she would consult with her director and respond later with any conclusions; however, in the following weeks of our meeting, we were unable to contact Step Ahead due to their relief efforts in southern Thailand.

4.3.2 CARE
CARE is a humanitarian organization fighting global poverty through poor communities. Among the wide variety of projects that they conduct, there are several projects categorized as Small Economic Activity Development (SEAD). Various aspects of the SEAD projects involve supporting moneymaking activities, providing savings and loan
programs and offering technical training to people for the start up or expansion of their small businesses to increase family income.

With a local office situated in Bangkok CARE was also deemed a potential administrator for our project. From their website, we determined that they fit several aspects of our criteria including working with micro and small enterprises, having ties to impoverished areas, and having experience in money-lending. Their Small Economic Activity Development Program not only assists people in beginning or expanding small businesses, but also initiates community savings-and loan programs. Their projects all work to serve individuals and families in the poor communities of the world. Although we are unaware if they have direct ties to the impoverished areas of Bangkok, they do have projects spread throughout Thailand.

4.3.3 Duang Prateep Foundation
Duang Prateep Foundation is a non-profit organization working in the Klong Toey Slums of Bangkok to help the poor communities of Thailand. Their projects range from educating kindergarteners to assisting in the control and extinguishments of fires in the slums. Their project most relevant to our micro leasing scheme is the launch of their credit union, Cooperative for Community Service. This bank provides its clients a means of avoiding the high interest rates of “loan sharks” and provides them with loans of up to 100,000 Baht (roughly 25,000 US dollars). These large loans are mainly to provide capital to start businesses. When becoming a member of the credit union, all applicants must attend a training session to learn about the regulations as well as the importance of saving money (http://www.dpf.or.th).

Their ties in impoverished areas of Bangkok lie deeper than every organization we researched except for Step Ahead. Although they looked promising, there were still many details that needed further research, such as their work with micro enterprises and their interest in our project. Their work with money lending involves setting up credit unions for in communities; because of this they seem promising.
4.3.4 Food for the Hungry International

Food for the Hungry was founded in 1971 and now has locations in 47 countries to help disadvantaged people. The organization has various programs assisting child development, agriculture and clean-water, health and nutrition, education, micro enterprise loans and emergence relief. Food for the Hungry began its services in Thailand since 1976, and in 2003 moved its headquarters from Scottsdale to Bangkok (http://www.fh.org).

Food for the Hungry is another potential administrator for our project. It is a religious-based organization that works with impoverished communities. This organization focuses on poverty needs related to food and nutrition with a primary emphasis on long-term development among the extremely poor. In addition to their concern for sustainable food production, water resource development and primary health care, they also focus on income enhancement, including micro enterprise development and skills training. With an office situated in Bangkok and prior experience in micro enterprise development, Food for the Hungry International qualifies as an adequate candidate for administering our project. Its ties with impoverished communities and its focus on poverty needs relating to food and nutrition would also be beneficial to our cause. Further research on their operations and interest to work with a project such as ours is needed.

The unfortunate tsunami tragedy in the last week of December 2004 caused severe and catastrophic damages to many nations, including small islands of the southern region of Thailand. This devastation inevitably needed the immediate attention of many international aid organizations including those we considered potential administrators. This made it difficult to establish contact with representatives and schedule meetings to present our project. We requested that our co-sponsor, Mr. Thawach Imraporn, contact these organizations and establish meeting times since he is a Thai business man and has helpful contacts. He reported that all of these organizations were in southern Thailand aiding in the relief efforts. We were unable to meet with all organizations, except for Step Ahead Micro Enterprise Development. Based on the limited information we obtained through meetings, internet searches and contact via telephone, we made suggestions for four possible administrators discussed above.
4.4 Certification and Location

In order to reassure consumers that our carts are upholding high sanitation standards, we wanted to provide a means of certification for all carts. Certification for our carts exclusively in Thailand is managed by the participation of the “Clean Food Good Taste” Project. They are orchestrating an on-going, recognized and established movement to improve food cart hygiene. Despite “Clean Food Good Taste’s” assistance with certification, there are some considerations that must be taken into account before choosing a location for implementation in Thailand. The cooperation and certification of the “Clean Food Good Taste” project is to benefit the vendors and the consumers alike.

With regards to the certification of our carts, we were assured that we would receive support from the “Clean Food Good Taste” project. The certification of our carts included the “Clean Food Good Taste” logo, its sanitation standards, and routine inspections to ensure consumers of high sanitation standards. Our project’s original intention was to conduct a 20 cart pilot study throughout Bangkok. However, we were advised by the representatives of “Clean Food Good Taste” that to have an easier process of affiliation and certification with them, we should consider conducting the pilot study in a province outside of Bangkok or selecting a specific district in Bangkok. We learned of two other projects that attempted to improve the food cart scene in Bangkok, however, both projects failed to fully reach their objective due to challenges that exist while working in Bangkok.

4.4.1 Implementation Challenges in Bangkok

We were informed by “Clean Food Good Taste” representatives and Mr. Witoon Chunhasomboon, business development manager of the SameSame Ltd. that “politics” between different governmental branches in Bangkok would make it difficult to have 20 carts spread throughout Bangkok. We learned that the city of Bangkok is divided into 50 districts, each having its own public health officer. The “politics” involves the different government branches having political affiliations with the distinct political parties that exist in Thailand. The problem also lies in the public health officers who have the responsibility of registering food carts, conducting food sanitation training sessions, which may only occur once a year, and routine inspections. We were informed that they are
difficult to contact and are reluctant to work with “other projects”. We were recommended to choose another province such as the Ayuthaya, Chonburi, Supanburi, Nonthaburi, Pattaya, or Phuket where better ties between local officials and the “Clean Food Good Taste” project exist. In addition, we were informed by representatives of “Clean Food Good Taste” and Mr. Chunhasomboon that a substantial amount of vendors in Bangkok are reluctant to try new alternatives to their methods of cooking and improved food carts. Both informants stated that vendors in other provinces are more open-minded and accepting of new ideas. Although this new path emerged, we were told that if we choose a certain area in Bangkok to conduct the pilot study, representatives from “Clean Food Good Taste” would try to establish communication with the respective health officer to collaborate.

We also became aware of the need to collaborate with the Bangkok Metropolitan Administration (BMA). This administration has a multitude of responsibilities ranging from medical needs of residents to flood watch for the city. The administration also focuses on improving Bangkok’s image to the world. Their role in our project is the registration aspect of the 20 cart pilot study. This administration is and has been participating in food cart movements. The BMA is the center for registration of all the food carts that exist in Bangkok. The registration is more of a manner of obtaining permission to sell rather than keeping count of vendors on streets. Once registered with the administration; it provides vendors with permission to sell at established locations with set operating hours. If a food cart is not registered, local authorities reserve the right to expel that cart from its location.

4.4.2 Case Study 1: SameSame Ltd.
One example of the difficulty of working with the BMA is problems that arose for SameSame Ltd. This company, focused on having well-equipped, hygienic carts, attempted to put carts on Bangkok streets through their franchise plan. They were denied the right, due to regulations on established permitted locations created by the Bangkok Metropolitan Administration. Currently SameSame Ltd. has resorted to relocating their food carts with permission at gas stations throughout Bangkok.
4.4.3 Case Study 2: BMA APEC Food Carts

The BMA also initiated a project to make food carts visually appealing during the Asia-Pacific Economic Cooperation (APEC) summit in 2003. The project, although well-intentioned, failed. The failure was due to the fact that the newly designed carts could not cater to the needs of the vendors. The carts had an identifying image with tops resembling Thai-style roofing as shown in figure 4.4. The project handed out 669 carts, which were free of charge to vendors during its first month of operation in nine districts (Wancharoen, 2003). After the first month they were leased them to interested vendors for 500 Baht per month. However, vendors later complained that these carts were poorly made and were virtually useless to them due to their lightweight design and lack of two front wheels. We were informed that the carts were made in the flat (display) cart style and did not possess the appliances such as noodle basins, grills, and woks that are required by vendors to sell their products. The carts did not contain compartments for storing cooking utensils and had floors made from plywood. The wood proved unable to handle the heat in cases where the carts would be used by noodle or other vendors that required high cooking temperatures. Presently, there is only a hand full of these carts in existence; most of them are said to be in a scrap heap near Lumphini Park. We attempted to obtain more detailed information concerning this project, however, a representative of the administration informed us that it is BMA policy not to give or discuss information concerning this project.

Fig. 4.4 Bangkok Metropolitan Administration Cart
4.4.4 Considerations

If approved and chosen to work in Bangkok, certain steps must be taken. The 20 food carts of the pilot study will be placed in one of the 50 districts designated and agreed upon by the local health department and the “Clean Food Good Taste” project. Vendors must then complete the required sanitation education training provided by “Clean Food Good Taste;” the training sessions are free of charge and conducted by the local public health officer. Once the training is completed, the food carts will be placed in a location designated by the local public health officer; registration of the food cart must be made with the Bangkok Metropolitan Administration and an amount of 500 Baht must be paid for registration and permission to sell. Routine inspections on sanitation standards will be conducted by the public health officer every two months and will report the evaluation back to “Clean Food Good Taste.”

Although the initial intentions were to conduct the pilot study in Bangkok, considerations on relocating in other provinces such as Ayuthaya, Nonthaburi, Pattaya, Supanburi, Chonburi or Phuket were a must. Despite the fact that all these suggested locations have appreciable ties between the local departments of health and the “Clean Food Good Taste” project, there were some factors that needed to be considered. For example, Nonthaburi is small province that lies northwest in the immediate proximities of Bangkok. It has been labeled as an appropriate location to conduct the pilot study, where food fairs are held and many vendors are said to be cooperative in alternate solutions for food cart improvements. A factor that must be considered is that the areas of Nonthaburi, Supanburi and Chonburi are not known as tourist attractions. Although this fact is not negative in any way, we desire the carts to be in a tourist-filled environment such as Bangkok to later evaluate performance in terms of increased sales and possible suggestions for improvement. If deemed necessary to conduct the pilot study outside of Bangkok; information of these locations is vital before implementation begins.

Other factors that were considered were values that affect daily income such as cost of dish, amount spent on ingredients, approximate amount of dishes sold during a day, and working hours. It is probable that areas outside of Bangkok might experience different
market cycles with vendors working different hours, perhaps paying much less on ingredients and selling more or fewer meals at much lower or higher prices. Therefore, we determined the need for implementing flexible leasing programs. On the other hand, sanitation and business management education was not believed to be a factor; the educational materials as well as the local certification by “Clean Food Good Taste” would be appropriate anywhere the pilot study is conducted in Thailand.

4.5 Sanitation and Business Education
Aside from the uniqueness of our project to lease out an actual, ready-made, well-equipped food cart and provide a means of certification to consumers that our carts are upholding high sanitation standards, we also wanted to provide the tools to optimize the business. Our tools are comprised of educational materials that teach the vendor how to establish common business management practices and improve overall hygiene on their cart. Our sanitation education for use in Thailand is provided by the “Clean Food Good Taste” project. However, we obtained sanitation education material used by the South African health department and FAO in South Africa that could be used if the project expands to other regions of the world. The business education manual is adapted from a program done by the Credit Union League of Thailand in hill tribe communities of northern Thailand.

4.5.1 Sanitation Education
Through our research we found two possible sanitation education programs that could be applied to our project. While we concluded that “Clean Food Good Taste’s” sanitation education program is most appropriate for Thailand, the FAO and South African program may be best for other countries. Our initial intention was to use the sanitation education material obtained from a project done in South Africa. Our criteria for sanitation educational material was met appropriately by the South African material as mentioned in our methodology. This project taught street food vendors general guidelines for proper sanitation methods with visual aids to make topics more understandable. However, when meeting with “Clean Food Good Taste,” our plan changed. Upon presenting them with the sanitation education material from South Africa, they reviewed it and informed us how similar their educational material is to the South African project and that it can be
supplemented to their information. “Clean Food Good Taste” provided us with their educational material, including videos they have prepared.

After reviewing the content of both sanitation education materials, we concluded that the sanitation education material developed by the “Clean Food Good Taste” project is the most appropriate to use in Thailand for the reasons that it was created by Thailand’s Department of Health focusing specifically on food carts in Thailand, it is in Thai, and its content was geared towards a Thai audience. Also, an important determining factor was that our carts would be certified by “Clean Food Good Taste” and therefore must complete their process of registration and training. Bangkok already has an existing system of implementing sanitation education through the use of local health officers in charge of supervising such operations. Although the content in both materials is very similar, with general guidelines and instructional pictures, it is more beneficial to use the “Clean Food Good Taste” educational material and avoid creating complications in translation, adaptation and implementation.

The sanitation education material that was obtained from South Africa can be used for the future phases of this project if it is implemented in other parts of the world. We obtained the sanitation educational material used in this project from the South African Department of Health website. The sanitation education material consisted of guidelines complied into four different modules all pertaining to sanitary food practices. The first module titled “Preparing Food Safely” consists of basic guidelines for preparing foods such as defrosting meat completely before cooking, keeping utensils and cooking areas clean, keeping raw meats away from cooked foods, and cooking food thoroughly (See Appendix C for actual documents). The second module “Buying and Storing Food” explains basic guidelines when shopping for fresh ingredients and how to store them to prevent spoiling and keeping foods covered. Module 3, “Personal Hygiene”, covers topics such as not cooking while being sick, covering wounds, washing hands continuously with clean water, and wearing clean garments while cooking. The last module, “Environmental Hygiene”, discusses the qualities of clean surrounding environments while cooking, having cleaning equipment on hand, collecting rubbish and maintaining a clean and organized food stall to avoid
attracting pest. The general guidelines contained in this sanitation education material are more than appropriate for incorporating into our project. The material also met our criteria of having guidelines that do not mention specific food styles, modules containing pictures of do’s and don’ts practices for food vendors, material divided into easy to understand sections, and specifically prepared for food vendors. Although the sanitation education material from South Africa will not be used in Thailand, it is still most appropriate for adaptation to anywhere in the world.

### 4.5.2 Business Education

The Credit Union League of Thailand in collaboration with the Food and Agriculture Organization developed a manual to teach hill tribe members about proper business practices. We deemed this manual most appropriate because it was written in a manner that required no previous business knowledge. It also breaks down every step of starting and running a business through visually appealing examples and case studies. Because this was designed for a hill tribe audience, minor alterations were made. Specifically, pictures, examples of the sections, and the information on choosing a business, had to be altered. Alterations made with regard to educational content were done in collaboration with Dr. Achara Chandrachai, director of the Faculty of Commerce at Chulalongkorn University in Bangkok. From our background research and our discussions with Dr. Achara, we learned that case studies are important components of business training manuals and Thai people would respond to this method best due to the fact that most learn from examples. A case study was written about a Thai couple that experienced the entire process of starting a food cart business, many problems along the way, and the steps that they took to resolve each. Examples for each section addressed in the business education manual were written in an easy to understand language and related to the food cart market. Figure 4.5 shows the cover of the business education manual entitled “Business Education Manual for C.H.O.W. Food Vendors in Thailand.”
One major aspect that was adjusted was the discussion of profit and loss statements. We originally had only an expenditures and receivables chart. The flaw with this chart was its lack of formatting to calculate actual net profit and loss. We added a second and third chart (Chart 4.2) with examples of sample profit and loss that could occur on a given day for a food cart vendor. This chart style is easy to follow and can sum up the revenue and expenses in one column to get a total that is either positive (profit) or negative (loss).

<table>
<thead>
<tr>
<th>Sample Profit Statement for a Single Day</th>
<th>Sample Loss Statement for a Single Day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td><strong>Revenue</strong></td>
</tr>
<tr>
<td>Cash From Day</td>
<td>Cash From Day</td>
</tr>
<tr>
<td>+1500</td>
<td>+400</td>
</tr>
<tr>
<td>Previous Credit</td>
<td>Previous Credit</td>
</tr>
<tr>
<td>+300</td>
<td>+50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Amount ($)</th>
<th>Expenses</th>
<th>Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material (food)</td>
<td>-2.65</td>
<td>Raw Material (food)</td>
<td>-3.20</td>
</tr>
<tr>
<td>Electricity</td>
<td>-0.15</td>
<td>Electricity</td>
<td>-0.40</td>
</tr>
<tr>
<td>Water</td>
<td>-0.10</td>
<td>Water</td>
<td>-0.15</td>
</tr>
<tr>
<td>Protection Fees</td>
<td>-0.30</td>
<td>Protection Fees</td>
<td>-0.30</td>
</tr>
<tr>
<td>Depreciation of Cart</td>
<td>-0.05</td>
<td>Depreciation of Cart</td>
<td>-0.10</td>
</tr>
<tr>
<td>Packaging Materials</td>
<td>-0.15</td>
<td>Packaging Materials</td>
<td>-0.15</td>
</tr>
<tr>
<td>Transportation</td>
<td>-0.00</td>
<td>Transportation</td>
<td>-0.35</td>
</tr>
<tr>
<td>Storage</td>
<td>-0.20</td>
<td>Storage</td>
<td>-0.50</td>
</tr>
<tr>
<td>Utensils</td>
<td>-0.10</td>
<td>Utensils</td>
<td>-0.15</td>
</tr>
</tbody>
</table>

| Total (Profit) | +14.30 | Total (Loss) | -0.30 |

Chart 2 Profit/Loss Statements
We also modified the order of the sections. The sections of “Marketing” and “Promotion and Advertising” are two sections that had to follow one another because of their relationship. It would not flow properly if the two complementary topics were separated. Following these sections would be the sections of “Production” and “Capitalizing Your Business”. The remaining topics fell into their original order after these sections were reorganized. The new order flows smoothly from planning the business and deciding the product and market, into the production of the product and obtaining capital. The next topics address the business once it is in progress with account keeping, determining costs, profit, and losses, and then ending with how to manage the business. With the assistance from Dr. Achara, we made the manual more user-friendly for street food entrepreneurs. (For the manual in its entirety, see Appendix F)
5 Summary
The creation of an economic empowerment program that extends food carts as a micro enterprise opportunity in Thailand is feasible with the application of recommendations that we have made from our conclusions. The data collected from the research of our four objectives provided broad support for the program. The business management and sanitation education for vendors and cart certification components of this empowerment program were successfully established. However, consideration of our recommendations for vendor income, developing adequate leasing plans and project implementation is essential for the successful execution of the project.

The need for flexible leasing plans is because of the variations in income that exist due to the type of food sold on each cart. Our first indication that the leasing plans needed to be flexible was because installments could not be the same for each vendor. The second indication of this need was the differences in food cart design. Since the food carts were generalized into five categories, it was necessary to know the manufacturing cost for a prototype of each cart and also vendor income within each category. Furthermore, different food items are sold on carts of the same type causing variation of income levels within each category. Therefore, we recommend when arranging the lease plan, repayment and interest rates be established not only with respect to the type of cart used, but also to the type of food sold on the cart.

An appropriate local administrator is necessary for the implementation and supervision of the leasing aspect of this project. When examining different administrators, we made our recommendations based on the following criteria: headquarters in Bangkok, willingness to work with micro and/or small enterprises, established ties in impoverished communities, work experience in lending money or leasing equipment, and an expressed interest in our project. With these requirements in mind, we determined the appropriate organizations that would be able to handle the responsibility of administration. Step Ahead MicroEnterprise, CARE, Food for the Hungry, and the Duang Prateep Foundation are four organizations that best fit our criteria. Although we recommend these organizations as
potential administrators, further meetings should be arranged to discuss project details. These organizations can be sources for contacting additional potential administrators.

Necessary and beneficial business management and sanitation educational tools were obtained to enhance our plan. Educational tools for teaching business skills were prepared from modifications of existing material. Material regarding sanitation remained unchanged from its original version. The business education tools were obtained from a manual prepared for small enterprises of Hill Tribe people by the Credit Union League of Thailand. From our research of food carts in Thailand and with the help of Dr. Achara Chandrachai, from the Faculty of Commerce at Chulalongkorn University, we modified this educational tool from its original version to make it more appropriate for a food cart vendor audience. The topics covered in the manual teach vendors very basic business management skills such as “Profit and Loss,” “Marketing,” “Promotion and Advertising,” “Production,” and “Capitalizing Your Business.” The manual also contains an appendix with a case study, which provides easy comprehension through examples pertaining to street food. The “Clean Food Good Taste” project has provided us with their education material covering sanitation and hygiene issues. The material was prepared for food carts in Thailand and has been implemented with widespread success. While other material exists, this is most appropriate for the Thai food vendors.

There are implementation considerations that need to be made for the success of this project. From our meetings with contacts established while in Bangkok, we have learned of details pertinent to working with food carts in Bangkok. Officials from the “Clean Food Good Taste” project provided us with information regarding difficulties in conducting a pilot study in Bangkok. It was suggested that we select a single district within Bangkok so that all carts would be cooperating with the same local health official. This would create easier facilitation and ensure the same standards on each cart. In our meeting with SameSame Ltd. we learned of their difficulties in trying to spread their carts throughout Bangkok. Their plan to work in multiple districts impeded the project to the extent that all carts were removed from the streets and placed at gas stations. SameSame Ltd. has also expressed interest in collaborating with this project to assist the impoverished. It is highly
recommended that prior to the start of project, further meetings be held with SameSame Ltd. representatives to share ideas and possibly receive input to enhance this project.

While we were informed of difficulties, we generated other viable locations for the pilot study. We recommend Ayuthaya, Chonburi, Nonthaburi, Pattaya, Phuket, or Suphunburi if there is no other option but to work in a province outside of Bangkok (Refer to Fig 5.1 for location specifics). Amiable ties between the local departments of these provinces and the “Clean Food Good Taste” project would allow easy facilitation of sanitation training and certification of vendors. Conducting the pilot study in a different province would require further investigation of: 1) vendor income levels, 2) manufacturers and 3) administrators specific to each province. Vendor income levels might vary due to consumer population and tourism levels. Investigating manufacturers in those provinces would avoid transportation of carts from Bangkok, a factor that would raise cost of carts. Finally, organizations in Bangkok selected for administration would have difficulty running the program from such a distance and might not have ties to the communities in these areas.

![Fig. 5.1 Map of Thailand with Selected Cities](image)

With a successful launch of the pilot program, this project aspires to impact the lives of impoverished individuals. It will not only provide these individuals with the business tools to obtain economic self-sufficiency but also the educational means to maintain their success. The education will also impact and have applications in other aspects of their
lives. In addition to impacting these entrepreneurs, the program will extend widespread knowledge of health concerns raising sanitation standards at other food establishments. Tourists as well as locals will have the added benefits of being served cleaner and safer food. Finally, this pilot program in Thailand can be used as a model for enhancing the lives of entrepreneurs and at the same time improving sanitation levels of street foods in other areas of the world.
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Gallardo, J (1997). Leasing to Support Micro and Small Enterprises. Published by Financial Sector Development Department of The World Bank


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Piyatanang, A. (2004). Road show to help northern SMEs, Otop businesses next week. Retrieved November 06, 2004 from the World Wide Web: http://weblinks2.epnet.com/citation.asp?tb=&_ug=sid+041B47FC%2DB348%2D493C%2DA6FC%2D6C25 6B813BB%40sessionmgr2+E7F&usl=sm+KS+DCCD&uso=st%5B0+%DAN+%2 W81097607044+tg%5B0+%E+dh%5B0+%E+Dbuh+op%5B0+%E+D+hd+False+8F3B


Appendix A: Food Act of B.E. 2522 Categories

Specially Controlled Foods -- Require foods in this category, as indicated by the Ministry of Public Health, to have registrations.

Standardized Foods – Standard foods do not require registration but their quality and labeling have to meet the standard requirements as specified in the Notification of the Ministry of Public Health (http://www.fda.moph.go.th).

Other Foods – Foods, raw or cooked, preserved or non-preserved, processed or non-processed, if not listed under category 1 or 2 (see the list in the annex) will be considered as general foods. Although registrations are not required, general food products are controlled and monitored with regard to hygiene, safety, labeling and advertisement. Foods in this category may be subdivided into (a) foods that must bear standard labels and (b) other general foods (http://www.fda.moph.go.th).
Appendix B: "Clean Food Good Taste" Project's 12 Regulations

|---------|------------------|------------------|----------------------------------------|-----------------------------------|-------|----------|------------|---------------|

Bacterial Inspection Form for Street Food Stall

<table>
<thead>
<tr>
<th>Samples</th>
<th>Result</th>
<th>Samples</th>
<th>Result</th>
<th>Samples</th>
<th>Result</th>
<th>Samples</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stall holder</td>
<td>Place</td>
<td>Date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Food Sanitation Inspection Form for Street Food Stall

| Stall holder | Food sanitation training | Public | Private | Number of cook | Number of waiter | License number | Date of issue | By |

Food Sanitation Requirement for Food Streets

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Result</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food stall's surface must be in good condition and such as to permit easy and adequate cleaning. Any area for preparation or cooking must be set at least a height of 60 cm above the floor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cooked food must be stored or covered in food grade and clean containers so as to prevent any risk of contamination from animals or insect.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Food additives must be standardized and approved by authorized offices such as FDA.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Drinking water must be fit for human consumption and stored in clean and closed containers with adequate facilities for its storage and distribution and protecting against contamination.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Beverage must be stored in clean and closed containers with spout or nozzle or using spoon with long handle for drawing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Ice must be fit for human consumption and kept in clean and covered containers, which are placed at least a height of 60 cm above the floor. A spoon with long handle must be used for ice. Food or any other foodstuff must not be stored or kept in potable ice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. All utensils must be clean by detergent and rinsed thoroughly twice by clean tap water. Sinks and washing facilities must be set up at least a height of 60 cm above the floor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Spoons, forks and chopsticks must be stored in containers with handle up or laid down neatly in clean containers. The containers should be placed at least a height of 60 cm above the floor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Food waste must be collected and removed from the stalls to dispose in such a manner as sanitary system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Food handlers must wear suitable protective clothing including short or long sleeves clothes, apron and hair covering such as hat or net.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Any utensil or tong or separate serving spoons must be used for picking up food.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Any cut or wound on food handlers' hands or skin must be completely protected by water proof covering in order to avoid transmission of diseases.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggestion/comment

Inspector | Date | Owner

( ) Food Hygiene Division Department of Health

ผงษทางพลลิขิตภณฑ์ กรมการพิทักษ์
PREPARING FOOD SAFELY

If you food is prepared safely then your customers will enjoy your food and will keep coming back for more. It is good business to prepare food well.

TEACHING QUESTION:
- What do you see in the picture?
If you eat food that is not prepared safely you will get sick. That is called food poisoning.

The symptoms are:

- Vomiting
- Diarrhoea or runny tummy
- Stomach or tummy pain
- Fever

Food poisoning is caused by germs in food. We cannot see these germs. If we prepare our food well the these germs will be killed and our food is safe to eat.

**TEACHING QUESTION:**
- Can you think of times when you have had food poisoning?
- What happened?

All the food in this picture looks good. However raw food carries germs. Sometimes we know food has germs because we can smell that the food has gone off.

We must prepare food such as meat, chicken and fish safely so that the germs can not give us food poisoning.

**TEACHING QUESTION:**
- What foods do you see in the picture?
- What foods do you prepare often?
The are five steps outlined in this chart for safe food preparation.

Step One for safe food preparation:

All meat or chicken must be completely defrosted before you start to cook. Often it is easier to defrost chicken or meat overnight at home.

Frozen meat is too cold to be cooked immediately. This is because the germs in the raw meat may not be killed during cooking.

TEACHING QUESTION:

- What is happening in this picture?
- What frozen foods are you cooking?
- How do you defrost your food?

There are three problems shown in this picture:

- The hands of a trader are dirty
- The cooking equipment is dirty
- Raw and cooked foods are together

Step two for safe food preparation:

Keep your hands and cooking material clean when preparing food. It is important to stop getting dirt into our food. Dirt carries a lot of germs.

Make sure that a knife, board and table and any other equipment you use is clean. Cover you table with plastic table cloth that you can clean easily.

Step three for safe food preparation:
Raw food such as chicken and meat must not touch cooked food. This is because the germs in raw food will spoil the cooked food. Always clean the material you have used with raw food before you use the same equipment with cooked food.

**TEACHING QUESTION:**
- What do you see in this picture?
- How would you change what is happening in the picture?

**Step three for safe food preparation:**

To kill the germs in raw food specially meat and chicken, it is important to cook food thoroughly. Check that your meat is cooked to the bone. If the meat is red and pink then the meat is not ready to eat. Meat that is under cooked still has germs. You must cook this meat for longer.

**TEACHING QUESTION:**
- How do you know when the meat is cooked properly?
MODULE 2: BUYING AND STORING FOOD

FOOD HYGIENE PROGRAMME FOR INFORMAL FOOD TRADERS

REPRINTED BY THE DIRECTORATE : FOODCONTROL WITH FINANCIAL ASSISTANCE RECEIVED FROM THE FOOD AND AGRICULTURAL ORGANISATION (FAO)

BUYING AND STORING FOOD

This shop has many problems

- dirty
- overstocked fridges and freezers
- food stored on the floor
- broken food packages
- pests in the shop

This is not a good place to buy food. A food shop must not have any problems shown in this picture.

TEACHING QUESTION:
- What can you see in the picture?

When you choose food from fridge of freezer, it is important to check that:

- the fridge or freezer is cold
- the fridge or freezer is clean
- the fridge or freezer is not overstocked
- raw food and cooked food are kept together in the fridge, e.g. cooked chicken and raw chicken should not be placed together.

TEACHING QUESTION:
- What do you check for when you buy food from a fridge or a freezer in a shop?
All the food must be carefully selected in the shops.

If you buy food from a packet in a tin, e.g. mealie pap or tomatoes then make sure the packet is not broken and the tin is not punctured or dented. Some foods will have a best before date.

When you buy meat, check that the meat is fresh by reading the expiry date on the packet. Buy your meat at a well known butcher or farm.

<table>
<thead>
<tr>
<th>TEACHING QUESTION:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• What do you check on food package when you buy food?</td>
<td></td>
</tr>
</tbody>
</table>

**ACTIVITY**
Check the best before date and expiry date on different food packages

When you carry food from the shops, always remember to:

- Put food in clean bags, containers or trolleys
- Not to put cleaning materials such as bleach or soap with you food
- Not to put raw and cooked food together e.g. cooked chicken and raw chicken should not be put in the same packet.
- Get food as soon as possible to where you will store it. To keep food cold during transportation it can help to wrap food in a newspaper

**TEACHING QUESTION:**
• How do you carry food from the shop?
At your stall

- Keep food at your stall (all food should be kept out of direct sunlight
- Keep food covered

TEACHING QUESTION:

- How do you keep food at your stall?
- Why should you keep food out of the sun?
- Why should you keep food covered?

If you want to store raw food and cooked such as meat they must be kept very cold. The best way to keep meat cold is in the refrigerator. If this is not possible, especially at your store, the following actions can help to keep the food cold.

- Get a cooler box and some ice. A polystyrene box is not very costly
- Wrap cold foods in a newspaper

TEACHING QUESTION:

- How are you keeping raw food at your stall?
- How are storing cooked food at your stall?
- What improvement can you make?

ACTIVITY
Discuss how individually/how collectively you can improve the cold storage of your food during the day and at night
MODULE 3: PERSONAL HYGIENE

FOOD HYGIENE PROGRAMME FOR INFORMAL FOOD TRADERS

REPRINTED BY THE DIRECTORATE: FOODCONTROL WITH FINANCIAL ASSISTANCE RECEIVED FROM THE FOOD AND AGRICULTURAL ORGANISATION (FAO)

PERSONAL HYGIENE

Bad personal hygiene when you handle food includes:

- Nose picking
- Coughing and sneezing
- Splitting over food
- Smoking over food
- Tasting food with your fingers
- Having dirty hands

Bad personal hygiene can easily spoil food because our bodies carry lots of germs. Germs make our food bad to eat.

TEACHING QUESTION:
- What do you see in the picture?
- What bad personal habits have you seen?

Hand washing is one of the most important ways to stop germs from getting into our food.

Dirty hands have lots of germs that can get into our food

At your stall you must have water, soap and nailbrush for hand washing. If you use a towel to dry your hands, then a towel must be clean or you must use paper towels.

Your nails should be clean and short
as dirt can easily get into long nails.

If possible try not to use the same water for hand washing and for dishes. The dirt on your hands can spoil the water for dish washing.

**TEACHING QUESTION:**
- What do you do for hand washing at your stall?
- How can this be improved?

When you are working with food, wash your hands.

- Before you prepare food.
- After you use the toilet
- After carrying rubbish
- After handling raw food, such as meat, fish and vegetables
- After touching animals
- After blowing your nose

Encourage your customers to wash their hands before eating their food

**TEACHING QUESTION:**
- When do you wash your hands?

**ACTIVITY**
Make notices to put in your stall encouraging customers to wash their hands
The chance of getting germs into your food are much greater when you are sick

When you are sick you carry germs of your sickness

You should be careful when preparing food if you have:

- a skin rash
- boils and cuts
- runny nose
- eye and ear infection
- diarrhea or runny tummy
- fever
- a sore throat
- vomiting

Cover all wounds, boils and cuts with a clean plaster or bandage.

If possible stay at home when you are sick or ask a friend to cook for your.

If your symptoms last for more than one or two days the visit a doctor or a clinic.

TEACHING QUESTION:
What do you do about cooking when you are sick?
Wearing clean clothing will show your customers that you are serious about food hygiene.

If possible, clothing should be light so that you can see the dirt.

It is good to wear a clean apron / overall that is used only when preparing food, for example do not use apron when carrying your rubbish.

Hair should be tied up in a hat or scarf.

**TEACHING QUESTION:**

What do you notice about a trader in the picture?

What are the advantages of wearing an apron?
MODULE 4: ENVIRONMENTAL HYGIENE

FOOD HYGIENE PROGRAMME FOR INFORMAL FOOD TRADERS

REPRINTED BY THE DIRECTORATE :FOODCONTROL WITH FINANCIAL ASSISTANCE RECEIVED FROM THE FOOD AND AGRICULTURAL ORGANISATION (FAO)

ENVIRONMENTAL HYGIENE

A good environment for food hygiene will need:

- clean water
- a drain for waste water
- somewhere to put rubbish
- regular collection of rubbish
- access to local toilets
- electricity for a refrigerator to keep food cold

Often these services are not available. It is harder to make sure food is prepared safely.

TEACHING QUESTION:

- What do you see in the picture?
- What do you presently do for
  - clean water
  - the disposal of waste water
  - the disposal of rubbish

ACTIVITY

Brainstorm who can help with the provision of services for informal traders.

Roleplay making a report to a local council about a lack of local adequate dispute and other services. Who will you take your complaints to? How do you think they will respond.

Notes to facilitators: Have the names and telephone numbers available to your group. This will encourage your group to report problems to your local council in the future.
Keeping your environment clean is important for your hygiene.

Where there is dirt there are germs

Correct cleaning make it difficult for germs to grow

The equipment we need for cleaning is:

- A broom and/ a mop
- A bucket for cleaning
- A bucket for dishwashing
- A soap and dish for cleaning

Cleaning equipment must be kept away from food. We cloths, mops and brooms must be left to dry upside down

**TEACHING QUESTION:**
- What do you presently use to clean your stall and surrounding area?

Five helpful rules about cleaning

1. Clean as you go. Avoid rubbish and dirt building up. Clean as soon as something is spilled.
2. Clean the floor sheets and pavements at the end of every day to prevent the build up of dirt and grease. This will also prevent insects and animals coming to your stall.
3. Wash dirty plates and dishes as soon as possible to prevent flies coming to your stall.
4. Clean (food) preparation areas before preparing food in the morning. Germs could get to your equipment during the night.
4. Regularly wash your cleaning cloths.

TEACHING QUESTION:
- What cleaning activities do you see in the picture?
- When do you most do your cleaning?

ACTIVITY
Make notices to put in your stall encouraging customers to wash their hands

Rubbish attracts pests. A lot of rubbish around your stall will put off your customers.

A pest is any insect or animal that can spoil food with germs. Pests can carry germs from dirty places to our food.

Pests are cockroaches, rats, pigeons, dogs and cats.

You can find pests where there is a lot of rubbish and food waste.

You often know when there are pests because you see tooth marks on food containers and animal droppings near the stall.

TEACHING QUESTION:
- What can you see in the picture?
- Have you find pests at your stall?
- What did you do about these pests?
- At night, is your food protected against pests?
With your rubbish, remember to:

- put your rubbish in a bag or bin provided by the council
- do not put your rubbish bag next to your food
- if possible, cover any open dustbin with a lid. Close any rubbish bags. This will stop flies coming to your rubbish.
- At the end of the day tie up the rubbish bag and leave it for collection by the council.
- Waste water should be put into drains. Storm water drains are for rainwater only.
- Old cooking oil must not be thrown on the pavement or in the street because it makes the street dirty and greasy.

TEACHING QUESTION:

- Where do you put your rubbish?
- Where do you put your waste water?
- Where do you put your old cooking oil?

It is important to keep a place where you keep your food and equipment at night clean.

Check that your food is always covered or stored in proper containers with good leads. Never store your food on the floor as pests will be able to reach your food easily.

TEACHING QUESTION:

- Where are you keeping your food and equipment at night?
- Is your food and equipment protected against pests at night?
Appendix D: Questionnaire Used During Interviews

Thank you for taking time out of your day to fill this survey. We are students with Chulalongkorn University and we are conducting this survey to study food carts in Thailand. Your assistance will be of great value to us. **This study is for the benefit of the Thai people and the food cart business.**

INTRODUCTIONS
- Name
- Age
- How long have they been doing a food cart?
- Do you sell to farang customers?

DESIGN AND COSTS
- What type of food do you sell?
- What appliances do you use?
- What source of energy do you use?

INCOME
- How many days a week do you work?
- What hours do you sell?
- How many meals do you sell each day?
- How much does it cost per plate?
- How much do you spend on raw materials?
- What plates, bags, etc. do you use?
- How often do you buy them?
- How much do the plates, bags, etc. cost?
- How much do you pay for ice per bag?
- How many bags do you buy per day?
- How much do you spend on propane/gas?
- How often do you buy it?
- How much do you spend on charcoal?
- How often do you buy it?
- How much does electricity cost per day?
- What other expenses do you have?
- Where do you store your cart when you are not using it, and how much does it cost to store it there?
- How much do you have to pay for selling in this location?
- Do you pay any under the table fees for selling food in this location? If you do, how much?
- What is your total income each day?

INTEREST
- Are you aware of the “Clean Food Good Taste” project?
- Are you involved with this project?
- Would you be interested in a program that leased a food cart with minimal interest?
- Would you be interested in a free business and sanitation education program?
Appendix E: Five Cart Designs

1. Flat display cart

2. Noodle cart

3. Fried food cart

4. Prepared food cart

5. Grilled food cart
Appendix F: Business Education Handbook

Business Education Handbook for C.H.O.W Food Vendors in Thailand

Jamielee Brown, Alicia Groth, Erik Mendez & Binyam Tsegaye
Worcester Polytechnic Institute

Adapted From:
Handbook on Small Enterprises for Hill Tribe People in Thailand
Credit Union League of Thailand Limited &
Micro Economic Developed Project, Supported by
Food and Agriculture Organization of the United Nations, 2003
Business Education Handbook for C.H.O.W Food Vendors in Thailand

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2005
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**Thinking in Business Terms**

**Business.** People often think that the word "business" means a factory or a company. However, business actually means activities including service, purchasing and sales. We are constantly surrounded by businesses. Many people make a living from selling. Even though many are not considered sales people, selling is part of their daily life.

In Thailand, food cart vendors play a very important role in the economy and society. With the addition of new methods and techniques, higher standards can be achieved. In time you will be able to acknowledge and improve the good and bad points of your business. An important reason in developing business education for street food vendors is upgrading micro businesses. The more you know about business the more smoothly your sales will run. You will be more likely to convert something which may be a hindrance into an opportunity.

**How do you choose a business?**

Things that must considered when deciding on doing a business:

- The market. The market has a high need for that product. There is not enough of the product available on the market. There is a gap in the market and it is possible to increase the market significantly.
- Have experience. Have knowledge of how to do it. Has the information been passed down through the families, by grandparents or learned from others? Have expertise.
- Have raw materials that you own, or have a lot of product in the local area. Something of which there is a lot of in the local area, which can be used, which can be used differently. Develop it, process it, and sell it.
- There is a gap for the business in a location or for a specific food. For example it is close to the market, close to a tourism site, or a high traffic area.

**Where do you start?**

- Prepare the area, tools, materials, work system, techniques, and decide on the roles and responsibility of people in the group (if there is more then one).
- Try the activity, observe, note and learn from the experience. Determine the problems, analyze them and find methods to solve them.
What do you need to know in undertaking the business?

- The size of the market demand. What the market likes, what sells well, why it sells well
- What the current trends are, what the trends will be like in the future. How the product is accepted, how long it is accepted.
- The market, or other selling places for the product
- Where the raw materials can be obtained from with the best prices
- Places that sell the food
- How much capital is needed to start the business?

Where do you get the capital?

- Personal funds and savings
- Money borrowed family and friends
- Money borrowed from the Bank
- Money combined from all members of the group
What is business planning?

Business planning is thinking ahead, preparing for doing business or sales in the future - over the next day, week, month, or year.

What do you need to consider in business planning?

Preparation. To prepare for future business, you must think of everything associated with the business. For example: **Marketing**. What period has the highest sales? What time of day and what location is most busy? **Labor**. How many people are going to work at the cart? Have they got to do work elsewhere or not? How many people are available? How many people have experience? If production can be increased, how many more people can be trained? **Materials**. Are the raw materials available? Are they ready to be used or not? For example, are all the foods and spices you need available all year round? **Capitalizing**. How much money is required? What are the costs involved? For example, how much will you spend on equipment, labor and working capital? **Other costs** such as, cost of packaging, cost of bags, boxes, and transportation.

How do you analyze strengths and weaknesses in business?

Analyzing the strengths and weakness is consulting about the business by looking at it in different ways

- What are the strengths or highlights? They can become the selling point for advertising.
- What are the weaknesses or lowlights? These can be prevented or the problem solved.
- Are there any opportunities that can help to strengthen the business? You can use the opportunity to benefit the business
- What are the threats? Reduce or stop the threats. Sometimes it is possible to change the threat into an opportunity. For example, if you are in a location with many tourists that are not familiar with the Thai dish that you are serving, you can put up a menu in their predominant language that explains the dish, its price, and the ingredients. From this you can target a new group of people that normally would not eat at your stand.
SWOT analysis is useful when identifying your business’s the internal strengths and weaknesses and external opportunities and threats.

**Hints for SWOT Analysis**

- **S** (Strengths)
- **W** (Weaknesses)
- **O** (Opportunities)
- **T** (Threats)

Internal Analysis:
- Marketing
- Production
- Finance
- Management

External Analysis:
- Customer Demand
- Competition
- P.E.S.T
  - Politics
  - Economics
  - Social
  - Technology
**SWOT Analysis. An example of C.H.O.W. food cart sales**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| • If working in a group, there are people to help think and work together, there is power in production, can therefore take large orders from clients and you can work faster.  
• With large scale production, the cost of buying is cheaper, therefore production is cheaper.  
• There is a high need for the product, currently low number of producers, and no competitors, therefore can sell at a good price.  
• Poly-lingual menus with pictures of meals. | • For low levels of production, the cost is high because to buy small amounts of materials is expensive.  
• Limited variety  
• Working as a group may have problems in management. Many people have different opinions and are slower at making decisions than if there is only one person. This can cause slow results.  
• Lack of basic business or sanitation skills. |

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
</table>
| • Identifying logo and cart design will incise more western customers.  
• Attached business education program will make you more likely to be knowledgeable about which locations to sell at and at what time.  
• Attached sanitation education program will make you more knowledgeable about practices that are expected by western clientele.  
• Got support from the government. | • People selling the same food for reduced prices increases competition.  
• Not maintaining expected sanitation standards. |
Product

What is the type of product you want to sell?

- snack, meal, or drink
- served hot or cold
- Style of food cart needed

What is the product’s selling point?

- The food is clean, nutritious, and healthy.
- The product is hard to find, rare, or unique.
- It passes on culture and society, specifically to tourists.

How should it be packaged?

- Packaging is a bag, box, or served on a dish.
- Putting product in a bag can make it convenient to enjoy and transport.
- The utensils and condiments that are needed will vary for each dish.

What should the quality of the product be?

- The quality is good.
- The quality is consistent.
- The product should be clean and safe.
- The product should be served in a timely manner.
When you are thinking of undertaking a business, the first thing to think about is the market and where to sell the produce or product. Marketing can be a problem if you do not know where to sell it or who to sell it to. It is awful when you are unable to sell the food that you have already prepared. You can't even think of profit when the initial costs haven't been returned. You need to think of the following questions and their answers.

**Who are the customers?**

Who will you sell your product to? Who is your target audience?

- Sell to tourists
- Sell to locals
- Sell to children, youth, adults, elders

Decided who your target customers are and then decide what they like. Depending if they are tourists or locals, they may like different thing. Make sure it is clear to the customer what you are selling by either having poly-lingual menus and/or pictures.

**Where will it be sold?**

- Near busy places
- Near tourist attractions
- Places where you will get a lot of business
- *Keep in mind the laws that regulate where you can be located.*
When will you sell it?

Decide a timeframe for selling. What are the busy times during the day depending on different locations? Are there special festivals for national holidays and sporting events which you can plan to sell at? This should include preparing work for production and preparing stock so that there is enough to sell.

How can it be sold?

- Food that is eaten at the cart
- Food in a bag that is to be eaten at home
- Food that is eaten on the go (ex. satay, drinks, and fruit)
**Promotion and advertising**

**What is promotion?**

Promotion is advertising, creating awareness, and telling other people about the value of the product you need to sell.

**How do you do it?**

There are many methods of advertising. Using product itself is one example;

- By producing a good quality will help to spread the word mouth to mouth about the product. It is the best kind of advertising through the product itself.
- By demonstrating how to make the product. This will make the people watching understanding the product.
- Have menus that are in more than one language. These could include the ingredients and pictures.
- Give out samples if it is possible so people can try your product without any obligation.
Production

What types of production are there?

- Fried food
- Grilled food
- Displayed food (ex. drinks, snacks)
- Prepared food (ex. displayed like a buffet)
- Noodles

When should production occur?

- Made to order
- Made ahead of time (as prepared food)

In whatever business, the production is the heart of the business. There must be a production system, so that you can produce quickly, quality products and reduce the costs.
Capitalizing Your Business

What is capital? Where does it come from?

Capital money that is used in the business, whether for raw materials, equipment, tools, labor, electricity or water throughout the period from start of production to the sale of the final product. Even at times when you are not selling, there must be funds to cover the cost of materials until you are able to sell the product and make profit.

Capital funds can be from savings, personal money, money borrowed family and friends, or money borrowed from lender. In the case of borrowed money, there will be interest. Whatever the amount of interest, it is the responsibility of the owner of the business. This will reduce the profit, as the interest is one of the costs of doing that business.

A personal fund is money from the pocket of the owners themselves. This is money that has been saved, or placed in savings accounts. Personal funds have no interest involved, so it is the preferred funding.

Money from all members combined Members come together for stakes in the business. This is combining all of the stakes in the funds. This is good as when everyone provides funds, there is assistance to help look after the money and results of the business.
Finance and Account Keeping

Why is it necessary to keep accounts?

- Accounting is keeping record of the information about sales costs and profits of the business
- The notes will remind you about the numbers and figures rather than relying on your memory
- To help control costs and the details about the business
- To know the profits and losses
- To use the information in determining what the problems of the business are and how they can be solved.
- To use as information and use the figures as a basis for future business planning

How do you keep accounts?

- Account keeping, is keeping notes as a system and there are papers and receipts which explain the figures. This will help to keep accuracy
- Before doing this, you need to know what are the income and expenditures
- Income means money or things that equal money that come into the business
- Expenditure means money or things equal to money which are paid out
- In account keeping, you must remember that receiving on the left of the chart and pay out is on the right. Income will be recorded on the left and expenditures are recorded on the right, as shown in the following example.
## Receivables

1. **Date** Record the date the money was received
2. **Income** Record all income received, where it was received from, what for.
3. **Amount** Record the amount of money received, as recorded in column 2.

## Expenditures

4. **Date** Record the date the money was paid
5. **Expenditure** Record all expenditures made, who it was made too, what for.
6. **Amount** Record all amounts of money paid, as recorded in column 5.

### What forms and account books are needed for accounting?

- Forms for account keeping include; account book, order form, invoice, receipt, returns form, advance form, return receipt form.
- The account book is used to record the income and expenditures, profits and losses.

### Who will do the accounting?

- In the case of a group, one person should be selected to do the accounting. You should choose someone who has experience in accounting, or can read and write, then have someone teach them accounting.
Determining Manufacturing Costs, Profits and Loss

What are the manufacturing costs?

Manufacturing costs are the funds and costs associated with the business.

Why do you need to determine the manufacturing costs?

- To know the costs required for the business, in production
- To be used in determining the cost of selling the product or to determine the price
- To determine if you have profit or losses when the product is sold

What do the manufacturing costs include?

- The cost of materials
- The cost of equipment
- The cost of labor
- The cost of materials for packaging
- The cost of electricity and water
- The cost of transportation
- The cost of promotion and advertising
- Tea Money (starting street fees)
- Protection fees/ rent
- Cost of storage
- Cleaning materials
- Depreciation of fixed assets. When talking about depreciation, many people do not understand. Depreciation means the costs arising from the use of the asset. Its costs which must be included in profits and loss. In most cases it includes things that are used, equipment that is used over many years or seasons, and has a high cost. These are called fixed assets. For example, pots, pans, utensils and the food cart.
Costs

- Cart Maintenance
- Packaging (ex. bags and boxes)
- Equipment
- Labor
- Transportaion, Storage Fees, Protection Fees
- Food, Drinks, Spices & Condiments
- Utensils

Electricity, Water, Ice, Propane/ Gas
**Method for determining depreciation**

The depreciation each year can be determined each year as follows:

**For example:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Depreciation</th>
<th>Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bought tractor 1(^{st}) May 2000</td>
<td>8,000 Baht</td>
<td></td>
</tr>
<tr>
<td>(Working age of 5 years, depreciation value is 8,000/5 = 1,600B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation Year 1</td>
<td>1,600 Baht</td>
<td>6,400 Baht</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation Year 2</td>
<td>1,600 Baht</td>
<td>4,800 Baht</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation Year 3</td>
<td>1,600 Baht</td>
<td>3,200 Baht</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation Year 4</td>
<td>1,600 Baht</td>
<td>1,600 Baht</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation Year 5</td>
<td>1,600 Baht</td>
<td>0.00 Baht</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Recording depreciation is capitalizing your business. In the profit/loss book, this can be recorded on monthly, periodically, production season depending on the suitability in determining the profit and loss for each occupation. For example, buying propane determines depreciation on a weekly basis. If you use two propane tanks a week, you must determine the profit and loss of using propane each week.
Profit and loss

This is determined by comparing the income with manufacturing costs.

- Profit means the money made from the income which is more than the manufacturing costs or selling the product at a cost higher than the capital investment.
- Loss means the amount when the income is less than the manufacturing costs.

To calculate profit and loss, you list all your revenue (money earned or credited) in one section and your expenses (money spent) in another. They you can easily sum all the figures to find the total. If the sum is positive for the day, you have made a profit. If the sum is negative for the day, you have incurred losses.

Sample Profit Statement for a Single Day

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Amount (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash From Day</td>
<td>+1500</td>
</tr>
<tr>
<td>Previous Credit</td>
<td>+300</td>
</tr>
</tbody>
</table>

Sample Loss Statement for a Single Day

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Amount (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash From Day</td>
<td>+400</td>
</tr>
<tr>
<td>Previous Credit</td>
<td>+50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Amount (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material (food)</td>
<td>-265</td>
</tr>
<tr>
<td>Electricity</td>
<td>-15</td>
</tr>
<tr>
<td>Water</td>
<td>-10</td>
</tr>
<tr>
<td>Protection Fees</td>
<td>-30</td>
</tr>
<tr>
<td>Depreciation of Cart</td>
<td>-5</td>
</tr>
<tr>
<td>Packaging Materials</td>
<td>-15</td>
</tr>
<tr>
<td>Transportation</td>
<td>-0</td>
</tr>
<tr>
<td>Storage</td>
<td>-20</td>
</tr>
<tr>
<td>Utensils</td>
<td>-10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Amount (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material (food)</td>
<td>-320</td>
</tr>
<tr>
<td>Electricity</td>
<td>-40</td>
</tr>
<tr>
<td>Water</td>
<td>-15</td>
</tr>
<tr>
<td>Protection Fees</td>
<td>-30</td>
</tr>
<tr>
<td>Depreciation of Cart</td>
<td>-10</td>
</tr>
<tr>
<td>Packaging Materials</td>
<td>-15</td>
</tr>
<tr>
<td>Transportation</td>
<td>-35</td>
</tr>
<tr>
<td>Storage</td>
<td>-50</td>
</tr>
<tr>
<td>Utensils</td>
<td>-15</td>
</tr>
</tbody>
</table>

Total (Profit)       | +1430      |
Total (Loss)         | -30        |
Determining the Price

How do you determine the price / what is a reasonable price?

• It is a price that the consumer is happy with and will buy the product at that price
• It is a price where you can make a profit from selling the product
• It is a price that is competitive with other vendors that sell similar products

How do you determine the sales price?

• The manufacturing costs of the product plus the profits required
• The price in the market and competitors selling the same product
• The cost of risks (decay/rotting food, left over stock)

The price of selling by item, should include a profit margin of 35% that is a product with capital cost of 100 Baht, plus profit, will have a sales price of 135 Baht. But, Products which have low capital costs should include a high profit margin. For example:

- Mango and Sticky Rice
  Cost of good sold 20 Baht
  Profit 75% 15 Baht
  Sales price (20 + 15) 35 Baht

You can see that the mango and sticky rice has a profit of 75% and has a price of only 35 Baht. This is a price that is not high, and has a profit of 15 Baht. If something that had a 1000 Baht capital cost, had a profit of 75%, the price would be 1,750 Baht. This price is too high and the product will not sell. Therefore when setting the price, you must determining the cost and price and then assess it to see if the price is reasonable or not, rather than keeping the profit margin the same for all products, as the price that results may not be reasonable.
What is management?

Management is a system in the business to ensure that it is successful, effective, and costs and losses are as low as possible. Management is included in all steps of the work or in undertaking that business. This includes management of materials, and how you can make the most effective use of these materials.

How do you manage production?

Management of production means how to manage the production system so that it is effective and has the least amount of loss.

How do you reduce costs?

Cost reduction is reducing the manufacturing costs so that there is a higher profit. This can be done for example, by purchasing a lot of raw materials so that the price per unit is reduced. It can be purchased at a bulk/wholesale price rather than per item.
Appendix One: Case Study

Wat and Jib’s Som Tum Business

Picking the Product (Business Planning)
Jib and Wat just got married and now they are trying to start their own business. Right now they are deciding what food to sell at their food cart. Each of them wants to sell the product that their families have been selling for generations.

Jib’s family has been selling fresh som tum for as long as she can remember. They always use the freshest shrimp, crabs and vegetables and they know just the right amount of each ingredient to make the perfect dish. Wat’s family makes satay and they always have a large line of customers waiting to grab a stick of their tasty meat.

First they will look at the market to decide if starting a satay or som tum food cart will make a lot of money. Jib thinks that there are too many satay vendors and not many who sell som tum. If they sell som tum they might be the only ones on the street and all the customers who want that dish will have to come to them. If they sold satay they would be competing to sell to the same customers.

Then they decided to think about the experience they have with making each dish. Jib has a lot of experience because she worked at her family’s cart everyday since she was old enough to help out. Her mother and grandmother both taught her how to make the best som tum. Wat does not have as much experience because he has always had to take care of his younger brothers and sisters. He helped out a few times, but only to hand out the food and take the money. He does not know how to make the marinade or dipping sauces.

After more consideration, Wat and Jib finally decide that it would be best to sell som tum. They think that it will be more successful than selling satay. The good aspects of som tum are that it is clean, nutritious and healthy. It is also not common on street carts.

Product
Jib and Wat are ready to start their som tum business but first they need to analyze their product. Som tum is a meal and will be served cold and to make this product they will need a flat cart with some place to refrigerate the seafood. They are also going to need some plastic bags or boxes to put the food in and some plastic utensils for people to eat it with.

Marketing
(where it will be sold)
Jib and Wat have their cart and are now deciding where to sell their Som tum. They live on Chula Soi 6 and there already is a vendor selling som tum on Soi 6 so they should probably not sell on that street. They might not want to sell on Soi 4 or 8 because those are very close. They want to pick a place that is close to their house so that they will not have
to travel far. It would also be best for them to have their cart at a location where there are constantly lots of people. They must keep in mind that they might have to pay a fee to sell at various locations. After much consideration, they decide to sell on the sidewalk outside of the National Stadium. They should have good business there because it is very close to MBK and the BTS station.

**Sale Hours**

Since Jib and Wat cannot work at the cart all day and night, they must decide which hours they will work. After a certain hour there are not many people walking on the streets because they are all at home and the same is true for early in the morning. Wat thinks that not many people will want som tum until later in the day so they will not start until lunch time. They also decided that it would be best to stop selling food at 9pm because at this time MBK and National Stadium are closed so there will not be many people out. They decided that they will work everyday so that they can sell as much food as possible. It will be important for them to buy extra ingredients for days when there are sporting events at National Stadium or festivals when there will be more people than usual in the area.

**Determining the Price**

Wat and Jib want to find a price that will be competitive with the prices of the other vendors in the area. They determined that the total cost to make one dish of som tum would be about 17 Baht. They then took that price and multiplied it by 1.75 to get a number which would give them a profit of 75%. As you can see in the calculation below the price that they calculated to be a reasonable, yet profitable price would be 30 Baht.

<table>
<thead>
<tr>
<th>Som tum:</th>
<th>Total Cost</th>
<th>Profit 75%</th>
<th>Sales Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 Baht</td>
<td>12.75 Baht</td>
<td>30 Baht (17+12.75=29.75)</td>
<td></td>
</tr>
</tbody>
</table>

**Financing**

Jib and Wat have decided to keep accounts for their som tum business. Every time that they spend money on their business they will write it down in a notebook that is specifically for their business. These expenses can be from buying ingredients, paying location fees, ice for keeping the seafood cold, etc. They will also write down how many dishes they sell everyday and how much each dish costs. Once they write down all of the money they spent and all of the money they received they can calculate their profit.

**Determining Manufacturing Costs, Profits and Loss**

Jib and Wat are trying to determine their cost of materials. For this they add up all of the money that they spend on ingredients and divide it by how many days it lasts them, to determine how much they spend per day on it. This would include mangos, papaya, tomatoes, garlic, chilies, crabs, shrimp, limes, sugar, fish sauce, and peanuts. The cost of equipment would be the cart, mixing spoons and grinding bowl. Other cost are the cost of ice, elastic bands, and to go bags and spoons. Since Wat and Jib are the only ones that work at their cart they have no labor costs. If Jib’s sister came to help then the labor cost
would be the amount of money that they give to her sister for the work that she does. They put a sign up on their cart to tell the price of som tum as well as the ingredients (for foreigners who do not know what som tum is) and the price of the sign is their advertising and promotion costs. They do not have to pay storage fees because they keep the cart at their house. National stadium is very close so Jib and Wat push the cart to their location and do not have to spend any money on transportation. They keep their food cart very clean and make sure they always have cleaning materials handy to wipe up any mess; this cost will also be included in manufacturing costs.

Once all the manufacturing costs are added up they subtract that number from their total profits (the total profits are the amount of dishes multiplied by the price of the dish). This will give them their net income, which is the amount of money that they gain from working.

**Capitalizing Your Business**

Jib and Wat have set up their som tum food cart but business has been very slow lately. They spent a lot of money to buy the ingredients to make som tum but now they are not making enough food to use all the ingredients. They are also not selling enough dishes to pay for all of the expenses that they have i.e. electricity and ice. They need capital money. To get the capital money that is used in their business they must look for capital funds, which is money from their savings or it can be money from a family member or through a loan. If the money is borrowed or loaned they will probably have to pay interest and so when more customers start coming they will have more money to pay back. It would be best if they have money in savings that they can use because then they won’t have to pay interest.

**Promotion and Advertising**

Since business hasn't been good, Wat and Jib decided that they need to do some advertising and promoting of their business so that more people will come to buy their som tum. They decided that they will make sure to tell all of their friends about their cart and then request that their friends tell everyone they know about the som tum. This method of promoting is called word-of-mouth and is a very inexpensive way and fast way to advertise your business. They also decided to give samples of their som tum to foreigners walking by who might not know what it tastes like. Jib and Wat made sure not to make the sample som tum spicy (1/2 pepper, not five peppers) since some foreigners are not used to very spicy food.

**Production**

After their advertising and promoting, Jib and Wat now have several customers waiting for a dish of som tum. They have one grinding bowl so only one person at a time can make a dish. If Jib is mixing the som tum for a customer, Wat should cut up some tomatoes or shred more mango. If Wat prepares the ingredients then Jib will not have to and the production will be faster. Jib and Wat should also consider buying another grinding bowl so that once Wat has prepared all of the ingredients he can also mix som tum.
Management
Jib goes to the market everyday to buy papaya, mangos and peppers. She found that if she buys only one to five of each the price is much higher than if she buys six to 20. She has decided that to reduce costs she will buy all of the papaya, mangos and peppers that she needs for one week on Sunday so that it will be much cheaper. She will then refrigerate the food until she needs to use it so that it will not spoil. Jib does not want to buy the crab and shrimp in advance because she wants it to be fresh everyday.
Appendix G: Business Plan

C.H.O.W

Clean Hawking On Wheels

A Business Plan for an Economic Development Program through Food Cart Entrepreneurship

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Executive Summary

The towering high-rises of Bangkok’s contemporary skyline give a sense of the modernization that has occurred in Thailand over the past few decades. Bangkok aspires to reach the ranks of other modern cities; however, poverty is still prevalent down on the crowded streets. Despite the progress Bangkok has made, Thailand remains a developing country, reliant on small and medium-sized enterprises (SME) to support its economy. Scholars and policy makers alike have recognized the importance of SMEs in economic development of many developed and developing countries. Many developed countries host capital-intensive large corporations while industrializing economies have owed much of their success to SMEs (Abdullah & Beal, 2003). The importance of SMEs is evident. Fujimaki (1995) reports that roughly 70 percent of the whole labor market in urban Thailand is comprised of small-scale private enterprise workers. Still, too many people end their workday with the equivalent of three US dollars as their income. Recently the Thai government has officially recognized the role of SMEs in developing the nation’s economy (Sirisambhand, 1995).

Although there is an enormous presence of food carts in Thailand, it is often difficult for entrepreneurs to start a business. High interest rates from loan sharks and scarce loans from SME banks are just some of the challenges that food cart vendors encounter. One method for addressing this problem is through micro leasing of food carts. This vision, which originated from our co-sponsor Mr. Chris Schlesinger in the United States, was foreign to most vendors and administrators that we spoke with in Thailand. Thai people are used to the more conventional micro lending, where money is lent to entrepreneurs for the purchase of a cart. Micro leasing differs from this by leasing equipment rather than money, and at the end of the set leasing period the vendor becomes the owner of the cart. Although micro leasing has many advantages over micro lending, such as built in collateral, the feasibility in Bangkok was yet to be determined. From this, we developed the goal to research and design an economic empowerment program that would extend food carts as a micro enterprise opportunity.

This economic empowerment program was developed from the fulfillment of our four objectives: determining average vendor’s net income, determining cart costs, finding potential administrators and finding program enhancements. The research and fieldwork methods used to accomplish these objectives were interviews with vendors, web searches, library research and meetings with local contacts regarding business, sanitation, manufacturing, and administration.
Several key findings formed through the analysis of our research. These findings include the need for a flexible lease plan, potential local contacts to administer the program, educational material to enhance the program and implementation difficulties. The need for flexible leasing plans appeared through indications of variations in vendor income and cart design. Results showed that disparities in vendor income exist due to variances in food sold at each cart. Values were calculated from gross income and expenses that we collected from 50 vendors in five different areas of Bangkok where food carts are reported to be prevalent. Vendors selling full meals, such as noodle and curry dishes make daily incomes reaching 3200 Baht, whereas those selling beverages and small snacks make much lower incomes sinking to a 100 Baht. This was our first indication that the leasing plans needed to be flexible because installments could not be the same for each vendor. An individual that makes 2000 Baht each day can afford to pay a much higher installment than those struggling to bring home 200 Baht from a day’s work. Hence, leasing plans must be flexible enough to accommodate for a wide range of incomes.

The second indication of the need for flexible lease plans was the differences in food cart design. These differences were evident through the analysis of information we gathered from interviews with officials from the “Clean Food Good Taste” project, from franchise-manufacturers SameSame Ltd. franchise-manufacturer, and personal observation from our interviews with vendors. Food carts were generalized into five categories: display (flat), fried, grilled, noodle and prepared meal (Refer to Chapter 4, section 1). These styles can be described as basic, addition, or subtraction carts (Refer to Chapter 4, section 1). The basic flat cart is generally used to display drinks, fruit, or snacks and requires no sources of energy other than that needed to power an occasional light bulb. Addition carts include grilled and fried food, and are flat carts that have grills or frying woks added on to the original design. These addition carts require either gas burners or coal. Subtraction carts include prepared food and noodles, and have holes cut into the original cart design. For prepared food cart, small inserts are heated by a steam bath and for a noodle cart; a large drum is inserted and heated by a gas burner. There are exceptions to these five generalizations, but we have found that these styles encompass almost all carts. We collected information indicating that flat carts would be priced significantly lower than noodle carts. This differed greatly from SameSame Ltd. manufactured carts, which are all equally priced at 50,000 Baht because of their multipurpose use. It was difficult to obtain specific prices of food carts from manufacturers because they are not widely publicized.
Furthermore, different food items are sold on carts of the same type causing variation of income levels within each category. Therefore, we recommend when arranging the leasing plan, repayment and interest rates, they be established not only with respect to the type of cart used, but also to the type of food sold on the cart.

For the execution of the project and to ensure its success, we had to find a local contact in Thailand. We conducted web searches and used our contacts in Thailand to identify potential administrators and details of their operations and projects. We compiled a list of organizations that might be interested in implementing the next steps of this project. We identified four promising organizations using criteria to determine their compatibility. The criteria included experience with leasing or lending, previous work with micro enterprises, existing contacts in impoverished areas of Bangkok, and capability to locate potential entrepreneurs who would benefit from our project. CARE, the Duang Prateep Foundation, Food for the Hungry, and Step Ahead MicroEnterprise all met a large portion of our criteria, but because of the recent tsunami in southern Thailand and their involvement with the relief efforts, it was difficult to meet with representatives and seek their interest in our project. However, we did have the opportunity to meet with Ms. Supatra Sirisomruthai, Program Manager of Step Ahead, to discuss our project and the possibility of partnering together for the administration of its future phases. Although she showed interest for our project during our discussion, she expressed concerns with the financial and leasing aspects of the plan. She informed us she would consult with her director and respond later with any conclusions; however, in the following weeks of our meeting, we were unable to contact Step Ahead due to their relief efforts in southern Thailand. In recommending these four organizations as potential administrators, we suggest further meetings should be arranged to discuss project details when the officials have more time for additional projects. These organizations can also be resources in contacting additional potential administrators.

Necessary and beneficial business management and sanitation educational tools were obtained to enhance our program. We searched through the World Wide Web and contacted the Credit Union League of Thailand for business education material which met our criteria of containing basic entry-level business management guidelines, prepared for small enterprises, easy to understand, and adaptable for a Thai audience. The acquired material was developed for small hill tribe enterprises. From our research of food carts in Thailand and with the help of Dr. Achara Chandrachai, from the Faculty of Commerce at Chulalongkorn University, we modified this educational tool from its original version to make it more appropriate for a food cart vendor audience. The topics covered in the
manual teach vendors very basic business management skills such as "Profit and Loss," "Marketing," "Promotion and Advertising," "Production," and "Capitalizing Your Business." The manual also contains an appendix with a case study of a Thai couple starting a food cart business. This provides easy comprehension for the vendors through examples.

We also obtained education material covering sanitation and hygiene issues through the "Clean Food Good Taste" project. These manuals and videos are prepared specifically for food carts in Thailand and are visually engaging. The material has been implemented with widespread success; therefore it was unchanged from its original version. While other material exists, this is most appropriate for the Thai food vendors. These two enhancements make the leasing program unique, well-rounded and appealing for potential entrepreneurs.

For successful implementation of the project there are more specifics that must be considered. From our meetings with contacts, we learned details pertinent to working with food carts located in Bangkok. Officials from the "Clean Food Good Taste" project provided us with information regarding difficulties with conducting a pilot study in Bangkok. There are 50 districts within Bangkok, and each cart would have to register their cart and "Clean Food Good Taste" membership individually to the Bangkok Metropolitan Agency for their chosen district. It was suggested that we select a single district within Bangkok so that all carts would be cooperating with the same local health official. This would create easier facilitation and ensure the same standards on each cart. Difficulties in trying to spread carts throughout Bangkok were also expressed to us in our meeting with SameSame Ltd. Their plan to work in multiple districts impeded their project to the extent that all carts were removed from the streets and placed at gas stations.

While we were informed of difficulties, we generated other viable locations for the pilot study. We recommend Ayuthaya, Chonburi, Nonthaburi, Pattaya, Phuket and Suphunburi if there is no other option but to work in a province outside of Bangkok (see Figure 1 for a map of Thailand with selected cities). Amiable ties between the local departments of these provinces and the "Clean Food Good Taste" project would allow easy facilitation of sanitation training and certification of vendors. Conducting the pilot study in a different province would require further investigation of vendor income levels, available manufacturers, and administrators specific to each province. Vendor income levels might vary due to consumer population and tourism levels. Investigating manufacturers in those provinces would avoid transportation of carts from Bangkok, a factor that would raise the cost of carts. Finally, organizations in Bangkok selected for
administration would have difficulty running the program from such a distance and might not have ties in these communities.

Figure 1: Map of Thailand with Selected Cities

In conclusion, the economic empowerment program would be administered by a non-governmental organization that would find potential entrepreneurs in Bangkok who otherwise might not have the opportunity and means to start a business. These entrepreneurs would be trained in business and sanitation education and given a leasing plan to accompany the cart they desired depending on the food they plan to sell. Once all arrangements were in order, the vendor would have a food cart, a “Clean Food Good Taste” sign, apron, hat, and the tools necessary to maintain their business with optimized success.
Industry Environment and Concept

Problem Statements
It is a natural instinct for humans to want to better their lives and attain economic independence. One means of gaining such independence is initiating micro enterprises through entrepreneurial activity. Research done by Entrepreneurship professors at Babson College shows that eighteen percent of all Thai citizens between the age of 18 and 65 are entrepreneurs, compared to the United States with only eleven percent (Bygrave, Neck, Reynolds, Zacharakis, 2003). Given the amount of interest in entrepreneurship in Thailand, the resources we will create for becoming part of an entrepreneurial food cart business will be particularly appealing to the currently unemployed citizens.

To realize their aspirations of initiating a business, entrepreneurs need to acquire the startup funds. There are three common sources of funds that vendors currently use: friends and family members, loan sharks, or micro financiers (Coleman 2002). Willing friends and family members invest in the business and rarely charge interest on the borrowed money. Borrowing money from loan sharks entails high interest rates, which could potentially harm the business. The last source of funds through micro financiers provides small business loans with small interest rates. These sources, with the exception of loan sharks, can be beneficial to the entrepreneurs for acquiring the monetary funds needed to start a food cart business. These sources, however, do not offer entrepreneurs with the equipment or educational tools to run and optimize their business. This problem has led us to develop a program in which food vendors can lease a food cart as well as obtain a business and sanitation education to optimize their establishment.

Establishing the Food Cart Market
Food carts could be an extremely important resource for the economics of developing countries. Along with the profit that food carts generate, there are many social aspects that help explain their popularity and reiterate their importance in society. Rationale for the existence of food carts includes an endless variety of food, low prices, basic facility requirements, nutritious value, and low capital expenditures. These reasons help establish feasibility of conducting such a project in Thailand using food carts as economic empowerment tools.

The price of street food appeals to many low and middle-income families. Allain and Winaro (1991) from the Food and Agriculture Organization stated that low and middle class families depend almost solely on street food. These food items are not only cheaper than purchasing food from restaurants but also cheaper than preparing food at home. Allain and Winaro (1991) reported that the cost of a single serving at food carts is cheaper than home-cooked meals because vendors cater for numerous consumers and purchase their food at wholesale prices from markets. Cooking at home also requires equipment that many families might not have the money to initially purchase or even run. All aspects of street
food make it convenient and beneficial when compared to home cooking, therefore being the main choice for city dwellers and sometimes even rural Thais.

The variety of food within the food cart business brings many advantages. Experts at the meeting on “Improving Street Foods in Calcutta” concluded that this large variation allows consumers to receive their daily nutritional requirements from eating a combination of street food all at an affordable price (Winarno, 1997). Of the estimated 20,000 total street food vendors in Bangkok, there are roughly 213 different foods sold including full meals, beverages, and snacks (Boccas, Dawson, and Liamrangsi, 1996).

Street food is prepared by hand from locally grown fruits, vegetables, and meat. In Thailand, street food is one of the main sources of food for urbanites. Without this nutritious, quick, and inexpensive style of obtaining pre-prepared food, many Thais would not be able to eat the amount of food necessary for healthy living. Despite the sanitation concerns, people still eat at the food carts because of their nutritional value and their inexpensive menu items. Boccas, Dawson, and Liamrangsi (1996) state that children between the ages of 4 and 6, obtain approximately 88 percent of their energy from street food and adults almost half. It is also measured to provide the average person with 44 percent of their total iron intake and 39 percent of their protein intake. All these advantages make it worthwhile to eat from street food vendors.

Street food vending makes it possible for unskilled individuals to obtain and maintain a job. Unschooled citizens who have difficulty of finding employment in the professional workplace need to only know basic cooking skills and how to manage money in order to run their own food cart. There are however, reports that show poor sanitation at food carts. Their absence of education could be a reason for the poor maintenance of the food. Lack of adequate sanitation is a problem especially for foreigners who are not accustomed to local bacteria. Our plan was to provide resources to educate the entrepreneurs with hopes of improving sanitation and food maintenance.

**Concept**

The proverb “Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime,” has been used to teach people about the virtue of educating others to become self-sufficient and self-reliant. The C.H.O.W. (Clean Hawking on Wheels) project was initiated with this concept in mind in hopes of providing people with the opportunity to help their selves. The name was created from the history of early street foods vendors who were initially called hawkers. Now these hawkers, who began selling food on streets out of a single basket and have later evolved to food carts, are the focus for this project because of their prevalence in Thailand. Anyone that has walked the streets of Bangkok, or most other provinces in the country, can see that street food is an extremely prominent and competitive market. Food is a major component of just about every culture. Cultures are passionate about the dishes that originate in their local kitchens and eateries, Thai cuisine is no exception. Food in Thailand is
such an important component of the culture that this romance can be seen on food carts in back alleys, crowded streets and even situated next to corporate office buildings. Improving the food carts will undoubtedly improve the vendors' lives and eventually have an effect on the Thai economy.

**Mission statement**

C.H.O.W. with its unique and innovative leasing program and its enhancement components aims to:

- Provide underprivileged people the opportunity to better their lives
- Educate vendors in basic business and food sanitation skills to help improve their business
- Offer clean, safe, healthy and delicious food on our carts for locals and tourists alike
- Promote economic empowerment through a common cultural aspect: food
- Be an example for implementation in other regions of the world, where the local population can benefit from such a project
Business Details

Cart Design
The food carts currently existing have been categorized into five categories for the purposes of the C.H.O.W project. To clearly understand the design of each cart, we start off with the flat cart and add or subtract various features to create other four modifications of carts as. Figure 2 below illustrates the additions and subtractions necessary to transform the flat cart into the grilling, frying, noodle, and prepared foods cart.

Figure 2: Additions and Subtractions to Food Carts

One would simply need to stroll for a few minutes to appreciate the great number of food cart establishments in Bangkok. In viewing urbanization in the developing cities, John Lupien, director of Food and Nutrition Division in the Food and Agriculture Organization (FAO) can be quoted as saying “street foods are here to stay.” The reason for food carts existing in large numbers lies in the benefits they offer for customers, cheap food, fast food, nutritional value, and great tasting.
food. However, with all the benefits offered by street foods health risks are of great concern. The health risks are due to the sub-par sanitation practices on food carts. From the figures below, it can be shown how C.H.O.W carts will be designed to uphold sanitation standards and set examples for current carts. The pictures depict that although existing carts are thriving under current sanitation standards, there is room for improvement. The C.H.O.W project will address improvements through design that will uphold high sanitation standards to ensure food safety. The pictures in Figure 3 show the current sub-par carts. The carts shown in Figure 4 are both manufactured by SameSame. The cart show serving food was used to display an “ideal Clean Food Good Taste cart” at a food exposition.

Figure 3: Current Food Carts

Figure 4: Future of Food Carts
**Program Design**

A unique aspect of the project is to provide a well-equipped food cart through a lease program for street food vendors. In addition to this, the C.H.O.W. program provides the added benefit to participating vendors by providing them business and sanitation education. The Department of Health in Thailand will provide certification for the vendors involved with this program. It is necessary to have various groups responsible for each element of the program due the logistics of the lease and educational components.

This program has several location options for its initiation. Cart certification from the “Clean Food Good Taste” Project plays an important role on location selection. Due to difficulties between different governmental departments in Bangkok and the “Clean Food Good Taste” project, options of other areas in Thailand where the pilot study may be conducted needed to be addressed. It is preferred to conduct the pilot study in Bangkok because of the city size, amount of tourism, location in comparison to potential administrators and manufacturers, and the validity of our vendor income data for leasing plans that has been gathered. Since Bangkok is divided into 50 districts, each with its own health officials to work with; facilitation and cooperation would be easier if all carts were located together. For the program to run in Bangkok, a specific district has to be chosen for a focus group. However, to make the process of certification much easier we have several other options for locations in Thailand. Nonthaburi, Ayuthaya, Suphunburi, Chonburi, Pattaya, or Phuket are recommended locations due to the amiable ties with local officials and the Department of Health (See Figure 1 for a map of the selected cities).

a. Leasing Program

The plans of this project have been designed to provide entrepreneurs a means of income generation through the use of micro leasing. Micro leasing is a financial program that is structured to finance entrepreneurs in order to purchase small equipment or machinery (Dupleich, 2000). Under this financing program, the client will use the food cart for an agreed period of time and pay the administering organization on fixed installments. Once the lease period is over, the client will become the owner of the cart. This program has various advantages over traditional money lending for this project. A very important advantage of micro leasing is that the equipment can be used as collateral. Another advantage of leasing is that the risk of fund diversion is eliminated; leases ensure that a client will use the equipment only for the intended purposes (Deelen, Dupleich, Othieno, Wakelin, 2003).

The lease program will be administered by a selected nongovernmental organization. The responsibilities of this organization will be to recruit program participants, manage repayment according to the agreed installment plan, and implement the business education courses for the vendors. Furthermore, the organization will continue to have ties with the vendors for mentoring and guidance in the events of difficulties. Four candidates have been identified to
take this responsibility; Step Ahead MicroEnterprise, CARE, Food for the Hungry, and the Duang Prateep Foundation.

b. Sanitation Educational Program

The educational component is an important aspect of this project’s plan. It will provide training in sanitation and hygienic maintenance of the carts to the future entrepreneurs. The guarantee of providing delicious, clean, safe, sanitary food is one of the highlights that will make C.H.O.W food carts stand out from the rest. The sanitation instructional material was obtained from the “Clean Food Good Taste” project from the Department of Health. The sanitation education material is comprised of general, easy to follow guidelines that instruct vendors on the basics of maintaining sanitary conditions on their carts. Guidelines on food storage, food preparation, clean surroundings, and personal hygiene are some the topics covered by this material. The materials use pictures with very little text to convey the topics in the sections. The materials are also presented in pamphlets and booklets made easier for vendors to carry. To supplement the topics, a video has been prepared to briefly give an overview of the topics.

The “Clean Food Good Taste” project will be in charge of managing all the details pertaining to sanitation training, certification, and routine inspections of the food, utensils, and the surroundings of the food cart to guarantee consumers high sanitation standards are being upheld. This will be executed for C.H.O.W. food carts, regardless of the location of implementation in Thailand. The sanitation education program will be run by a health official from the district or province selected to conduct the project in. The duration of the sanitation education will be a half-day program, at the end of which, the vendors will be certified of their training and skills with a certificate from the “Clean Food Good Taste” Project. Along with the certification, C.H.O.W. vendors will receive a logo, an apron, and a hat to display their affiliation with the “Clean Food Good Taste” Project.

c. Business Education Program

Another important aspect of this project is the business education program. From our research and interviewing process, we have found that most vendors have little to no accounting and business training. They view their income as the money in their pocket at the end of the day. The vendors do not acknowledge net income by incorporating their expenditures, which can be extremely unreliable. With the help of an educational packet entitled Handbook on Small Enterprises for Hill Tribe People in Thailand, made by the Food and Agricultural Organization (FAO), Credit Union League of Thailand (CULT) and the Micro Economic Development Project (MEDP), along with
suggestions from Dr. Achara, Director of the Faculty of Commerce at Chulalongkorn University, we have developed an entry level business education packet. This handbook, entitled Business Education Handbook for C.H.O.W Food Vendors in Thailand will teach C.H.O.W. food vendors about fundamental and essential business practices (See Figure 5 for cover of manual). The C.H.O.W. food vendors will learn how to manage a more stable business with better marketing strategies, account keeping, and management practices.

**Potential Cost of Prototype**

SameSame Ltd., a manufacturer and franchise focused on creating well-equipped hygienic food carts, showed us a cart they produce. Their cart is a versatile, multi-purpose cart, which can be utilized as a noodle cart, prepared food cart, beverage cart and fried food cart, all with the modification of its heating components (See Figure 4). Their cart meet most of our established criteria; including stainless steel surfaces, covered containers for utensils, washing basins, coolers for ice, and a trash bin. This cart is designed to accommodate two interior gas tanks, and two burners. There is the option of having both burners for one function or two different distinct functions; for example two burners for boiling water or one for boiling water, the other for steaming water. All carts are designed to have two steam bath compartments with six stainless steel containers to keep food warm, and one compartment with three containers to for cold storage. All models are can fold away, with roofs that become the lid during storage. They also have a built-in table at each end of the cart that folds away, along with hitching systems for easy transportation. The price of this versatile cart, with all components, is 50,000 Baht. Although, the cart does not contain all the requisites to meet the sanitation standards we established for our carts, such as water containers, the SameSame Ltd. cart is appropriate for the C.H.O.W. project. In the future, these minor additions would pose no problem. We were informed that these carts were available as one single type upon request and are also available to interested individual entrepreneurs.

**Leasing Considerations**

Vendor incomes averaged by cart categories, location and types of meals all indicate the great need for flexibility in the C.H.O.W. leasing plans. All incomes calculated from interview information were put into a database and analyzed. From these analyses, graphs were made presenting the three generalizations. Graph 1 displays the income averages of vendors grouped into five categories (i.e. prepared, noodle, flat, grilled and fried). Two other graphs were made, the first showing incomes averaged by groups according to the location of their cart (i.e. Chinatown, Klong Toey, Pratunam, Siam and Suan Luan) and the second showing incomes averaged by types of food sold (i.e. snack, meal and dessert). As you can see from Graphs 1 not a single average has a standard deviation within a ¼ of the total value. While the standard deviations for most averages are approximately 1/2 to the full equivalence of the value, some are even double the value. The other two graphs were also inconclusive. These large deviations signify that vendor incomes cannot be generalized into specific categories. Because of this inability to generalize, lease contracts must be specific to each individual
vendor. If, for instance, there is a lack of flexibility and all C.H.O.W. vendors using a prepared cart must pay the same installments, some vendors might incur huge problems of debt. While some vendors might be able to make each payment with a large excess of spending cash, others might have to default their installment continue in a downward cycle. Therefore, it is recommended that each C.H.O.W. vendor come to agreement with the administrating organization regarding their own leasing plan. If the vendor consistently is making more money than expected, they will have the opportunity to raise the value of installments and in accordance shorten the leasing terms. However, if the vendor begins to make less than expected and is unable to pay the installments, he or she must immediately consult with the administrating organization. The administrator can then either extend the leasing terms and lower the installments or, as a last resort, terminate the lease and revoke the cart.

Averages Within Cart Categorizations

Due to the allotted time and the limitation of our expertise we were unable to develop the specifics of an adequate lease plan. We did, however, develop general lease schemes based on the 50,000 Baht cart. We calculated that a vendor would have to pay roughly 30 Baht per day for a five year lease with a five percent annual interest rate. By looking at the loan analysis worksheet in Chart 1, a monthly payment can be chosen and then matched with accompanied lease terms and interest rates. Inversely, an interest rate and lease term can be selected to then find the corresponding value for monthly payment. Note that the worksheet shows
dollar signs but as long as loan amount is input as the numerical Baht value, the monthly payment amount will be the numerical Baht value associated with that loan amount. This was all done with the assistance of a loan calculator that we downloaded from Microsoft Office Online.

**Chart 1: Loan Analysis Worksheet**

<table>
<thead>
<tr>
<th>Loan Analysis</th>
<th>Rate</th>
<th>3</th>
<th>5</th>
<th>10</th>
<th>12</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>5.00%</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
</tr>
<tr>
<td>Years of Loan</td>
<td>5</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
</tr>
<tr>
<td>Loan Amount</td>
<td>$ 50,000.00</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
<td>$ 4143.56</td>
</tr>
<tr>
<td>Monthly Payment</td>
<td>$ 943.56</td>
<td>$ 943.56</td>
<td>$ 943.56</td>
<td>$ 943.56</td>
<td>$ 943.56</td>
<td>$ 943.56</td>
</tr>
<tr>
<td>Total Payment</td>
<td>$ 56,813.70</td>
<td>$ 56,813.70</td>
<td>$ 56,813.70</td>
<td>$ 56,813.70</td>
<td>$ 56,813.70</td>
<td>$ 56,813.70</td>
</tr>
<tr>
<td>Total Interest</td>
<td>$ 6,813.70</td>
<td>$ 6,813.70</td>
<td>$ 6,813.70</td>
<td>$ 6,813.70</td>
<td>$ 6,813.70</td>
<td>$ 6,813.70</td>
</tr>
</tbody>
</table>

**Cash Flow Analysis**

From the averages calculated, we created a cash flow analysis for a typical vendor (See Chart 2). This cash flow analysis accounts for all expenses and the total income that each vendor incurs per day.

<table>
<thead>
<tr>
<th>Vendor Cash Flow Analysis (Baht/Day)</th>
<th>Total Income</th>
<th>Raw Material</th>
<th>Ice</th>
<th>Coal</th>
<th>Propane</th>
<th>Electricity</th>
<th>Storage</th>
<th>Location Fee</th>
<th>Under the Table Fee</th>
<th>Other Expenses</th>
<th>Total Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2219</td>
<td>1000</td>
<td>85</td>
<td>38</td>
<td>67</td>
<td>23</td>
<td>58</td>
<td>89</td>
<td>75</td>
<td>106</td>
<td>678</td>
</tr>
</tbody>
</table>
Marketing

The importance of establishing a recognizable name for consumers to know that our carts are associated with serving clean, safe, healthy and delicious food was vital. The name our carts will be carrying is the acronym C.H.O.W. that stands for Clean Hawking on Wheels. It is the determining factors of appearance, operations, and management that will put the C.H.O.W. name above all others.

The benefit of working with the “Clean Food Good Taste” project is that not only are we receiving their sanitation education, certification and routine inspections for our carts, but they are also in charge of marketing the sanitation certification. As long as our carts uphold the sanitary standards established by them, they will receive the “Clean Food Good Taste” logo, seal of approval, as well as hats and aprons bearing the logo. Not only is the marketing going to take place on the streets, but also through multimedia. The “Clean Food Good Taste” project has billboards and posters in numerous public locations, along with television and radio commercials that are aired twice daily.
Reasons for Success

The idea of using micro loans to promote economic activity in impoverished communities is a new form of aid many organizations have been practicing. A more recent idea is micro leasing, where equipment is leased to entrepreneurs to start up businesses. Organizations that have always been known for micro loans are experimenting with this new form of program. One organization that can be cited is the Grameen Bank, a micro financing organization in Bangladesh. The organization was established in 1970 and originally carried out its mission of aiding the poor by using micro loans; however they have recently started using the new idea of micro leasing. The institution experimented with leasing power-loom to weavers in the Arailazar area of Bangladesh in 1992. By 1996, the institution had established leasing programs in all 14 zones of Bangladesh, with leases amounting to 1.5 million dollars. 358 of the 1,951 leases moved into ownership by the client, and the loan repayments were consistent with the institutions program. The Grameen Bank has now extended its leasing projects to finance battery chargers, ball-point pen production, sugarcane grinders, shallow machines, and power tillers, just to mention a few (Gallardo, 1997).

Our plan is similar to the micro leasing program of the Grameen Bank’s, however; this plan differs by providing clients not only the equipment for their business but also the educational skills they need to conduct a successful business. The education materials used for C.H.O.W. have been successfully used in other programs to teach the participants methods to better their business. The business education manual has been used by the Credit Union League of Thailand to educate Hill Tribe people about small enterprises. The sanitation education material has educated food vendors successfully throughout Thailand by the Department of Health. Because this particular project is compromised of components from other successful projects, C.H.O.W. has great potential for success in benefiting all participants.

Two programs can be cited that attempted to improve the food cart scene in Bangkok. However, both projects failed to fully reach their objective due to challenges that exist while working in Bangkok as mentioned in the Program Design section on page 11. These movements were conducted by SameSame Ltd., a food cart manufacturer and franchise, and the Bangkok Metropolitan Administration.

Challenges of SameSame Ltd.

SameSame Ltd. is a company that has faced difficulty of working in Bangkok. This company focused on having well-equipped, hygienic carts selling food attempted to put carts on Bangkok streets through their franchise plan. They were denied the right, due to regulations on established permitted locations created by the Bangkok Metropolitan
Administration. Currently, SameSame has resorted to relocating their food carts with permission at gas stations throughout Bangkok.

Challenges of BMA APEC Food Carts

The Bangkok Metropolitan Administration (BMA) also initiated a project to make food carts visually appealing during the Asia-Pacific Economic Cooperation (APEC) summit in 2003. The project, although well-intentioned, failed. The failure was due to the fact that the newly designed carts could not cater to the needs of the vendors. The carts had an identifying image with tops resembling Thai-style roofing. The project handed out 669 carts, which were free of charge to vendors during its first month of operation in nine districts (Wancharoen, 2003). After the first month they were leased them to interested vendors for 500 Baht per month. However, vendors later complained that these carts were poorly made and were virtually useless to them due to their lightweight design and lack of two front wheels. We were informed that the carts were made in the flat (display) cart style and did not possess the appliances such as noodle basins, grills, and woks that are required by vendors to sell their products. The carts did not contain compartments for storing cooking utensils and had floors made from plywood. The wood proved unable to handle the heat in cases where the carts would be used by noodle or other vendors that required high cooking temperatures. Presently, there is only a hand full of these carts in existence; most of them are said to be in a scrap heap near Lumphini Park. We attempted to obtain more detailed information concerning this project, however, a representative of the administration informed us that it is BMA policy not to give or discuss information concerning this project.

How this project avoids these problems

To ensure success, this project has been designed to avoid problems that were faced by SameSame Ltd. and Bangkok Metropolitan Administration. To avoid conflicts with vending locations, we have gathered information for other suggested provinces to implement the project in. Contacts with local government administrations and Departments of Health have been made to establish good cooperation. The program will also provide well-equipped carts, constructed from durable materials that meet the needs of vendors.
Contacts

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Gallardo, J (1997). Leasing to Support Micro and Small Enterprises. Published by Financial Sector Development Department of The World Bank
