IOWA STATE UNIVERSITY
Digital Repository

2013

A case study on the food retail environment of Accra, Ghana

Shelley Jayne Oltmans
Iowa State University

Follow this and additional works at: http://lib.dr.iastate.edu/etd

Part of the African Languages and Societies Commons, and the Urban Studies and Planning Commons

A case study of the food retail system in Accra, Ghana

by

Shelley Jayne Oltmans

A thesis submitted to the graduate faculty

in partial fulfillment of the requirements for the degrees of

MASTER OF SCIENCE

MASTER OF COMMUNITY AND REGIONAL PLANNING

Co-majors: Sustainable Agriculture; Community and Regional Planning

Program of Study:
Francis Owusu, Major Professor
Monica Haddad
Robert Mazur

Iowa State University

Ames, Iowa

2013

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AMA – Accra Metropolitan Area

AOV– One-factor analysis of variance

ASFs – Animal Source Foods

CBD – Central Business District

DR-NCDs – Diet related non-communicable diseases

ECOWAS – Economic Community of West African States

FAO – Food and Agriculture Organization

FDI – Foreign Direct Investment

FFVs – Fresh Fruits and Vegetables

GDP – Gross Domestic Product

GIS – Geographical Information Systems

GPRTU – Ghana Private Road Transport Union

GPS – Global Positioning System

GTUC – Ghanaian Trades Union Congress

IMF – International Monetary Fund

ISI – Import Substitution Industrialization

Kcals – Kilocalories

MMDA – Metropolitan, Municipal and District Assemblies

NCDs – Non-communicable diseases

ROSCA – Rotating Credit and Savings Associations

SAPs – Structural Adjustment Programs

SSA – Sub-Saharan Africa

TFCs – Transnational Food Corporations

UN- United Nations

ACKNOWLEDGEMENTS

I have a great many people to thank for their guidance, assistance and support throughout my research project experience. My advisor, Dr. Francis Owusu, who began this journey the first day we met by making me believe that graduate school at Iowa State University would get me closer to my dreams. Throughout the journey he always had a friendly smile and a sincere "how are you doing?" when I had yet another question, dilemma or just needed to chat. Dr. Monica Haddad remained confident in me, cheering me on till the end. I would also like to thank Dr. Robert Mazur for his guidance. Thank you all for your support throughout this process

Ghana is a beautiful country and the people could not have been more friendly or supportive. Dr. Richmond Aryeetey offered me valuable guidance throughout my field research experience and an office desk from which I cultivated many a great relationships. My field assistant, Akua Ageiwaa Bonnah, not only made it possible for me to communicate with the Ghanaian people, but made our days of work enjoyable as well. I thank all the wonderful people I met throughout my time in Ghana, who taught me about the culture and their way of living.

I feel so lucky to have had this opportunity. Without the financial support of the Butler Travel Award and Murray B. Weir Scholarship, this research project most likely would not have come to fruition. And finally to my family and friends who supported me throughout the ups and downs of this arduous journey: Thank You All.

ABSTRACT

The increased presence of modern/Western style food retail outlets is changing the food retail environment in many developing countries. This phenomenon, known as "supermarketization," is just recently taking off in Sub-Saharan Africa. Through a case study methodology, this research uses direct observation, retailer interviews, mapping, a food retail assessment and household surveys, first to describe the food retail environment of consumers in the neighborhood of Ashongman Estates, located in Accra, Ghana. Second, the study evaluates consumer access to food and consumer behavior related to retail outlets and food types. Results demonstrate that, although supermarkets have entered the food retail environment, traditional retailers continue to be the main and preferred food retail outlets for consumers. The results also show that there is a high level of access to a wide variety and good quality of foods throughout the built environment. This research offers recommendations to maintain this good access to food and improve the traditional food retail environment.

CHAPTER 1.

INTRODUCTION

Despite increasing poverty and rapid urbanization in the global south, urban food systems have not received the attention they deserve. However, in the past twenty years there has been increased attention paid to the entrance of modern/Western style food retail outlets like supermarkets, hypermarkets and convenience stores in developing countries, especially in urban areas. This has often been called the 'supermarket revolution,' otherwise known as 'supermarketization' (Regmi & Gehlhar, 2001; Goldman, Ramaswami, & Krider, 2002). Supermarketization began in the early 1990s in urban areas in the developing world and has spread from larger, richer countries to smaller and poorer countries and also from larger cities to smaller towns (Makoka, 2005; Reardon & Hopkins, 2006). In many countries it has transformed the production, processing, distribution, retailing and consumption of food (Weatherspoon & Reardon, 2003). This study's focus is on consumer food behavior and access in the food retail environment in the Greater Accra metropolitan area in Ghana, an area that began to experience supermarketization in the early 2000s. The primary focus is food retail sector consumption, defined as *'all activities and processes by which an individual, society and culture acquires (e.g. purchases, strategizes, manages, ingests, digests) and utilizes (e.g. cooks, ritualizes, presents) food material that has been produced and distributed'* (Unger & Wooten, 2006, p. 14). To better understand the food retail environment and consumption, the study also briefly examines the food distribution system, including the *'transporting, storing and marketing of food products to consumers'* (Unger & Wooten, 2006, p. 14).

This chapter begins with a brief overview of traditional food retail environments in developing countries, followed by the drivers and impacts of supermarketization. The second section introduces the study area of Greater Accra, Ghana and explains why it is an ideal area to conduct such a study. The third section presents the research problem and four research questions. The final section outlines the remaining chapters of the thesis.

1.1 THE FOOD RETAIL ENVIRONMENT IN DEVELOPING COUNTRIES

The food retailing environments in developing countries are traditionally different from developed countries in many ways. The main food retail outlets in developing countries are *wet markets*,[1] that are open air public markets with many retailers specializing in selling a small amount of one item or a few items (Weatherspoon & Reardon, 2003). In this study they are referred to as traditional markets. The distribution system supplying these markets with food products links millions of smallholder producers to thousands of small food retailers in urban areas (Lyon, 2003). In addition to traditional markets, there are a variety of other small food retailers spread throughout the urban environment. This happens because a lack of zoning and enforcement of laws allow petty traders and hawkers to sell goods in public spaces, along roadsides and in residentially zoned neighborhoods (Maxwell, 1998; Asiedu & Agyei-Mensah, 2008).

The main drivers of supermarketization in developing countries are urbanization and liberalization of markets and finance (Kennedy, Nantel, & Shetty, 2004; Reardon, et al., 2003). Urbanization is often accompanied by increased incomes and a growing middle class that has more purchasing power and greater demands for quality and safety (Popkin, 2002). Lifestyles

---

[1] The term *wet* indicates the continuous wetness of the floor as a result of the frequent spraying of food products and cleaning of stalls (Goldman, Krider, & Ramaswami, 1999).

also change with urbanization-- women are more likely to work outside the home and more time is spent in transit to and from work and errands. These changes increase the demand for convenience foods (Kennedy, Nantel, & Shetty, 2004). The liberalization of agrifood markets and trade in the 1980s opened the food systems of developing countries to global markets and forces. This resulted in decreased food prices and increased trade in food, especially processed foods. For instance, global food trade grew from US $224 billion in 1972 to US $438 billion in 1998 (Chopra, Galbraith, & Darnton-Hill, 2002). The liberalization of retail markets and finance in the 1990s also increased foreign direct investment (FDI)[2] by transnational corporations in food production, processing, distribution and the retail environment in developing countries (Coe & Wrigley, 2007; Lang, 2003; Chopra, Galbraith, & Darnton-Hill, 2002). In this study these transnational corporations will be referred to as transnational food corporations (TFCs)[3].

Several possible negative outcomes of supermarketization have been highlighted in the literature. First, supermarkets quickly change the food retail environment and become the dominant food retail outlet, displacing traditional retailers (Weatherspoon & Reardon, 2003; Reardon & Hopkins, 2006; Neven & Reardon, 2004). Second, supermarkets increase access to unhealthy foods in the food retail environment, altering consumption behaviors (Rayner, et al., 2007; Popkin, 2006; Kennedy, Nantel, & Shetty, 2004; Rosen & Shapouri, 2008; Stamoulis, Pingali, & Shetty, 2004). Third, supermarkets transform the food distribution system by creating new supply chains that negatively impact small domestic producers, suppliers and distributors (Neven & Reardon, 2004). The above findings are mostly based on research in Eastern Europe, Asia and Latin America, as well as in Kenya and South Africa in Sub-Saharan Africa (SSA).

---

[2] The purchase or construction of assets such as land, factories, machines, buildings and enterprises in one country by firms from another country (World Health Organization, 2013)

[3] Firms that own or control food production, processing, distribution and/or retailing facilities in more than one country through FDI (Coe & Wrigley, 2007)

However, there is little research in the rest of SSA to support these findings. In fact, the most recent research calls into question whether supermarketization negatively impacts traditional producers, distributors and retailers or actually offers more economic opportunities (Farina, Nunes, & Monteiro, 2005; Goldman, Ramaswami, & Krider, 2002; Maruyama, Masayoshi, & Trung, 2007; Humphrey, 2007; Traill, 2006). Furthermore, research finds a widespread availability of processed and unhealthy foods in both modern and traditional retailers in developing countries due to the liberalization of trade and finance (Boselie, Henson, & Weatherspoon, 2003).

1.2 STUDY AREA

This study examines the current food retail environment in Greater Accra, Ghana, during an era of increasing numbers of supermarkets and other Western style retail outlets. The Greater Accra metro area in Ghana is an ideal study area because of several factors. First, like many countries experiencing supermarketization, Ghana is experiencing high rates of urbanization (at 3.1 percent/per year) in Greater Accra) and currently over 50 percent of the total population resides in urban areas. Urbanization is linked to increases in income and a growing middle class with more purchasing power (Ghana Statistical Service, 2012; Reardon et al., 2003). Second, West Africa and Ghana have a long history of female dominated trade, distribution and retail in food products. This food distribution and retail system is a major part of the rural agriculture and urban informal sectors that dominate the Ghanaian economy[4] (Britwum, 2011). It is a highly complex system controlled and regulated by the government and non-governmental groups such as trade associations (Clark, 1994; Britwum, 2013). Third, in 1983, Ghana was the first African

---

[4] Ghana's economy can be split into three sectors: the formal, rural agriculture and urban informal (Britwum and Martins, 2008). Rural agriculture and urban informal sectors are self-employed workers and waged and non-waged employees (Britwum, 2011).

nation to implement Structural Adjustment Programs (SAPs)[5] that resulted in the liberalization of trade and finance (Opoku, 2010). Fourth, in the last decade, Greater Accra has been experiencing a boom in FDI for the development of Western style retail outlets. The largest and most successful is the 58-shop Accra Mall which draws up to 1 million visitors every three months (Bigg & Motsoeneng, 2013). The combination of these factors makes the Greater Accra metro area in Ghana an interesting case study to examine the food retail environment in a developing country.

1.3 RESEARCH PROBLEM AND QUESTIONS

The introduction and expansion of supermarkets in Greater Accra are visible signs of change in the food retail environment. However, the implications of these changes are not well understood, especially in terms of impacts on the traditional retail outlets and consumer behavior and access pertaining to food. This study seeks to fill these gaps by identifying consumer food consumption behavior and access in the current food retail environment. To achieve this goal the study asks four questions:

1. How is the current food retail environment in the Greater Accra metro area in Ghana structured?

2. In the current food retail environment, where do consumers buy food for in home consumption and how do they interact in the built environment?

3. In the current food retail environment, what types of foods are consumers buying for in-home consumption?

4. In the current food retail environment where do consumers purchase different types of foods for in-home consumption?

---

[5] Neoliberal economic policies for developing countries that have been promoted by the World Bank and International Monetary Fund (IMF) since the early 1980s by the provision of loans conditional on the adoption of such policies (World Health Organization, 2013).

Answers to the first question will be helpful in identifying food outlets and describing the food retail environment in which consumers in Ashongman Estates (a district in Greater Accra) purchase their food. Answers to the second through fourth questions will be helpful in identifying and describing how consumers in Ashongman Estates behave and access food in the food retail environment. In this study, consumer behavior and access is operationalized by relative food prices and transaction costs,[6] including proximity, variety and quality, access to transportation and operation hours.

1.4 THESIS OUTLINE

This thesis is organized into six chapters. Following this introduction, Chapter 2 – reviews the literature on the food retail environment in Ghana, with a focus on the entrance of supermarkets, it explores the likely impacts and outcomes on consumption behavior, food access and traditional food retail environment. Chapter 3 is the methodology and introduces the study area, as well as the methods of data collection and analysis. Chapter 4 – discusses the findings about the food retail environment of consumers in the study area. Chapter 5 – discusses the findings related to consumer behavior and access within the food retail environment. Chapter 6 is the conclusion; it summarizes the key findings, the limitations and constraints of the study and presents recommendations and possible future research.

---

[6]Costs other than the money price that are incurred in trading goods and services, including search and information costs, bargaining and decision costs, policing and enforcing costs (Johnson, 2005).

CHAPTER 2.

THE CHANGING FOOD RETAIL ENVIRONMENT: A BRIEF LITERATURE REVIEW

This study in the Greater Accra metro area explores food access and consumer behavior in the present day food retail environment. The purpose is to better understand the phenomenon of supermarketization in Sub-Saharan Africa (SSA), especially in West Africa. This chapter covers the literature review. The first section traces the history of supermarketization in developing countries, focusing on research in SSA, especially in Kenya and South Africa. The second section discusses the history of the Ghanaian food distribution and retail environment to give this study context.

2.1 SUPERMARKETIZATION

The first wave of supermarketization in the developing world took place in South America, East Asia outside China, northern–central Europe, and South Africa. In the 1990 period, the average share of supermarkets in food retail in those first wave developing countries was only 10-20 percent and increased to an average of 50-60 percent by the early 2000s (Reardon, Timmer, & Berdegue, 2004). The second wave began in the mid-1990s and included countries in Central America, Mexico, Southeast Asia, and Southern–Central Europe where the share went from 5-10 percent in 1990 to 30-50 percent by the early 2000s. The third wave began in the late 1990s and early 2000s and included part of Africa, a few countries in Central and South America, and countries in Asia and Eastern Europe, including China, India and Russia. The share of supermarkets in the Chinese market grew three times as rapidly in 2003 as in Brazil

and Argentina a decade earlier (Weatherspoon & Reardon, 2003; Reardon & Hopkins, 2006). Currently, China's supermarket sector is the largest and fastest growing in the world (Watson, 2013).

In Africa, supermarkets first started in the richest countries. South Africa is the only SSA country in the first wave of supermarketization, while Kenya, Zambia, and Zimbabwe are in the early phase of the third wave (Reardon & Timmer, 2007; D'Haese & Van Huylenbroeck, 2005). In 2004, supermarkets in South Africa controlled an estimated 50 –60 percent of the food retail. South Africa had the highest proliferation of supermarkets in SSA with 1700 supermarkets for 35 million people. In the 1990s, supermarkets expanded beyond urban areas into poorer regions and small towns (Reardon, Timmer, & Berdegue, 2004). In the late 1990s, the supermarket sector in Kenya was very small, but by 2004 it was estimated that 20 percent of urban food retail was through supermarkets in many cities and larger towns. Of the supermarkets, 80 percent are part of a chain of supermarkets. Kenya also had approximately 225 supermarkets/hypermarkets, with accelerated growth of 18 percent annually. However, 17 percent of the food market was controlled by other types of retail outlets like chain convenience stores and mini-supermarkets. The remaining 63 percent of food sales came through informal traditional retailers (Neven & Reardon, 2004). In the late 1990s to mid-2000s, supermarkets became established in other SSA countries like Rwanda, Tanzania, Uganda and Malawi (Makoka, 2005).

The increase of modern food retail outlets has its origin in the liberalization of global agrifood markets and finance, beginning in the early 1980s through the 1990s with the implementation of SAPs. At the same time, the food retail markets in developed countries became saturated, which drove TFCs to seek out emerging markets in developing countries (Lang, 2003). The liberalization of markets and finance allowed TFCs to leverage their large

scale and cash flow and take advantage of low inflation and easily accessible equity financing to increase FDI in emerging markets in developing countries (Coe and Wrigley, 2007). FDI in retail is mainly carried out by the leading global retail multinationals, Ahold, Carrefour, and Wal-Mart, and smaller global chains and regional multinationals such as Shoprite[7], based in South Africa. In Latin America global multinationals constitute roughly 70-80 percent of the top five retail chains in most countries. In addition, the top five chains per country have 65 percent of the supermarket sector (Weatherspoon & Reardon, 2003; Reardon & Timmer, 2007; Reardon & Berdegue, 2002).

FDI has played a major role in increasing the number of supermarkets in developing regions, but in Africa FDI has remained low and inconsistent geographically and over time (Ndikumana & Verick, 2008). One exception is the supermarket chain Shoprite. It is the leading African TFC that has provided regional FDI and has extensive experience in entering smaller/poorer neighboring countries (Weatherspoon & Reardon, 2003). For instance, Shoprite opened their first store outside of South Africa in 1995 in Lusaka Zambia (ShopRite, 2013). Shoprite also introduced a new philosophy for grocery stores in Africa and it targeted populations of all socioeconomic classes by providing the lowest prices for basic food and household requirements, in contrast to other marketing strategies of targeting niche markets such as the affluent and expatriates (Miller, 2008). Since TFC investments in Africa remain low, domestic chains have filled this gap and are responsible for the growth in number and spread of modern retail outlets in SSA countries (Neven & Reardon, 2004).

Generally, supermarketization takes place in areas undergoing rapid urbanization. First, urbanization is often accompanied by increased incomes and a growing middle class that are the

---

[7] Africa's largest food retailer operating in 17 countries across Africa and the Indian Ocean Islands (ShopRite, 2013).

first (after the affluent and expatriates) to begin frequenting supermarkets in developing countries (Traill, 2006; Regmi & Gehlhar, 2005). Second, there are higher opportunity costs in urban areas due to increased time spent in transit and women's employment outside the home (Kennedy, Nantel, & Shetty, 2004). This makes convenience an important factor in shopping decisions in urban areas. For instance, instead of traditional shopping habits where consumers visit several retailers and are required to bargain to get the best prices, supermarkets offer the ability to purchase all products in one location where prices are set (Frazão, Meade, & Regmi, 2008). Third, there is increased access to technologies like vehicular transportation and refrigeration in urban areas. This makes it easier to purchase large amounts of food products once a week in one location like a supermarket that offers free and easily accessible parking (Popkin, 2006). Fourth, higher standards of living can also increase demand for higher quality and food safety, which is part of the attractiveness of supermarkets (Weatherspoon & Reardon, 2003). The effects of urbanization, such as increased income and access to technologies and thus demands for higher quality and convenience foods, may result in the adoption of modern supermarkets as the main food retail outlet in developing countries.

2.2 IMPACTS OF SUPERMARKETIZATION

Supermarkets have played a significant role in increasing food safety standards across the world and are increasingly the vehicle for providing a diverse diet to consumers in developing countries, but there are possible negative impacts on the existing food retail environment and distribution system (Popkin, Adair, & Wen Ng, 2011; Timmer, 2004). First, it is predicted that supermarkets will quickly change the food retail environment and become the dominate food retail outlet, displacing traditional retailers (Weatherspoon & Reardon, 2003; Reardon & Hopkins, 2006; Neven & Reardon, 2004). Second, supermarkets will increase access to

unhealthy foods in the food retail environment, altering consumption behaviors (Rayner, et al., 2007; Popkin, 2006; Kennedy, Nantel, & Shetty, 2004; Rosen & Shapouri, 2008; Stamoulis, Pingali, & Shetty, 2004). Third, supermarkets will transform the food distribution system by creating new supply chains that negativily impact small domestic producers, suppliers and distributors, although this is not covered in this study (Neven & Reardon, 2004).

A great deal of research claims that supermarkets will quickly change the food retail environment in developing countries and become the dominate food retail outlets, displacing traditional retailers like "mom and pop stores," market traders in traditional markets, mini market proprietors and hawkers (Figure 1) (Weatherspoon & Reardon, 2003; Reardon & Hopkins, 2006; Neven & Reardon, 2004).
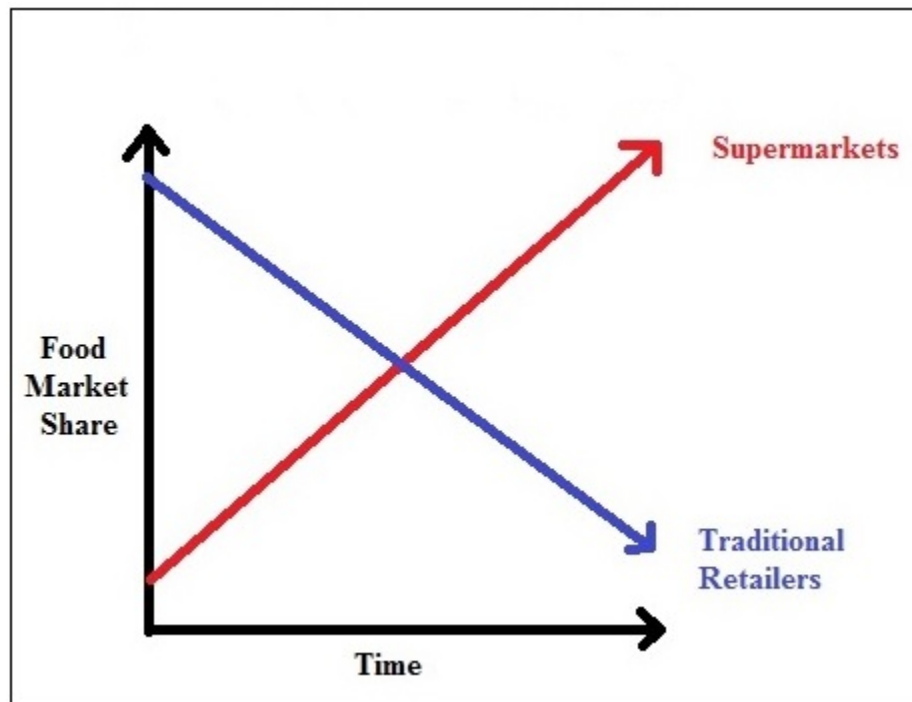
Figure 1. Supermarketization and traditional retailers

For instance, in Latin America, where in one decade food retailing made the change that took the US grocery retail sector 50 years; there was a marked decline in small traditional stores and plaza markets. Between 1984 and 1993, 64,198 small stores went out of business in Argentina and between 1991 and 1995 5240 small shops closed in Chile (Reardon & Berdegue, 2002).

On the other hand, Goldman and colleagues (2002) believe that new Western style retail outlets will not push out traditional markets and smaller food outlets[8]. They view the entrance of supermarkets as a simple diversification of the food production, distribution and retail system that does not appear to be harming traditional actors (Goldman, Ramaswami, & Krider, 2002; Tschirley, 2010; Farina, Nunes, & Monteiro, 2005). For instance, in Hong Kong, which has a large amount of widely dispersed supermarkets, consumers continue to frequent traditional markets to purchase fresh fruits and vegetable (FFVs), as well as fish and meat products. They assert that traditional markets in these sectors have a competitive advantage over supermarkets due to not only traditional shopping habits, but also difficulties for supermarkets in creating and entering domestic supply chains of FFVs and other non-processed foods (Goldman, Ramaswami, & Krider 2002). Furthermore, research by Farina and colleagues (2005) note that in Brazil there has been a growth in independent supermarkets and traditional retailers, creating a more diverse food retail environment.

Research from several developing countries seems to suggest that consumption behaviors in urban centers are changing with the entry of supermarkets in the food retail environment (Rayner, et al., 2007; Minten, 2008). Supermarkets are said to offer more variety, quality,

---

[8] Additional research in support of this argument is (Maruyama, Masayoshi, & Trung, 2007; Reardon & Timmer, 2007; Minten, 2008)

convenience and competitive prices in high-value added foods like processed goods. This shift in consumption is known as the nutrition transition -- a shift from diets dominated by starchy roots and coarse grains to a diet with an increased intake of refined grains, fat in vegetable oils, sugars and sweeteners, and animal source foods (ASFs) (Popkin, 1994). For instance, between the 1960s and mid-2000s the average caloric availability in the developing world increased from about 1950 to 2680 kcals/person/day (Schmidhuber & Shetty, 2005). This increase is attributed especially to increased available calories in meat (119%), sugar (127%) and vegetable oils (199%) (Kearney, 2010). However, the nutrition transition is associated with an increase in overweight and obesity and an increase in diet related non-communicable diseases (DR-NCDs) (Drewnowski & Popkin, 1997).

Consumption patterns consistent with the nutrition transition appear first in the affluent and urban populations. A rise in incomes in developing countries allows consumers to increase money spent on food, while the proportion of total income devoted to food purchases declines (Frazão, Meade, & Regmi, 2008). This situation is similar to the circumstances many European countries were under during their period of transformation and can be described by Engel's Law.[9] The extra income is first spent to increase calories and then after a high enough increase in income, consumers tend to purchase more expensive, higher quality, and value-added forms of cereals rather than cheaper domestic staples (Frazão, Meade, & Regmi, 2008). Furthermore, there is often a high social desirability and a wish to emulate Western culture (Regmi & Gehlhar, 2001). Supermarkets appear to be the natural place to buy such products because they carry a greater variety of processed foods and in some countries prices are lower than smaller local

---

[9] Named after the 19th century German Statistician Ernst Engel and states that low-income households must devote at least a minimum amount to meet basic food needs and as income increases, households may spend some of this additional income on food, but will allocate proportionally more on other, nonfood items (Frazão, Meade, & Regmi, 2008)

shops due to significant economies of scale, good retail logistics, centralized procurement, consolidated distribution and better inventory management (Timmer, 2009; Pingali, 2006; Weatherspoon & Reardon, 2003). On the other hand, research has found that these foods are also marketed by traditional retailers (Neven, et al., 2006).

Although supermarkets in developing countries provide a diverse and a variety of food product, they do not initially provide FFVs. Typically, supermarkets first tend to penetrate the market for processed foods because those products are easier to procure, manage inventories, and merchandise, compared to perishables (Neven, et al., 2006; Reardon & Hopkins, 2006). Even where supermarkets have begun to sell FFVs, they continue to hold small shares of the market. For example, supermarkets have 50 percent of the food retailing in Argentina and Mexico but only control 30 percent of FFV retailing and in Chile supermarkets have 50 percent of food retailing, but only 3-8 percent of FFV retailing (Reardon & Berdegue, 2002). In Kenya, 40 percent of marketed FFVs go directly through the supermarket procurement system, while only 7 percent is purchased through the traditional market and then goes to supermarkets. In South Africa 53 percent of FFVs continue to be sold through traditional markets (Weatherspoon and Reardon 2003). It was anticipated that the supermarket share of the FFV market would grow quickly, however it has remained low and is growing slowly (Tschirley, 2010).

There are several reasons supermarkets have not broken into the FFV market. First, competition from traditional markets tends to be more challenging as consumers often hold on to daily shopping habits for fresh foods (Neven, et al., 2006). Second, often consumers have the perception that produce should be purchased daily to guarantee freshness and quality and it is believed that traditional markets have fresher produce. In addition, many small produce mini markets fit well into dense urban areas compared to larger supermarkets and are able to provide

cheaper prices due to little or no overhead (Maruyama, Masayoshi, & Trung, 2007). Furthermore, mini markets often provide credit to customers. Asian supermarkets buy through the same wholesale markets as traditional market traders, implying a lack of buying advantage. There are high costs for supermarkets because wholesale markets do not presort or pre-grade produce, forcing the supermarket to invest money in this task in order to sell high quality fresh goods in a self-service environment. Supermarkets also incur higher labor, rental, and overhead costs and greater losses from waste and shrinkage (Gorton, Sauer, & Supatpongkul, 2011). Nonetheless, supermarket managers realize the importance of the FFV market and continue to develop marketing methods to attract consumers and generate profits.

In summary, supermarketization is spreading into developing countries but they have yet to enter every sector of the food market. Increased rates of urbanization and foreign influences have increased the amount and types of modern food retail outlets and demand but there are doubts that supermarketization will take place in SSA countries like it has in other developing countries (Tschirley, 2010). Thus the following section will describe and explain the traditional food retail environment and distribution system in Ghana in order to give context to supermarketization in the study area.

2.3 TRADITIONAL RETAIL ENVIRONMENT AND DISTRIBUTION SYSTEM IN GHANA

As stated previously, the food retail environment includes all activities and processes by which an individual, society and culture acquires and utilizes food material and the food distribution system is the transportation, storage and marketing of food products to consumers (Unger & Wooten, 2006). There are several types of suppliers, distributors and retailers involved in the supply chain and retail of food products in Ghana. Women are the majority of these actors

and include farmers, travelers, marketers, wholesalers, petty traders and hawkers. Farmers produce food and, in some cases, individual farmers or groups of farmers also bring their harvest to urban areas to sell. Travelers spend the majority of their time on the road and bring food from farm gate or regional markets to traditional markets in urban areas. After the traveler or farmer reaches the traditional market, typically a wholesaler sells the items based on commission or on a profit basis. The wholesaler receives one truckload after another to sell to buyers. According to Clark (1994), it is rare for petty traders who sell small quantities of foods suitable for household consumption in traditional markets and throughout the urban environment to travel to producers to buy their goods. Typically petty traders buy their goods from a trader in the wholesale market. Marketers are the exception to the norm. They travel daily or occasionally to village markets or to producers to buy goods and return to a traditional market in an urban area to sell the products they acquire (Clark, 1994). Different food types like grains that are easier to store have fewer intermediaries compared to fresh produce that needs to reach the market quickly to avoid spoilage (Lyon, 2003).

The main food retail outlets in SSA and Ghana continue to be traditional markets (Britwum A. O., 2013; Weatherspoon & Reardon, 2003). Traditional markets are designated areas for the retail and/or wholesale of goods and foods by traders. The retail sector serves consumers (such as households) and are organized in commodity-specialized areas where a large number of petty traders are concentrated who sell relatively small quantities of similar foods (i.e., the onion shed, the yam market) (Lyon, 2003; Clark, 1994). The wholesale sector serves consumers who make large purchases, such as institutions and restaurants. The wholesale yard has a different type of set-up, with a small number of traders and a large amount of goods, located on the outer edge of the market in larger areas where trucks can enter and unload. These

spaces are set up to move large amounts of goods quickly. On the sidewalks and streets surrounding traditional markets, compared to the interior of the formal markets that are set up by commodity groups, it is common to see goods (i.e. food, electronics, and clothes) intermingled. Petty traders located in the fringe areas are often there because they may not be able to afford or to find a spot in the main market. In some cases their prices are lower since they have less overhead because they do not pay monthly rents or maintenance fees. These areas are often frequented by consumers in a hurry, who are interested in buying a few goods quickly, instead of going into the crowded main market (Clark, 1994).

There are several other retailers in the urban environment from whom consumers can purchase food for in-home preparation and consumption. The increase in the informal labor force and urbanization resulted in new forms and places for production and services in which these petty traders sell their goods (Owusu, 2007). For instance, it is common in peri-urban areas for full service mini markets that sell a variety of products like food and provisions to operate in open courtyards of compound houses, temporary workshops attached to houses and on tabletops in residential areas. Minimarkets known as roadside stands also locate along major roads and in road right-of-ways (Pellow, 2002). Some mini markets remain small and specialize in selling only a few products, while others expand into full-service grocery stores that provide everything from processed foods to fresh produce and frozen meat and fish. These mini markets often obtain their products from the same wholesalers as traditional market petty traders. However, the prices at mini markets are slightly higher than traditional markets due to costs of transportation, storage and convenience. Cold stores are mini markets or traders in traditional markets that sell frozen and refrigerated meats and fish (Maxwell D. , 1998). Hawkers offer goods for sale to the public without having a permanent built-up structure from which to sell. They purchase their goods

from nearby traditional markets and retail shops on credit or through direct purchase. Hawking is illegal but it is difficult to prohibit. (Asiedu & Agyei-Mensah, 2008). Petty trading is dominated by women in West Africa, while hawking is traditionally a male occupation (D. Maxwell 1998).

Street food is an additional source of food in urban areas. It is a wide variety of often cooked, ready-to-eat foods and beverages sold and sometimes prepared in public spaces. These include snacks, porridge, prepared staple foods, and prepared meals consisting of a staple food, a soup or sauce and a piece of fish, egg or meat (Maxwell, et al., 2000). The consumption of street food is common in urban areas in developing countries that suffer from high rates of unemployment, low income and limited social programs (Mensah, et al., 2002). Maxwell, et al., 2000 found the consumption of street food to be dependent on income, women working outside the home and proximity to markets. It is a cheap, convenient and quick meal for many urban citizens, who spend long hours at work and in transit and have little time for in-home food preparation (Kennedy, Nantel, & Shetty, 2004; Maxwell D. , 1998). School children can also rely on street foods for a large share of their daily food requirements (Maxwell D. , 1998). Although this study does not include in depth consumer behavior related to street food, it is important to mention that an average of 32 percent of the food budget for all homes in Greater Accra is spent on prepared foods, with the poor spending nearly 40 percent of their food budget on street foods. A correspondingly high proportion of calories (roughly 30 percent) come from street foods (Maxwell, et al., 2000).

Street food vending is known for its low entry capital and low income (Clark, 1994). In addition, it is often unregulated and vendors can choose their own hours and avoid paying taxes (Mensah, et al., 2002). Street food is a concern for government officials because of sanitation reasons. However a study done by Mensah and colleagues (2002) in Accra found that the

majority of street food had an acceptable level of microbes. They also identified reasons for

unhygienic street food, including a lack of knowledge about sanitary practices, vehicle pollution,

absence of insect barriers and scarcity of water for preparation and cleaning up (Kennedy,

Nantel, & Shetty, 2004; Mensah, et al., 2002).

2.4 INSTITUTIONS AND POLICY

The food retail environment in the Greater Accra metro area may appear to be chaotic

and unorganized, but there are government policies and interventions that shape it. Most

traditional distributors and retailers are monitored by the local authorities known as the

Municipal, Metropolitan and District Assembly (MMDA).[10] Furthermore, the majority of tax

revenues for MMDAs are collected from traders. It is difficult to determine which retailers pay

taxes or not, but it is safe to assume all types of traders are under some type of government

control through payment of fees, police control and exclusionary laws (Overa, 2007). For

instance, traders located in the formal traditional market pay fees and taxes. On the other hand,

hawkers normally do not pay daily tolls or taxes to the local authorities, while causing increased

congestion, according to a study done by Asiedu and Agyei-Mensah (2008). The lack of

consistency in tax collection and lack of transparency in fee and tax structures, as well as proper

allocation of funds for basic upkeep and regular waste collection, causes disputes between formal

traders, hawkers and local authorities (Tschirley, 2010).

---

[10] The political administration of each region is decentralized and administered through the local government system. Under this administration system, each MMDA is administered by a Chief Executive, representing central government but deriving authority from an Assembly headed by a presiding member elected from among the members themselves.

Since petty trading and hawking in unauthorized areas is illegal in the Accra

Metropolitan Area (AMA), there is a special task force called the Aabaeei[11] who attempt to

enforce the laws (Asiedu & Agyei-Mensah, 2008). These officials forcibly clear the streets and

sidewalks of petty traders and hawkers, confiscating their goods which are often their entire

working capital. However, many view this as unacceptable because this type of retailing is often

a livelihood of last resort for many low-income residents (particularly women) (Maxwell D. ,

1998). To combat these issues, the government constructed new markets in the center and outer

metro areas, in order to lessen the congestion in the central business district of Accra. However,

many traders fear the loss of their customers and meager profits, which results in them returning

to illegal trading in non-designated areas (Asiedu & Agyei-Mensah, 2008).

The Ghanaian government and public have a long history of resentment towards traders

and the trade associations they have formed to protect themselves. This was especially strong

through the 1970s and 1990s when there were many instances of open hostility by the

government and public toward traders, due to high food prices (Lyon, 2003). The accusations of

trader corruption included price fixing/manipulation, the hoarding of goods to create shortages in

order to benefit from ensuing price hikes, and the taking advantage of both producers and

consumers (Lyon, 2003; Britwum A. , 2011). This resulted in physical and verbal attacks on

many market women, culminating in the intentional burning of Makola market in 1979. For the

above reasons, trade associations have had a tenuous relationship with the government and the

public but their formation has allowed market traders to openly bargain with the

political/governmental powers and protect their businesses (Clark, 1994).

---

[11] Special task for with the duty to arrest hawkers and petty traders at unauthorized places, however they often
confiscate retailers' goods and chase them away instead (Asiedu & Agyei-Mensah, 2008).

Trader associations and unions have a long history and are an integral part of the Ghanaian and West African food system. In 1941, the Trade Union Ordinance paved the way for the creation in 1945 of a British-modeled Ghanaian Trades Union Congress (GTUC) (Phelan, 2011). Unions include truckers, wholesalers, travelers, petty traders, hawkers and many other people who participate in the food system. Typically, in order to become a member there is a registration fee and before traders are allowed in they are required to trade for a bit to prove they are not argumentative and don't cause disputes (Clark, 1994). Members choose to join for a variety of reasons, including risk management and meeting others.

Associations perform economic and social roles and discuss and define the "rules of conduct" for traders around these functions (Overa, 2007). The economic roles include minimizing the transaction costs of individuals, making information available on reputations, market prices and supplies of products, and credit, as well as providing means for price negotiation and contract enforcement (Lyon, 2003). Important social functions include informal insurance and social security mechanisms. For instance, members contribute to funeral costs and birth expenses as well as donations for illnesses. In a study by Overa (2007), nearly one-third of interviewees were members of occupational associations. In addition, associations are used to strengthen the capacity and political voice of traders (Maxwell D. , 1998). However, associations exert power and control in the market, which results in exclusionary practices and increase transaction costs for those who are not members of the group (Lyon, 2003).

Associations are often led by an *ohemma*[12] (market queen). The market queen tradition started in the early 1900s and became institutionalized between the 1930s and 1950s (Clark, 1994). She is chosen by personal qualities, as well as age, emotional reliability, familiarity with

---

[12] taken from the traditional title given to the leading woman of a chieftaincy

market affairs, skills in negotiation and dispute settlement, financial independence and wealth. A market queen is advised and helped by a group of elders called a *paninfo*. In addition, a secretary, usually a male, takes meticulous notes on the number of crates each trader brings and sells, in order to avoid disputes. He also takes notes at national and municipal assembly meetings (Lyon, 2003).

There are many barriers to trade association formation of informal workers like traders. In the late 1990s and early 2000s, the GTUC increased their efforts to expand into the informal economy and have had varying success. Associations for traders differ from formal employment unions that deal with working conditions and collective bargaining. Associations for traders focus on immediate concerns that deal with eviction, access to credit and market access. These groups are also often more heterogeneous and represent informal workers that have many different forms of labor relations and conflicts. While workers show an intense interest in being members, these unions struggle to offer meaningful membership in means of services (e.g., education and business training) and increased rights (e.g., lawful allowance to trade). Three unions that are completely made up of informal economy workers are Ghana Private Road Transport Union (GPRTU), Madina Traders' Union and Makola Traders' Union. They focus on stressing welfare support and regulation of trading practices among members (Britwum A. , 2011).

The literature on traditional markets often notes a lack of standardization compared to supermarkets (Weatherspoon & Reardon, 2003; Boselie, Henson, & Weatherspoon, 2003; Neven & Reardon, 2004). However, contrary to common belief, prices are set daily based on standards according to volume, number and price units depending on the product. For instance, the unit might be wholesale quantities of one hundred yams, a standard wooden box of tomatoes, or a

burlap sack. Although there are no standards for quality or sorting, price is also dependent on quality determined through visual inspection. Where a product is produced is also an important piece of information, because of the specialization and reputations of districts. Retailers sell smaller standard quantities at set starting prices (prices to bargain from) that they determine from the wholesale prices at the beginning of the day (Clark, 1994).

While trade associations are quite powerful, it has been found that direct manipulation of prices is a rarity (Clark, 1994). Prices are set based on the supply available for that day. However, trade associations do impact competition, and therefore prices, by several methods including control of the supply entering the market and limitations on the amount traders are allowed to sell. Associations control the supply in the market by physically blocking the entrance of foods, confiscation of goods, and even fines and bans in extreme cases. The most severe punishment is for the market queen to sell the goods of the offending itinerant trader on their behalf and take a large commission. However this power is only possible if the local authorities and traditional government recognize the association (Lyon, 2003).

In addition to trade associations, there are formal and informal savings and credit opportunities in Ghana. The formal sector includes all financial transactions taking place within established financial institutions covered by banking law or other financial regulations of the government. However, it is difficult for many low income citizens to access credit and savings opportunities. The informal sector covers everything not included in the formal sectors, including Rotating Credit and Savings Associations (*ROSCA*), money-lending and some credit unions. ROSCA's in Ghana are called *susu*[13] clubs and are used for the pooling of scarce resources (e.g., money, labor, food) by a group of people for each member's benefit (Bortei-Doku & Aryeetey,

---

[13] The origin of the word is unknown, but likely of Akan, Igbo or Yoruba origin (Alabi, Alabi, & Ahiawodzi, 2007).

1995). In a study conducted by Overa (2007) one-third of the women and 17.6 percent of the men used *susu* clubs to accumulate capital for either a purchase or business investment.

2.5 CHANGING FOOD RETAIL ENVIRONMENT

Traditional retail outlets have not remained static but have transformed with the liberalization of markets and decrease in public sector employment beginning in the early 1980s with the implementation of SAPs that continued through the 1990s. This resulted in a decline in living standards for the urban population in Accra, Ghana and forced many residents to find alternative livelihood strategies, which usually resulted in self-employment in the urban informal economy[14] (Owusu, 2001). Although Accra was already well known for its vibrant informal sector prior to the implementation of SAPs, this sector grew at an estimated 5.5 percent throughout the 1980s and 1990s. In 1980, the ratio of workers in the informal sector to formal sector was 2:1 and by 1990, the ratio was 5:1 (Maxwell D. , 1998). Employment in the formal or informal sector is not a good indicator of poverty because it is possible for those in the informal economy to make more than those in the formal private and public sectors (Overa, 2007).

It was expected that African countries would follow the same development trajectory as Western nations and become less dependent on the informal economy. However, according to the last census conducted in 2010, 74.5 percent of Greater Accra's active population (15 years and older) continue to be employed in the informal sector. Of those, 35.3 percent are engaged as service workers and petty traders, which include food traders (Ghana Statistical Service, 2012). While the number of people employed as petty traders has increased and remains high, the demand for these services has not grown, resulting in tighter competition and lower profits

---

[14] The informal economy is made up of economic activity that is traditionally not monitored by a government, and is not included in the public or formal sector (Flodman Becker, 2004).

(Maxwell D. , 1998). In addition, traditional markets were more local and fragmented and they now have become larger and more centralized in the sense that their service areas reach beyond the local residents and to consumers who are required to use vehicular transportation to reach them. So, mini markets have filled the role of smaller traditional markets. Furthermore, with the liberalization of global food markets and improvements in food distribution logistics, traditional retail distribution channels have evolved from solely domestic and regional dependent supply chains to globally connected supply chains, allowing them to diversify their products from local products to foreign processed and non-processed foods (Boselie, Henson, & Weatherspoon, 2003). The shift in food products happens first in dry goods and later in perishables like fresh fruits and vegetables (FFVs), such as an increase in trade of apples and grapes produced in South Africa in the case of SSA. The centralized traditional markets also serve as important distributors for small retailers like mini markets and hawkers (Weatherspoon & Reardon, 2003).

2.6 CONSUMER BEHAVIOR AND ACCESS

Consumer behavior is often based on prices for food items, but there are additional costs called transaction costs that can affect consumer behavior. For instance, proximity is an important transaction cost, especially in urban areas in developing countries that suffer from poor infrastructure and traffic congestion. Second, it is common for consumers to search out retailers where they can buy all the items they need at low prices. This gives an advantage to retailers that have a large variety of quality items. Third, the shelf-life of products (processed versus fresh) and access to proper storage equipment like refrigeration, also determine how often consumers must purchase such items. Finally, operation hours are another transaction cost (Reardon & Hopkins, 2006). In addition to prices and the above mentioned transaction costs, hygenic conditions and food safety affect consumer behavior. For this reason this study on consumer

behavior and food access in the current food retail environment will add to the current body of research on supermarketization in developing countries, specifically in SSA.

2.7 SUMMARY

In summary, the literature illustrates that the food retail environment in developing countries is diversifying with the introduction of supermarkets. While there has been a significant amount of research in Latin America, Eastern Europe and Asia, there is little research in SSA on the impacts of supermarketization other than in Kenya and South Africa. While it is true that the traditional food retail environment in Accra, Ghana is a complex web and provides access to a wide variety of food throughout the built food retail environment, the entrance of supermarkets has increased competition. The research that has been completed suggests that traditional markets appear to remain the main food distribution outlet for the majority of consumers. However, the entrance of supermarkets is impacting consumer behavior toward and access to food outlets and the food types available for purchase.

CHAPTER 3.

RESEARCH METHODOLOGY

This research is a case study of consumer behavior and access to food in a suburban community of Ashongman Estates in the Greater Accra metropolitan area. Case study research examines many features of one or a few cases over a period of time or as a snapshot in time (Neuman, 2011). In this case, in order to determine how consumers behave and access food for this community, a snapshot of the current food retail environment of the Greater Accra metropolitan area was created. This chapter will focus on answering Research Question One: how is the current food retail environment in the Greater Accra metro area in Ghana structured?

3.1 STUDY AREA

This study examines the current food retail environment and distribution system in the Greater Accra metropolitan area in Ghana in an era of increasing supermarkets and other Western style retail outlets in SSA. Accra, Ghana is an ideal study area because of several factors. First, like many countries that are experiencing supermarketization, Ghana is experiencing high population growth and urbanization (3.1%/year) which are linked to increases in income and a growing middle class (Ghana Statistical Service, 2012; Reardon, et al., 2003). As of the 2010 census, the population of Ghana is approximately 24.7 million. This is an increase of 30.4 percent over the 2000 census population of 18.9 million. In addition, as of 2010, slightly over 50 percent of the population lives in urban areas (Ghana Statistical Service, 2012). Second, West Africa and Ghana have a long history of female-dominated trade, distribution and retail in food products. This food distribution and retail environment is considered part of the

informal economy but it is highly complex due to being controlled and regulated by informal

groups such as trade associations (Clark, 1994). Third, Ghana was the first African nation to

implement SAPs that resulted in the liberalization of trade and finance. Fourth, in the last decade,

Accra, Ghana has been experiencing a boom in FDI for Western style retail outlets - the largest

and most successful being the 58-shop Accra Mall, which draws up to 1 million visitors every

three months (Bigg & Motsoeneng, 2013). The combination of the above factors makes Ghana

an interesting case study for examining a food distribution and retail system in a developing

country that is just beginning to experience supermarketization (Figure 2).

Figure 2. The fifteen ECOWAS member states

Ghana was the first West African nation to gain independence in 1957. Due to a wealth

of natural resources including timber and oil, high amounts of foreign reserves, and extensive

transportation infrastructure, there was much hope for quick development (Bureau of African

Affairs, 2011). However, Ghana suffered from political turmoil, military coups and inconsistent

economic policies from independence through the 1990s (Gocking, 2005). From independence to

the early 1980s, development policies were state-led policies, import substitution

industrialization (ISI)[15], restrictive foreign exchange regimes, quantitative restrictions on imports, and price controls, with the state playing a major role as a producer of agricultural and manufactured goods (Aryeetey & Kanbur, 2008; Ayine, 2004).This resulted in food shortages that were blamed on price hikes and hoarding by traders (mostly women) rather than failed government development policies resulting in falling production, decaying infrastructure, overvalued exchange rates, and declining investment and high inflation (Codjoe & Dzanku, 2009; Clark, 1994; Maxwell, et al., 2000). By the early 1980s, food shortages were exacerbated by the global debt crisis and severe drought and bushfires that destroyed about a third of all farms and affected both food and export crops (Nyanteng & Wayo Seini, 2000; Codjoe & Dzanku, 2009).

Like many African countries, Ghana has implemented neo-liberal inspired SAP policies. This involved a shift from state-led economic policies and protectionism to free trade ideology (Jeong, 1998). Under the strong dictatorship of Jerry Rawlings, Ghana was the first African country to fully adopt such policies in return for loans from the World Bank and International Monetary Fund (IMF) (Aryeetey & Kanbur, 2008; Rapley, 2007). In order to receive loans, countries were required to cut back the public sector and services; privatize publicly owned companies, devalue the currency, and liberalize trade and finance (Rapley, 2007; Jeong, 1998). The liberalization of trade involved the removal of quantitative restrictions, the lowering of tariffs, cuts on subsidies for basic goods and services, elimination of price controls, and liberalization of the foreign exchange regime (Ayine, 2004; Jeong, 1998). The impacts of SAPs have been widely discussed. The successes include the depreciation in the exchange rate; the removal of quotas on imports and the lowering of tariffs; a reduction of corporate and capital

---

[15] An economic policy that promoted the replacement of imports with domestic products to lessen developing countries' dependence on first world countries for imports (Rapley, 2007).

gains taxes; the removal of price controls and subsidies; the privatization and closure of many inefficient state-owned enterprises; the dropping of restrictions on foreign investment; and the award of special incentives to exporters and investors in infrastructure. The successes were shown by the economy greatly improving, with increases in the level of exports, imports, and the overall balance of payment throughout the 1980s. The GDP growth averaged 5.2 percent, but it declined to 4.4 percent in the 1990s and many claim the social costs outweigh the benefits.

These social costs included the reduction of government expenditure in public services and reduced availability and access to basic healthcare, education and other social services. Second, there were an estimated 300,000 jobs lost in the public sector through the 1980s and 1990s, resulting in high rates of unemployment among the middle class. Also, since there was a glut of unemployed persons, wages dropped drastically (Maxwell, 1998; Maxwell, et al., 2000). Third, the liberalization of agricultural output markets due to the complete retraction of subsidies and state control over food products resulted in higher food prices (Nyanteng & Wayo Seini, 2000). Fourth, the liberalization of markets for processed foods resulted in the dumping of cheap processed foods on the Ghanaian market, forcing the closure of a tomato processing center that was the main market for commercial tomato farmers. The importation of processed foods increased over 638 percent from 1993 to 2003, and by 2004 Ghana had become the second largest importer of tomato paste (Britwum, 2013).

Overall, Ghana has had some successes and setbacks due to SAPs. In the 1990s the World Bank did recognize the need to not only focus on economic issues to improve developing countries, but also the importance of good governance (Aryeetey & Kanbur, 2008). For instance, Ghana took another step forward with a peaceful democratic transition and has continued to be politically stable compared to regional neighbors (Gocking, 2005).

Ashongman Estates is located in the Greater Accra region, which contains the capital city Accra, which is the economic and cultural center of Ghana (Figure 3). The Greater Accra region is one of the largest and fastest growing urban areas in West Africa, at an annual growth rate of 4.3 percent (UN-Habitat, 2009).
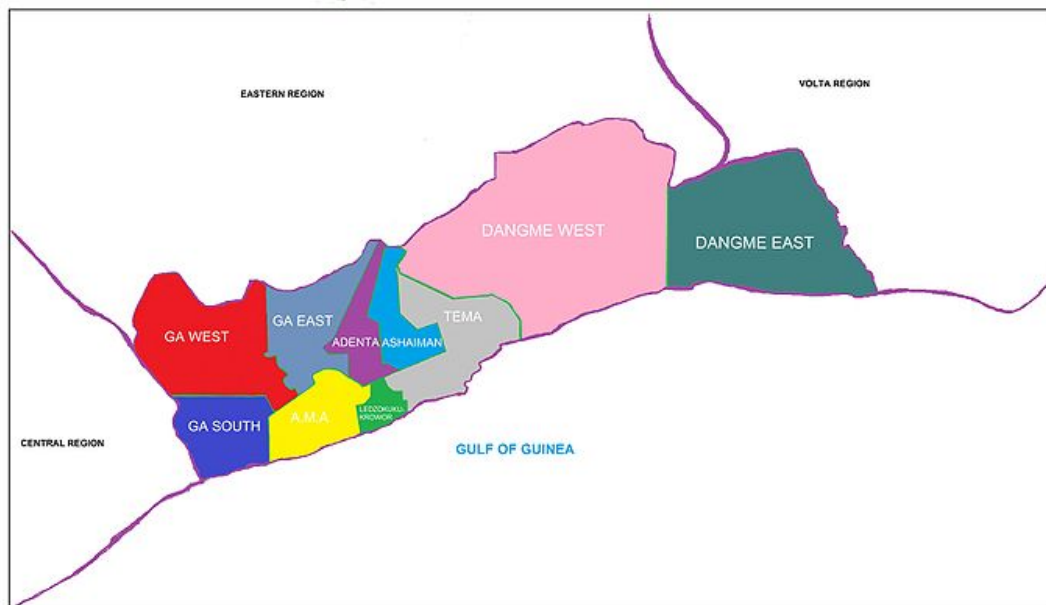
Figure 3. Greater Accra region by districts

Greater Accra continues to experience rapid urbanization. This has resulted in unplanned and unregulated physical growth and expansion of the city. An estimated 45 percent of the urban population lives in slums and squatter settlements (UN-Habitat, 2009). This is a result and symptom of urban fragmentation, which is the "separation and specialization" of functions and uses in cities, where labor market polarization reflects major differences between wealthier and poorer areas. The outcome of such fragmentation is a locally centered urban society, where housing, work and recreation are not spatially distinct, in a situation that has a lack of zoning and code enforcement. This allows residents to access the majority of their needs within their community space (Watson V. , 2009). For instance, street food and food for in home preparation

and consumption are readily available throughout residential neighborhoods (Maxwell D. , 1998).

The neighborhood of Ashongman Estates is a typical neighborhood of the city that suffers from urban fragmentation (Figure 4).
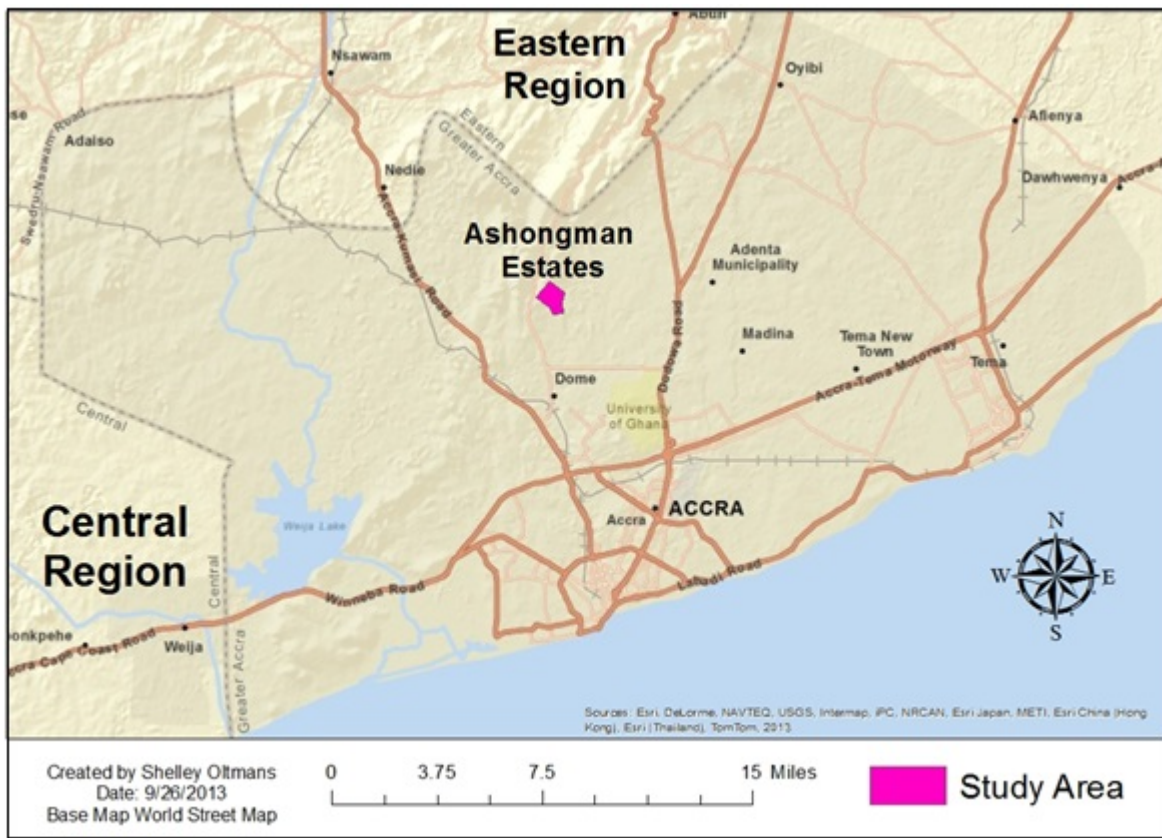
Figure 4. Study area location in Greater Accra

Ashongman Estates is a suburb in the Greater Accra metro area, located approximately 13 miles north of central Accra. The neighborhood is well-planned with straight streets in a grid pattern and is still undergoing development. The majority of roads are not paved and in poor condition (Figure 5).

Figure 5. Street in Ashongman Estates

Figure 6. Housing in Ashongman Estates

The existing housing is a mixture of duplexes, single-family homes, single-level multifamily structures, and houses under construction, but habitable. The housing under construction is new developments (townhouses and duplexes) by developers and single family homes by private owners. In the foreground of Figure 6 is a single family home under construction while in the background the green buildings are a development of townhouses.

In summary, Ashongman Estates was chosen for this study for several reasons. First, it is representative of a typical suburban neighborhood andit is mixed income, although the majority of residents are upper to middle class. Poorer residents squat in incomplete structures and build their own makeshift homes. Second, businesses are located in outbuildings outside of homes, residential areas, along major roads, in road right of ways and in areas reserved for other purposes within the built environment. The informal home-based economic sector provides services such as food processing, food preparation and sale, sewing, and hair salons, allowing residents to access the majority of their needs within the neighborhood, including food for in-home consumption (Maxwell D. , 1998). Third, in order for residents to reach a traditional market or supermarket they are required to use some sort of vehicular transportation, which is true for most residents of Accra.

3.2. RESEARCH METHODOLOGY AND DATA COLLECTION

Field research was conducted between May and August of 2012. This section will present detailed descriptions of the research methods and data collection process. The first section explains the research methodologies and data collection processes used for answering the first research question: How is the current food retail environment in the Greater Accra metro area in Ghana structured? Four types of data collection methods were used: direct observations, mapping, trader interviews and a food retail outlet assessment. The second section, in addition to

describing the four types of data collection methods, explains the fifth data collection method of household surveys to answer questions two through four about where consumers buy food and what types of foods are they buying.

3.2.1 Direct Observations

First, direct observations of the built food retail environment as well as of consumer and retailer behaviors and opinions were taken throughout the time spent in the field. This was done in order to first understand the geography of the food retail environment pertaining to traditional markets throughout Greater Accra and to identify traditional markets that were frequented by Ashongman Estates residents. Then, direct observations were taken on the culture, structure and consumers of all food retail outlets, as well as on what types of foods were commonly sold and the relative prices of food items.

The following five traditional markets were identified for the purposes of this study. Dome, Madina and Haatso Yam Market, which are all located relatively close to Ashongman Estates, and Makola and Abgobloshie, that are both centrally located, large, and have reputations for quality, variety and large numbers of consumers. In addition, three supermarkets from two chains were also identified: two Maxmart stores at 37 and East Legon and the Shoprite in the Accra Mall (Figure 7).
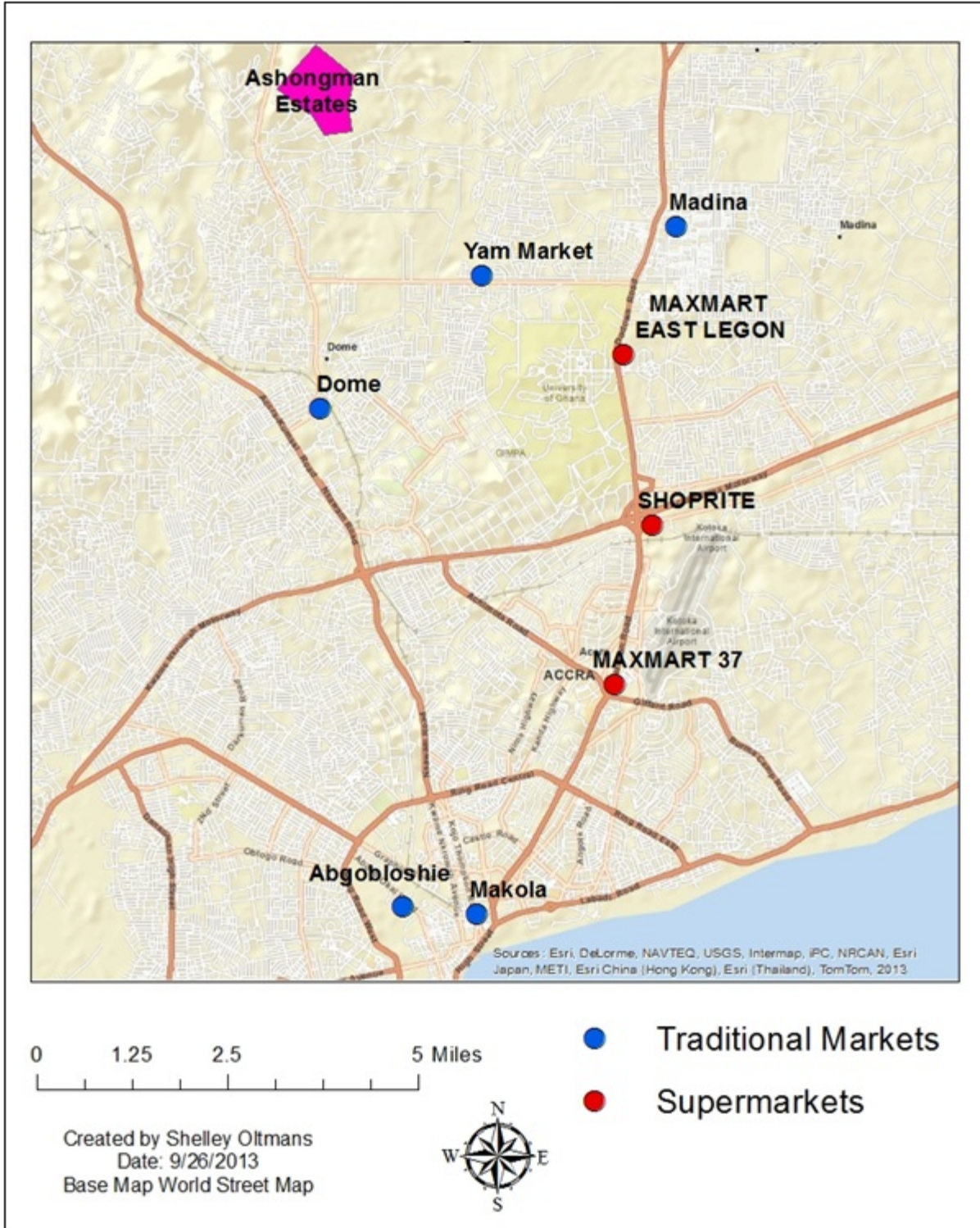
Figure 7. Observed traditional markets and supermarkets

In addition, I spent three weeks in the neighborhood of Ashongman Estates observing and taking notes on housing and mini markets. A printed Google Satellite Image (date 1/11/2010) was used to take notes on the built environment, including streets, housing, and food retailers (Appendix 1). New housing that was constructed since the taking of the satellite image was added to the map. In addition, squatted houses under construction and informal squatter structures were noted so that these households could be included in the study population. These observations with the Google Satellite Image were used to identify random households for the consumer survey.

3.2.2 Retailer Interviews

In order to better understand the food retail environment, traders were interviewed in the five traditional markets identified in Figure 7. In addition, mini market proprietors in Ashongman Estates were interviewed. The interviews were conducted with the assistance of a Ghanaian field assistant who spoke English, Twi and Ga[16]. If permission was granted, interviews were recorded. A semi-structured interview format was used, allowing for open and closed ended questions and discussion. The questions focused on a respondent's experience as a food trader, about their business, where they obtained the goods they sold and demographic questions (Appendix 2). Due to the large number of traders in traditional markets and mini market proprietors in Ashongman Estates, a convenience sampling approach was employed to enable me to choose a variety of interviewees who sold different food types, represented different size operations and locations, and included both genders.

---

[16] Ga is spoken by the Ga-Dangme ethnic group that historically resided in Greater Accra, Twi is widely spoken but originates in the Akan ethnic group and English is the national language (ghanadistricts.com, 2013).

Table 1. Interviewed food traders

Traditional Markets	Respondents (19)	Percentage
Dome	4	21.1 %
Madina	5	26.3 %
Makola	4	21.1 %
Abgobloshie	5	26.3 %
Haatso Yam Market	1	5.2 %
Ashongman Estates (6)		
Roadside	2	33.3 %
Plaza[17]	2	33.3 %
Outside Residence	2	33.3 %

A total of 19 food traders from in and around traditional markets and 6 mini market proprietors in Ashongman Estates were interviewed. Among the respondents was the yam queen at the Haatso Yam Market (see Table 1).

3.2.3 Mapping

The third phase involved the collection of GPS data on food retail outlets in Greater Accra and Ashongman Estates to create maps of the built food retail environments. The common methods for collecting data on businesses include; listings of businesses from commercial/government databases or internet search (Moore & Diez Roux, 2006; Larsen & Gilliland, 2008) and direct observation of city blocks by researchers (Gordon, et al., 2011). Many studies in developed countries use secondary data sets, due to the cheaper cost compared to direct observation (Moore & Diez Roux, 2006; Cummins & Macintyre, 2009). However, using secondary sources instead of direct observation prohibits the collection of other relevant aspects of the food environment. In addition, developing countries often do not have this data, or it is out-of-date, due to rapid urban growth and expansion. Yet, direct observation usually has limited

---

[17] Any place in a neighborhood where three or more businesses are clustered.

geographic coverage due to time and money constraints (Bader, et al., 2010). In this study both

methods were used: an internet search to verify and identify the locations of traditional markets

frequented by household survey respondents and supermarkets in Greater Accra and a block-by-

block assessment of mini markets in the neighborhood of Ashongman Estates. The advantage of

the internet search was time saved in traveling to traditional markets and supermarkets. The GPS

data was collected with a GPS enabled camera. An additional advantage of the block-by-block

assessment was the ability to complete a food retail assessment.

3.2.4 Food Retail Assessment

Several types of measurements are used, often in combination, to create food retail

assessments including: location (Gordon, et al., 2011; Moore & Diez Roux, 2006; Larsen &

Gilliland, 2008) representative food baskets (Minten, 2008), food price surveys (Donkin, et al.,

1999; Temple, et al., 2011), shelf-space (Cheadle, et al., 1990), size (Clarke, Eyre, & Cliff,

2002), primary activity (Winkler, 2008), and type (Moore and Diez Roux 2006). The food store

assessment used in this study identified mini markets by location and types of foods sold. The

location was either outside a home, along a major road or in a market square. Although a mini-

market may be located outside a house, if it was also along a major road or part of a market

square it was identified as located as such. The food types sold were processed[18], staples[19], FFVs

and cold store items[20]. A mini market can carry one to all of these food types.

3.2.5 Household Surveys

Household surveys were conducted in Ashongman Estates to collect data on consumer

behavior about and access to the built food retail environment and types of foods purchased. A

---

[18] Canned and packaged foods (i.e. canned tomatoes, pasta, powdered and canned milk, milo)
[19] For instance, bread, eggs, rice and corn
[20] Frozen and refrigerated meat and fish

total of 75 households took part in the survey, with the help of a Ghanaian field assistant who spoke English, Twi and Ga. Surveys were conducted between June 2012 and August 2012, Monday through Thursday (often between 3:30 pm and 8:00 pm), and on Saturdays (between 10:30 am and 7:00 pm), when most residents were likely to be home.

I used probability sampling to choose households for the survey, due to a lack of up-to-date census data. A Google satellite image and observations of the housing in Ashongman Estates identified habitable dwellings and based on that I created a study population dataset (Weng, 2010). The study area was divided into three zones based on number of houses. Each structure was identified and the number of households in each structure was estimated from field notes. Many of the structures were duplexes but there were a few multifamily structures as well as occupied incomplete structures and squatter structures. The neighborhood was divided into Zones because each Zone had a different density and mixture of housing. Zone 1 had n=489 households, Zone 2 had n=411households, and Zone 3[21] had n=510 households (Figure 8). 25 households were interviewed from each zone. The Excel function RANDBETWEEN was used to randomly select household in each zone. The preferred respondent for each household was the person who normally did the food shopping.

All attempts were made to interview the selected households. Each was visited three times. Where unsuccessful, the household next on the random number list were interviewed. The survey instrument was pilot tested three times and revised each time for content and length (Appendix 3).

---

[21] Originally was two Zones, but were combined to have similar number of households as Zone 1 and 2.

Figure 8. Household survey zones

The household survey contains three sections. Section A inquires about home food consumption patterns. Section B asks about consumer behavior related to the built food retail environment, food retail outlet types and types of foods purchased. It included several questions on whether respondents frequented specific food retail outlets, and if so how often. A food list of 58 items that represented different food types was used to solicit information on food consumption behavior and what type of food retails outlet they preferred for purchasing these food items. Section C requested demographic information. In addition, GPS data was collected at each household where surveys were completed. The survey also included a food list of 58 items that were broken down into five major food groups; carbohydrates, vegetables, fruits, protein, and processed foods. These food items were identified as processed, non-processed, domestic, and imported. A food item could represent more than one of these categories. In order to develop this food list, an in-depth literature review of Ghanaian diets and agricultural production was conducted prior to the field research. This original food list contained 82 items. After observations during the first few weeks of field research and the pilot testing of the household survey, the food list was narrowed to 58 food items.

3.3 DATA ANALYSIS

All data was entered and coded using EpiData version 3.1. Data analysis was performed using Microsoft Excel. Interviews were transcribed using the iZotope RX 2 software. Maps were created using Quantum GIS version 1.8, Google Earth and Arc GIS version 10.1.

CHAPTER 4.

THE FOOD RETAIL ENVIRONMENT

This chapter presents and discusses the findings on the food retail environment of Ashongman Estates, answering the first research question: How is the current food retail environment in the Greater Accra metro area in Ghana structured? The first section will present and discuss the findings about the traditional retail environment. This includes findings on the location, physical, social, and economic descriptions, in addition to the structures of the five traditional markets most commonly frequented by households surveyed in Ashongman Estates and the mini markets within this neighborhood. The second section will present and discuss the supermarkets possibly frequented by residents of Ashongman Estates in Greater Accra. This will include a brief history and description of the chains, the environment and items available in such outlets, and maps of their locations in Greater Accra.

4.1 TRADITIONAL MARKETS

Five traditional markets were identified as visited most by Ashongman residents including Dome, Madina and Haatso Yam Market that are located near Ashongman Estates, and Makola and Abgobloshie, which are used by residents from across the Accra metro area. The two markets are both centrally located, large, and have reputations for quality, variety and large numbers of consumers. A brief description of each market is presented below.

Dome is the nearest market to Ashongman Estates at approximately 5.2 miles (8.3 km) south via the street network. It is located on St. Johns-Dome Road along a narrow two lane arterial road that is often congested. The market is medium sized and open daily. Major market

days are Wednesday and Saturday. On major market days there is a larger amount of products, as well as variety and quality compared to the off-market days, according to consumers and traders. It is primarily a retail market that serves the surrounding neighborhoods. However, there are a few wholesalers who sell goods to retailers in the traditional market, as well as small traditional retailers, like mini market proprietors, in the surrounding areas. The traditional market is covered by a makeshift roof but the alleyways are dirty and muddy after rains. In the unloading and loading area for products, women often set up makeshift stands with umbrellas. Adjacent to the market there are concrete two-story buildings containing stores that carry food items of many kinds. According to consumers, the retail prices are a bit more expensive than larger traditional markets like Madina and Makola.

Madina is the third closest (second closest is Haatso Yam market) traditional market, at approximately 8.75 miles (14 km) via the street network. It is located walking distance from the 'Madina *zongo*,'[22] an area that was undergoing construction for the expansion of the Legon East Road, with a large amount of traffic that can sometimes be very dangerous. The improved road will most likely provide new opportunities for the Madina market by improving the connection to the city center as well as linking it to producers in rural areas. The market is larger than Dome and therefore has more variety and higher quality food products. There is a formal concrete market building with concrete alleys but the market spills out onto the streets and sidewalks, where vendors set up makeshift tabletop stands or baskets of items. Surrounding the market there are concrete buildings filled with small stores that offer a variety of items. According to consumers, prices in Madina are lower than Dome and similar to Makola.

---

[22] *Zongo*- originated as a Hausa (ethnic minority) term meaning the camping place of a caravan, or the lodging place of travelers, it was then adopted by the British to refer to the section of the town where Muslim traders lived (Schildkrout, 1978). Currently, it is widely used to name a place settled by a Muslim population, although it does have some derogatory connotations (Muratbayeva, 2010).

Makola is located approximately 12.5 miles (20 km) south of Ashongman Estates. It is located in the central business district (CBD) of Accra. It is the largest traditional market in Greater Accra and is world famous for its size and fact that it spills out into surrounding streets and sidewalks for blocks. It has a large variety and high quality of food products. The formal structure has been added on to several times and is mostly roofed and has concrete alleys. According to consumers and traders, the prices of wholesale and retail food items are less than at all other traditional markets in Greater Accra. Consumers can find anything they need at this market every day, making it a one-stop-shop traditional market.

Abgobloshie is located approximately the same distance from Ashongman Estates as Makola. It is a bit northwest of Makola market. It is not as large as Makola, but larger than Dome and Madina. It is known as a wholesale market for Greater Accra. According to a wholesaler who sells tomatoes to restaurants and large corporations, it is easier to reach Abgobloshie than Makola, making it better for the trade of a large amount of goods. The formal retail sector is in a mostly roofed structure with narrow alleyways. The alleyways are cleaner and less muddy than Dome. Consumers are able to get everything they need every day of the week in this location. The prices for retail and wholesale goods are comparable to Makola.

Haatso Yam market is located approximately 5.5 miles (9 km) from Ashongman Estates on the way to Madina. In contrast to the other traditional markets, this is a small specialty market devoted primarily to the wholesale of yams. Yams are distributed throughout Greater Accra from this location (Figure 9). However, there are also small retail traders who sell quantities of yams for household consumption. It has few traders who carry products other than yams. The yams are priced the cheapest here but additional food items have higher prices than in other traditional markets.

Figure 9. Middle man distributor at Haatso Yam Market

4.2 TRADITIONAL MARKET INTERVIEWS

Nineteen traders were interviewed from five traditional markets on their observations on the atmosphere of traditional markets and traders. From these interviews and information gathered from observations, the atmosphere of traditional markets and traders will be expanded upon in the following section. During field research it was observed that traditional markets and the surrounding streets and sidewalks were dominated by female traders. For this reason 16 of the 19 respondents were female. In addition, 36.8 percent of them were single, 47.4 percent married, and 15.8 percent divorced. Most of them had children, with an average of 2.5 children (Table 2).

Table 2. Traditional market interviewees' characteristics

	Respondents (19)	Percentage
Female	16	84.2 %
Male	3	15.8 %
Family		
Single	7	36.8 %
Married	9	47.4 %
Divorce	3	15.8 %
With Children	15	78.9 %
Average number of children	2.5	

Since petty traders are the largest portion of traders in traditional markets they represented 84.2 percent of total interviewees, while15.8 percent were wholesalers. The physical set-up of the traditional markets observed had formal structures where petty traders paid rents for a stand located under a roof, as well as designated wholesaler locations like parking lots. For example, a female wholesaler who was interviewed was located in a parking lot surrounded by crates of tomatoes in Abgobloshie market. The majority of interviewed traders (63.2 percent) were located in the formal market structure and wholesale areas and paid rents. For instance, a female petty trader who sold smoked fish in Dome market stated she paid ten cedis a month to rent her corner stand in a high frequency area. The remaining petty traders (36.8 percent) were located on the fringes of a traditional market on the sidewalk, street, or other non-designated area like parking lots. Petty traders in these areas stated they desired a stand in the formal market but were unable to obtain a place due to lack of funds. These petty traders, in spite of paying taxes to local authorities, were still not guaranteed their spots and suffered from harassment by officials. This was explained by a plantain trader in Dome who set up an umbrella and her goods illegally in a wholesale area used for the loading and unloading of goods.

Typical retailers in traditional markets have been doing it for long periods of time. Their average years of trading were 14.7 years, ranging from a few months trading to approximately forty years. Furthermore, the majority of interviewed traders (73.7 percent) had only worked as food traders throughout their lives. Asked about reasons for getting into this business, most stated they had only traded food because they had no education and needed to support themselves and/or families. Of the traders who had come into food trading after employment in the formal or agriculture sector or even from a previous business in the informal sectors, they had done so due to the loss of a job or belief that food trading was more lucrative. For instance, a petty trader of processed foods in Dome had begun trading 10 years prior after losing her job in the formal sector as a public servant in the Ministry of Information. A male petty trader who sold onions at Abgobloshie had chosen to leave farming after seeing the money his friends were making. A woman petty trader who sold dried fish in Dome market had tried selling used clothing for a year but found it not to be profitable.

Food retailing is often a family business in Ghana. 36.8 percent of traders interviewed were part of a family-owned/inherited and -operated business. All but one of these family businesses was a mother-daughter pair. The other business was operated by a man who sold pig and cow feet in Makola and had taken over the business from his sister. Two traders stated they only traded because they took the business over from a family member. For instance, a mother who sold dried foods and spices in the formal Makola market explained that she grew up trading with her grandmother and when the grandmother became too old she took the business over and expected her daughter, who was with her at the stand, to do the same (Table 3).

Table 3. Traditional market interviewees' business characteristics

Characteristics		
Average years trading	14.7 years	
Location	**Respondents (19)**	**Percentage**
Formal market	12	63.2 %
Market fringe	7	36.8 %
Type		
Retailer	16	84.2 %
Wholesaler	3	15.8 %
Other Characteristics		
Only worked as trader	14	73.7 %
Family Business	7	36.8 %

For the type of foods sold, the majority of respondents (63.2 %) sold only one item, while 36.8 percent of interviewees sold multiple food types like FFVs, processed foods and dried fish. Interviewees sold a variety of items; 26.3 percent of traders sold solely fish or meat products, 10.5 percent sold processed foods, 26.3 percent domestically processed foods and 36.8 percent sold FFVs (Table 4).

Table 4. Items sold by interviewees

Number of Items	Respondents (19)	Percentage
One Item	12	63.2 %
Multiple Items	7	36.8 %
Type of Items		
Fish or Meat	5	26.3 %
Processed	2	10.5 %
Domestically processed	5	26.3 %
FFVs	7	36.8 %

As noted in the literature review, formal and informal trade associations were active within the observed traditional markets. For instance, two traders stated they belonged to a

formal association; a wholesaler of tomatoes at Abgobloshie belongs to the Ghana National Tomato Traders association and a man who sold beef at Dome said he paid one cedi a week to be part of an association of meat traders. In return for his dues he received advice on how to better his business and profits. In addition to these formal associations, a woman who sold okra on the sidewalk outside of the formal Abgobloshie market stated she was not part of a formal trade association but she donated to other traders who needed money to pay for a funeral or illness in the family. These findings confirm the presence and roles of formal and informal trade associations in traditional markets.

As stated in the presentation of the study area, there has been an increase of traders in the informal market in Greater Accra. This has affected the profitability of trading. For instance, a woman who had petty traded for over forty years in the formal market in Madina explained that trading used to be much more lucrative, but with the increase of traders her profits had shrunk, making it harder to make a living. One strategy that was put forth by a woman who sold dried fish was to set up her stand like that of displays in Shoprite to increase business, but she did not know how to go about it.

This research did not specifically deal with the impacts of supermarketization on suppliers and producers but by speaking to traders and mini market operators and through observations, the researcher got a sense as to how the supply chain worked for traditional retail outlets. Generally, wholesalers in traditional markets have supply chains that reach to the producers of fresh goods, such as fruits and vegetables, and of staples, such as maize, plantain and yams. The middlemen bring the goods to the market and smaller traders who do not have these connections buy their goods from the wholesalers when they arrive at the market. Larger and more experienced traders (also known as marketers), who have built relationships with

producers in rural areas often stated they went to the producers and bought directly from them, transporting the goods back for themselves and maybe a few other traders. Traders also said that customers were interested in where their goods came from, making it important that they knew the origin. This type of supply chain is not efficient for supermarkets since they prefer vertically integrated systems from producer to distributor, which allow them to guarantee quantity and quality. In addition, the labor-intensive job of sorting and grading is pushed on to someone lower on the supply chain. Without the development of more efficient supply chains, supermarkets will continue to struggle to enter the domestic FFV retail environment.

4.2 MINI MARKETS

Mini markets are full service retail outlets that operate in residential areas. They range from tabletop stands in public spaces to concrete outbuildings outside houses or along major roads. In the neighborhood of Ashongman Estates (an area of a little over a square mile), 101 mini markets were identified (Figure 10).

4.2.1 Food Assessment

A food assessment was completed for 92 of the 101 mini markets identified and located in the neighborhood of Ashongman Estates. The mini markets that were not assessed were closed at the time they were recorded. Mini markets were assessed on where they were located and what food products they carried. Mini markets were categorized based on their location into three locations: plaza, along a major road, or outside a home. If they were located in a plaza or along the roadside, that location was rated as more important than whether the mini market was located outside of a residence. Food products sold by mini markets were categorized into four; staples, processed foods, fresh produce and cold store items.
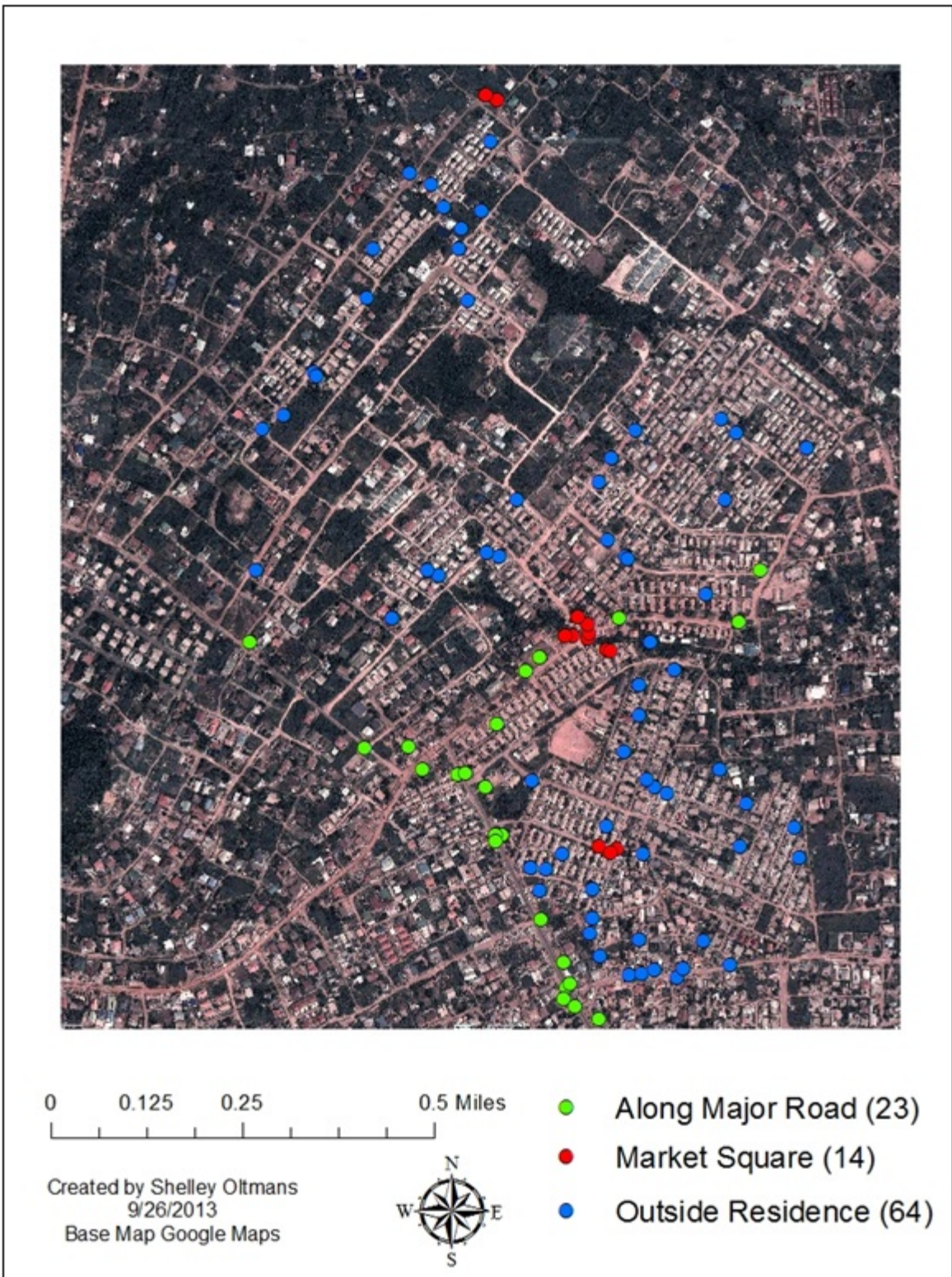
Figure 10. Mini markets in Ashongman Estates

Of the 92 mini markets involved in the food assessment, 78.3 percent carried processed foods, which is most likely because of their long shelf lives, 51.1 percent carried staples like bread, eggs and/or grains, and 35.9 percent carried FFVS. The lower number of traders carrying FFVs is probably due to the high perishability of such products. In addition, only 9.8 percent of mini markets were classified as a cold store that sold frozen and refrigerated meat and fish products (Table 5). This is almost certainly due to the high investment involved in buying freezers and refrigeration, as well as risks involved in carrying such goods that may spoil during the often frequent blackouts. This was illustrated by a woman with a mini market outside of her home who had to sell her freezer because of the costs and risks associated with running a cold store.

Table 5. Mini market food assessment by food types sold

Food Types	Total (92)	Percentage	Road (20)	Percentage	Plaza (14)	Percentage	House (58)	Percentage
Staple	47	51.1 %	9	45 %	7	50.0 %	31	53.4 %
Processed	72	78.3 %	17	85 %	8	57.1 %	47	81 %
FFV	33	35.9 %	5	25 %	8	57.1 %	19	32.8 %
Cold store	9	9.8 %	2	10 %	1	7.1 %	6	10.3 %

Mini markets tend to limit their focus to a few of the categories identified above. For instance, of the 92 mini markets in the food assessment only two sold all four food types. They were larger than the average mini market. One of the two mini markets was Sweet Mama's cold store, located in a plaza. The owner started the business eight years prior when her husband bought the container but had grown from selling only processed foods to her current business that required her to shop daily for fresh produce at Dome and twice weekly at Makola for processed foods and rice. She stated that the average mark-up was fairly small, depending on the

quantity and type of product. For instance, a can of tomato sauce was marked up five pesewas.[23] This small price mark-up was confirmed by a woman respondent of the household survey who lived near the market square and regularly shopped at Sweet Mama's cold store. The remaining mini markets mostly sold one or two food types (Table 6).

Table 6. Mini market assessment by how many types of food items sold

	Total (92)	Percentage	Road (20)	Percentage	Plaza (14)	Percentage	House (58)	Percentage
Four	2	2.2 %	0	0 %	1	7.1 %	1	1.7 %
Three	12	13 %	3	15 %	1	7.1 %	8	13.8 %
Two	39	42.4 %	7	35 %	6	42.9 %	26	44.8 %
One	39	42.4 %	10	50 %	6	42.9 %	23	39.7 %

4.2.2 Mini market Interviews

Of the 101 mini markets in Ashongman Estates, six mini market proprietors were selected to complete a semi-structured interview about their business. All but one of the mini market proprietors interviewed were female. Half of them had always worked as some sort of trader and half had worked in the formal sector prior to starting the mini market. Their average years of experience trading was 6.7 years and the average age of their mini markets was 4.8 years. All of the mini market proprietors interviewed were married with children. The average family had 2.3 children.

Two proprietors from each of the locational categories were interviewed. Half of the mini markets were located on land owned by the proprietor and half were located on squatted land. The two located on squatted land were not asked whether they paid a fee for the land. Of the six

---

[23] Equivalent to cents in American English

mini markets interviewed four were containers[24] (Figure 11), one was an outbuilding (Figure 12),

and one was self-made (Figure 13).

Figure 11. Container mini market interviewed

Figure 12. Outbuilding mini market

---

[24] Former shipping containers that are repurposed into mini markets.

Figure 13. Self-constructed mini market interviewed

All of the mini markets interviewees sold processed foods, half sold FFVs, five sold staples (i.e., bread, eggs, rice) and only one sold cold store items (i.e., fish and meat). During the interviews many respondents stated they started with processed foods because of the long shelf life and high demand for such goods. Only one mini market sold all four food types, one mini market sold everything other than cold store items, and the remaining four carried two of the four food types.

Half of the mini market proprietors stated during the interview that they chose to start a mini market because they wanted to care for their children. The cost and time of commuting and daycare outweighed the benefits of having an income outside the home and in order to replace this income they chose to open a mini market outside their home. In addition, a few respondents stated that they are saving money in order to expand the mini market in the future. Instead of saving with traditional sources like susu clubs, they chose to save with formal savings

institutions. For instance, the proprietor of Sweet Mama's cold store saved 10 cedis a day with a

bank and a woman who had a mini market outside her home saved two cedis a day with Ashbell

Finance. A gentleman would come to the mini market daily to collect the money with a computer

that recorded the money taken and provided a receipt for the proprietor. This money did not

collect interest, according to the interviewees. None of the mini market operators interviewed

had taken out a loan due to the fear that they would not be able to pay it back, which would leave

them in a worse situation than which they started.

4.3. SUPERMARKETS

There are three major supermarket chains with outlets located throughout Greater Accra:

two domestic chains Melcom and Maxmart and one multinational retailer Shoprite. Overall,

eleven supermarkets were identified (Table 7).

Table 7. Chain supermarkets

	Opened	**Distance from Ashongman Estates**
Melcom –Madina	2011	8 miles
Melcom- Accra Central	1991	13 miles
Melcom – Kaneshie Plus	2010	9.5 miles
Melcom – Teshie-Nungua	2012	19 miles
Melcom – Adabraka	?	11 miles
Melcom- Dansoman	?	16 miles
Melcom- Spintex Plus	?	12 miles
Maxmart A&C Mall	?	8 miles
Maxmart Legon Mall	2012	9 miles
Maxmart 37	2001	12.5 miles
Shoprite Accra Mall	2007	10 miles
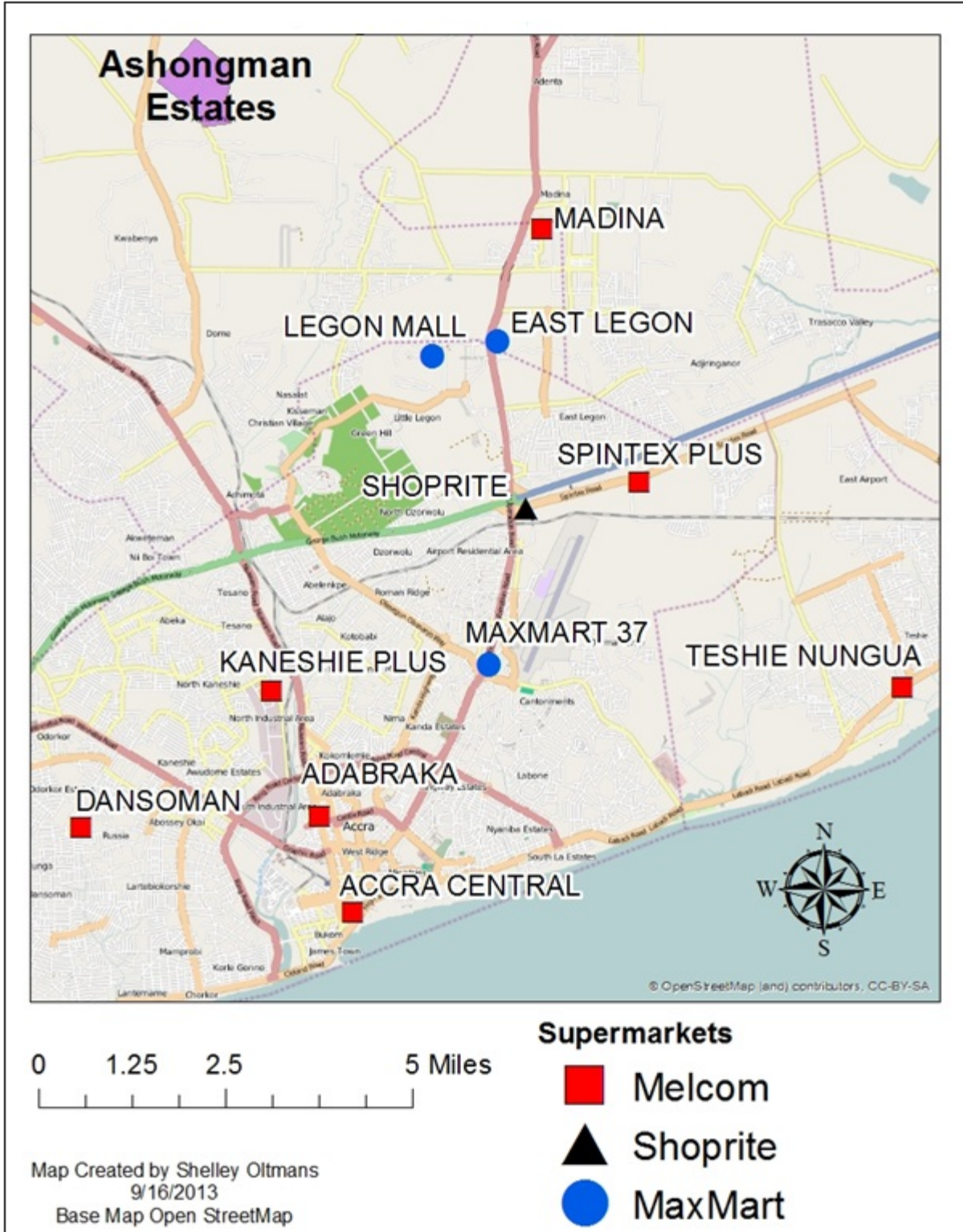
Figure 14. Supermarkets

Melcom is owned and operated by an Indian family and Maxmart is owned and operated by a Lebanese family. Both families have resided in Ghana for generations (Maxmart, 2013; Melcom Group of Companies, 2013). The arrival of Shoprite in 2005 as part of the Accra Mall is the first TFC supermarket to enter the Greater Accra food retail environment. Shoprite is a South African retailer that has stores throughout SSA. Since the entrance of Shoprite, Maxmart and Melcom have expanded into new neighborhoods, with modern retail outlets (Figure 14).

Maxmart 37, Maxmart Legon Mall, and Shoprite in Accra Mall were visited to observe and collect data on the layout of stores, the variety and quality of foods available, and types of consumers and relative prices.

Maxmart 37 is located on the first floor of a three story building located next to a convenience store and fast food restaurants. It is a smaller format store, has a small parking lot, and is easily accessible with public transportation. There is a small produce section that carries a small variety of products, the majority not traditionally grown in Ghana. It has a large bakery and meat counter that resemble a bakery and a meat counter in a large grocery store in the United States. It has a large amount and brand variety of processed goods that are crowded on shelves. The prices for processed foods are relatively similar to traditional markets but there was a larger variety and brand assortment. Consumers of all sorts were observed and there were a larger number of expatriates shopping than in traditional markets.

Maxmart East Legon (Figure 15) was located on the first floor of a five story structure. It was a larger store than 37 Maxmart however smaller than Shoprite. It had a large parking lot and was easily accessible with public transportation, although it was located approximately two blocks from the road. It has a larger produce section with more variety than the 37 Maxmart. It also has a large bakery and meat counter like that of Maxmart 37. It has a refrigerated and frozen

goods section that carries juices, dairy products and meats. It has a large amount of processed

foods that were more organized than that of Maxmart 37. The prices for processed foods were

relatively similar to traditional markets but prices for fresh produce were higher than in

traditional markets. There were few consumers in this store, which was likely due to the newness

of the store.

Figure 15. East Legon Maxmart

Shoprite was a large store in the Accra Mall. It has a large parking lot that is highly

congested and is easily accessible with public transportation. The produce section resembles that

of larger supermarkets in the United States, although approximately one fourth of the size. It

carries a variety of imported fruits like oranges, apples and grapes. The fresh vegetable section

was much smaller. It also has a bakery and meat counter resembling that of the East Legon

Maxmart. It has an aisle of refrigerated and frozen goods including juices, dairy products and

meat. It has a larger amount of processed foods, but with less variety in brands than the Maxmart

stores. The prices for processed foods were similar to that of traditional markets. There were a large number of shoppers that were both expatriates and Ghanaians.

In summary, supermarkets that were located in the Greater Accra region resemble supermarkets in most Western nations and provide a similar shopping experience. However, they fail to provide fresh produce sections that compete with traditional markets in domestic FFVs. However, in the case of imported and non-domestic FFVs like apples and grapes, they do carry these items that might not be as easy to find in traditional markets and cost more than domestic FFVs. On the other hand, they provide competitive prices in processed and packaged foods and provide more variety in these products compared to traditional markets. In addition, these retail outlets provide an organized and hygienic environment in which consumers trust that the products are of high quality.

4.4 SUMMARY

The food retail environment of the study area is diverse and spread out. Traditional markets and mini markets continue to serve consumers on two levels. Traditional markets are large central markets that serve a larger service area in the surrounding area and consumers are able to purchase everything they need, while mini markets serve the neighborhood residents. Supermarkets are similar to traditional markets in that they are spread throughout the built environment but they serve consumers throughout the metro area. Supermarkets also provide a different type of shopping experience in a hygienic and organized retail atmosphere under one roof. Each of these retail outlets provides the same or similar products but serves different service areas and populations as well as offer different shopping experiences.

CHAPTER 5.

CONSUMER BEHAVIOR AND ACCESS

This chapter presents and discusses the findings on the food retail environment of Ashongman Estates by answering the final two research questions: where are consumers buying and what types of foods are they buying. As already indicated, 75 households were randomly selected to participate in the consumer survey. Whenever possible, the person responsible for household grocery shopping was interviewed. Not surprisingly, the majority of respondents were female (85.3 percent of total respondents), since shopping for household food items is traditionally a woman's task in Ghana. In terms of status in the household, 17.3 percent were the head of the household, 58.7 percent Madame[25] of the household, 21.3 percent a family member, and 2.7 percent a roommate. For employment status, 65.3 percent of the respondents were employed; of those, 49 respondents were employed in the informal sector and 34.7 percent in the formal sector (Table 8).

Table 8. Household respondents' characteristics

Sex	Respondents (75)	Percentage
Male	11	14.7 %
Female	64	85.3 %
Household Role		
Household Head	13	17.3 %
Household Madame	44	58.7 %
Family member	16	21.3 %
Roommate	2	2.7 %
Employment		
Employed	49	65.3 %
Formal Sector	17	22.7 %
Informal Sector	32	42.7 %

---

[25] Madame of the household is the head woman of the household, usually the wife.

For the purpose of this study, a household is defined by members who eat from the same communal pot, including extended family and non-relative household members. Household respondents were also asked: how many people do you buy food for? This included all household members who consumed food received from the same communal pot and excluded breastfeeding babies and children who attend boarding school for the majority of the year. The average household size of the respondents is 5.45 people and the average number of people a household bought food for is 5.29 people[26]. According to a study completed in 1996-1998, the average household size was 5.1 persons (Maxwell, Levin, Armar-Klemesu, Ruel, Morris, & Ahiadeke, 2000). The percentage of households that have at least one child between the ages of 6 months to 17 years is 74.7 percent. Of total survey households, 45.3 percent have at least one child between 6 months and five years old and 57.3 percent have at least one child between 6 and 17 years old (Table 9).

Table 9. Household family characteristics

	Average	
Household size	5.45	
Household feeds	5.29	
Children	**Respondents (75)**	**Percentage**
Children between 6 months and 17 years	56	74.7 %
Children between 6 months and 5 years	34	45.3 %
Children between 6 and 17 years	43	57.3 %

5.1 WHERE DO CONSUMERS PURCHASE FOOD?

One of the research questions of this study concerns how consumers behave and access food for in home consumption in the food retail environment? In order to answer this question, respondents were asked whether they purchased food for in-home consumption from

---

[26] The difference between the average household size and people a household bought food for is due to the absence of children who attend boarding schools, and breastfeeding babies. In addition, some households stated they regularly fed non-household members.

supermarkets and several traditional retailers, including traditional markets, mini markets,[27] cold

stores,[28] roadside stands,[29] hawkers,[30] family/friends, and farmers. Respondents were also

allowed to name retailers that were not directly included in the survey that they bought food

from, such as neighborhood bakeries. Other than bakeries, the number of households that

frequented additional retailers was small so they were not included in the findings. Furthermore,

since a small percentage of households purchased food from family/friends and directly from

farmers, they were also excluded from the analysis. In addition to asking respondents where they

purchased food for in home consumption, the household survey sought to identify consumers'

food retail preferences as well as how they reached their preferred food retail outlets.

Generally residents patronize all the various retail outlets. The results show that

traditional markets are frequented by almost all households. Only one household indicated that

they do not frequent traditional markets and prefer neighborhood mini markets, due to the

congestion of traditional markets and hassle with haggling for prices. Mini markets are

frequented by 92 percent of households in the neighborhood of Ashongman Estates. Of those

households almost every respondent buys food from mini markets within walking distance from

their home. Cold stores are frequented by 76 percent of households. This is most likely due to

increased access to electricity and refrigeration equipment by retailers in residential

neighborhoods as well as in traditional markets. Supermarkets are frequented by 61.3 percent of

respondents. This is not surprising because supermarkets are fairly new and few (refer to Table

9) and according to the literature, supermarkets have yet to penetrate the food retail market

---

[27] Full service retail outlets that operate in residential areas and range from table top stands in public spaces to concrete outbuildings outside houses.
[28] Full service retail outlets that operate in traditional markets and as mini markets throughout the built environment that sell frozen and refrigerated meat and fish products.
[29] Mini markets that operate along major roads.
[30] People who offer goods for sale to the public without having a permanent built-up structure from which to sell

significantly in most SSA countries (Tschirley, 2010). Roadside stands are frequented by 52

percent of households and 49.3 percent of households buy food from hawkers. The lower

percentage of consumers purchasing food from roadside stands and hawkers is most likely due to

the availability of many of the items sold by these retailers in traditional markets and mini

markets in the neighborhood (Figure 16).
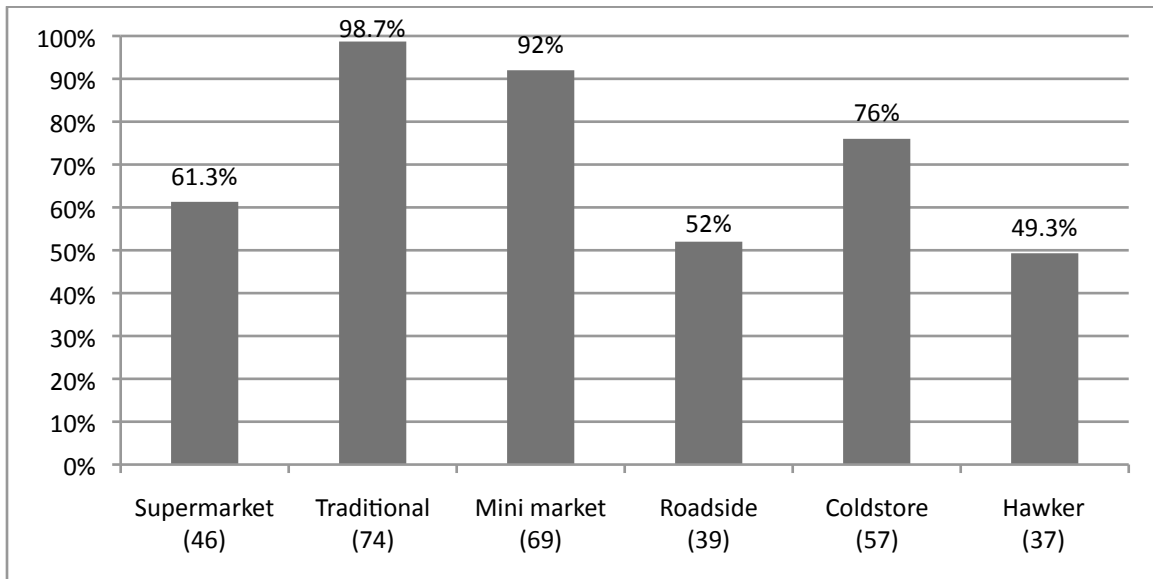
Figure 16. Retailers from which households bought food

Traditional markets are frequented by nearly all households making them the leading

food retail outlet. To better understand the food retail environment and geographic access to

traditional markets by consumers in Ashongman Estates, respondents were asked what

traditional markets they frequented. As already indicated, preliminary discussions with

Ashongman residents suggested the majority of respondents frequented Dome, Madina, Haatso

Yam Market, Makola and/or Abgobloshie. Due to this, respondents were specifically asked

whether they frequented these markets. Dome is the most frequented market with 92 percent of

households stating they buy groceries there, which is probably because of its proximity to

Ashongman Estates. Madina is frequented by 52 percent of households, also due to its proximity

to Ashongman Estates as well as the larger size and greater variety of food items sold there.

Makola is frequented by 45.3 percent of households, which probably is due longer travel time

and the chaotic environment. The Haatso Yam market and Abgobloshie are frequented the least

by 38.7 percent and 30.7 percent of respondents respectively (Figure 17). The lower percentage

of respondents that frequent Haatso Yam market is likely because almost only yams are available

and it is mainly a wholesale market rather than a retail market for households. Abgobloshie is

also primarily a wholesale market but does provide a smaller retail market for residents in close

proximity.
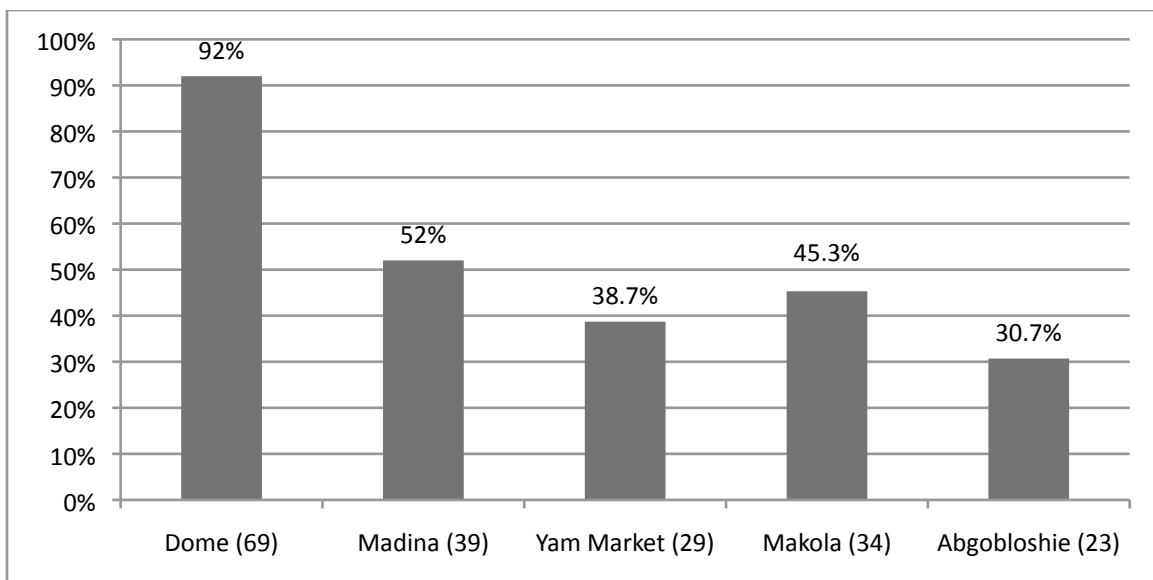
Figure 17. Traditional markets from which households bought food

Respondents were also asked to name additional traditional markets in Greater Accra

they frequented; six additional markets were listed. None of these markets were frequented by

more respondents than the five traditional already discussed. Thus a total of 11 traditional

markets are frequented by households in Ashongman Estates (Figure 18).
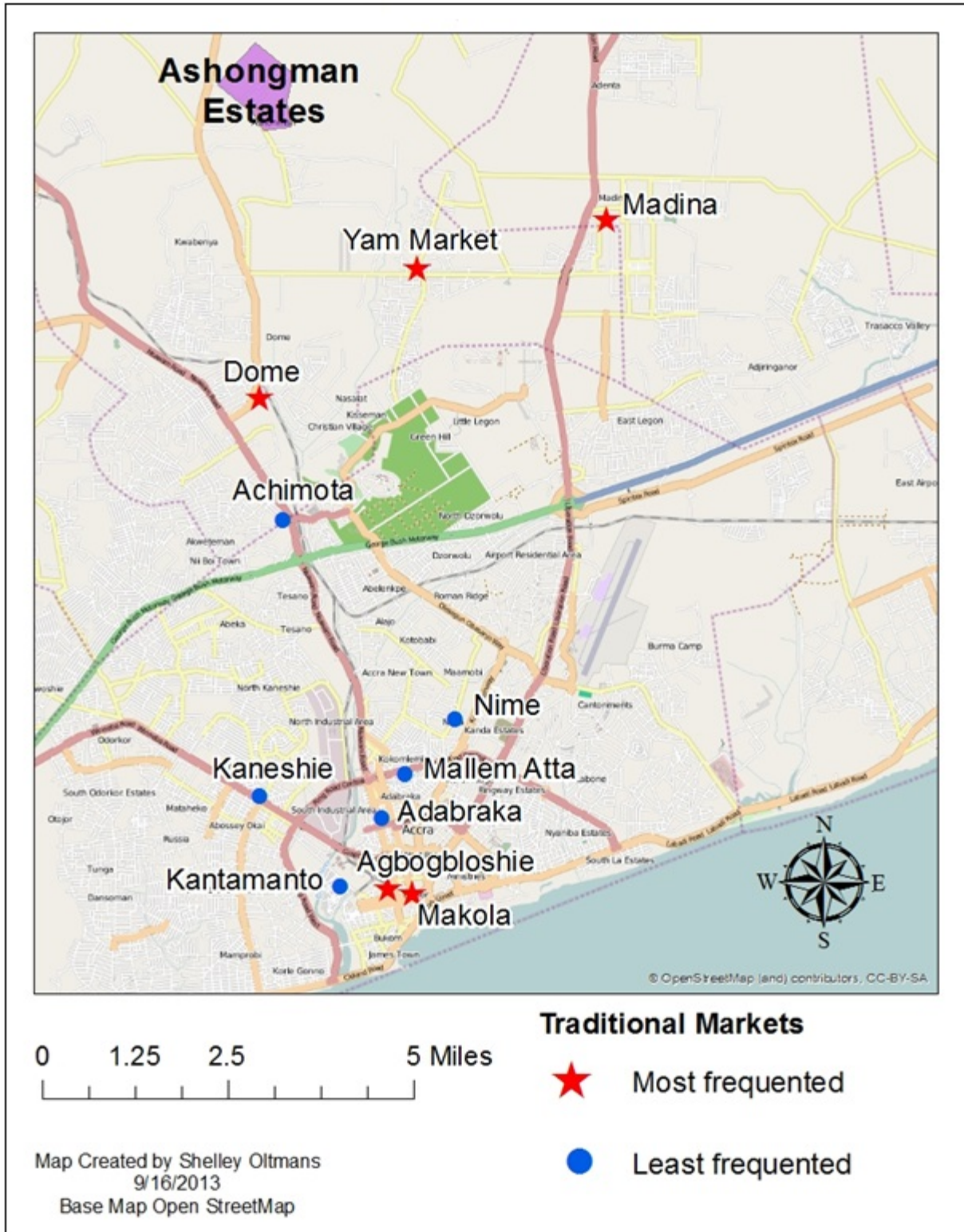
Figure 18. Traditional markets

5.1.1 Consumer frequency

Respondents were asked how often they frequented traditional markets and supermarkets. Of the 74 respondents that frequent traditional markets, 65 respondents stated how often they frequented traditional markets. The majority of these respondents (76.9 percent) buy food at a traditional market at least once a week. Many respondents indicated they prefer shopping once a week on Saturday, the busiest market day of the week, to take advantage of the largest variety and quality offered on that day. Of the remaining respondents, 9.2 percent state they shop at traditional markets monthly, 13.8 percent twice monthly, and 15.4 percent more than once a week. Supermarkets are frequented by 61.3 percent of households. Of those 46 households, 39 stated how often they frequented a supermarket. The frequency of visits to supermarkets differs from traditional markets in that 53.7 percent of those who shopped in supermarkets say they go to supermarkets only once a month compared to 61.5 percent of survey households that visit traditional markets weekly. Of the remaining respondents, 17.1 percent say they shop at a supermarket twice a month, 19.5 percent weekly, and 4.9 percent shop in a supermarket once a week or more (Figure 19).
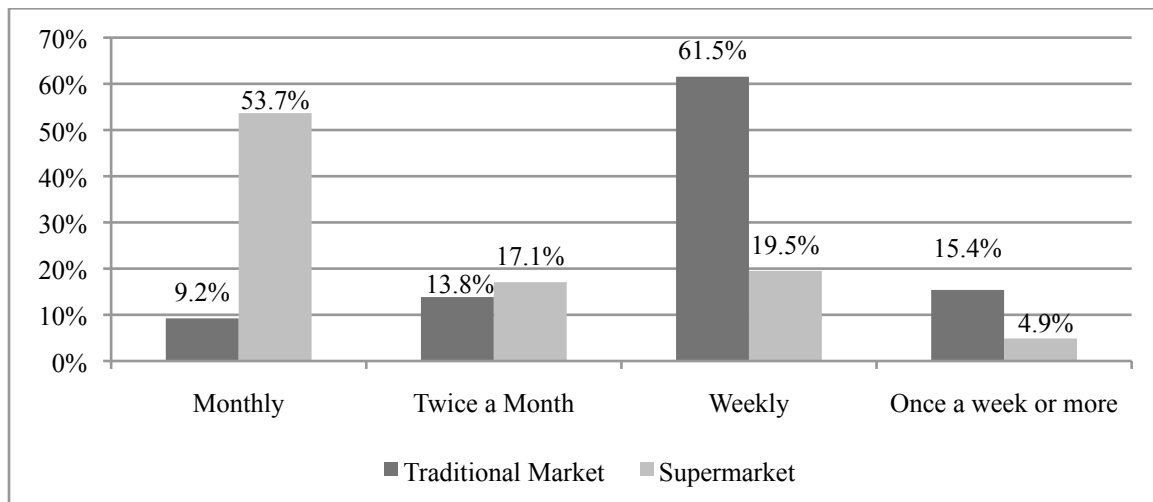
Figure 19. Comparison of shopping frequencies

The less frequent shopping in supermarkets could be due to the typical types of foods available and purchased in supermarkets such as processed foods. It could also be because the supermarket is not the main destination. For instance, Shoprite located in the Accra shopping mall may be visited out of convenience while completing other shopping. Additionally, these findings differ from the findings of Goldman and colleagues (2002) that found in Hong Kong that households visited all types of food outlets on average 16 times weekly[31]. These differences in shopping habits may be attributed to the different built environments between Accra and Hong Kong. Hong Kong is much more densely populated and food outlets of all types are more concentrated, making it unnecessary to travel with a vehicle to reach these locations, while Accra is more spread out and less densely populated.

5.1.2 Consumer transportation

Transportation plays a critical role for residents of Ashongman Estates in reaching all retail outlets other than mini markets. High levels of congestion and poor road maintenance result in long commuting times and journey delays, however public transportation is affordable (Armah, Yawson, & Pappoe, 2010). All traditional markets and supermarkets have major transportation stops or are located along major transportation routes. There are several modes of transportation that are used by households to reach traditional markets and supermarkets including personal vehicle, *tro-tro*, public bus and taxi. The most popular mode of transportation is minibus, locally referred to as *tro-tro*[32] (Figure 20).

---

[31] This is 5.8 trips to a wet market, 3.8 trips to a supermarket, 2.5 trips to a bakery, 1.2 trips to a fruit store and 1.0 trip to a Chinese grocery store.

[32] This originated from Ga word "tro," which means three pence (pence being the penny coins used during Ghana's colonial days)

Figure 20. A *tro-tro*

Tro-tros have arisen with the deregulation of public transportation, which resulted in the proliferation of these privately owned transport carriers, licensed by the state. *Tro-tros* are often run down and appear to be dangerous, but are among the most efficient transport systems in the country. *Tro-tros* stop at all bus stops and similar gatherings of people. One can also find *tro-tros* at *tro-tro* parks, truck stations, traditional markets and commercial places like Accra Mall. There are also public buses, but they run less frequently. *Tro-tros* and public buses are affordable and charge around the same price. On both *tro-tros* and public buses it is common for riders to carry large packages, especially foodstuff, from one market to another or home. Taxis are another often utilized mode of transportation. They are found at taxi ranks or along any major road. A taxi rank has taxis with set prices which are taken by customers who may not know each other who are interested in traveling to the same location. Prices are normally based on a negotiation between taxi driver and customer. Traffic is chaotic and thick in Accra, with traffic jams and

potholes being commonplace (Beautiful Ghana, 2013). Rates of car ownership are predicted to

increase the number of cars in Accra to over 1 million in 2023, which could result in more traffic

congestion (Armah, Yawson & Pappoe, 2010).

Respondents were asked to name what modes of transportation they used to reach their

preferred retail outlet and were allowed to name more than one (Figure 21).
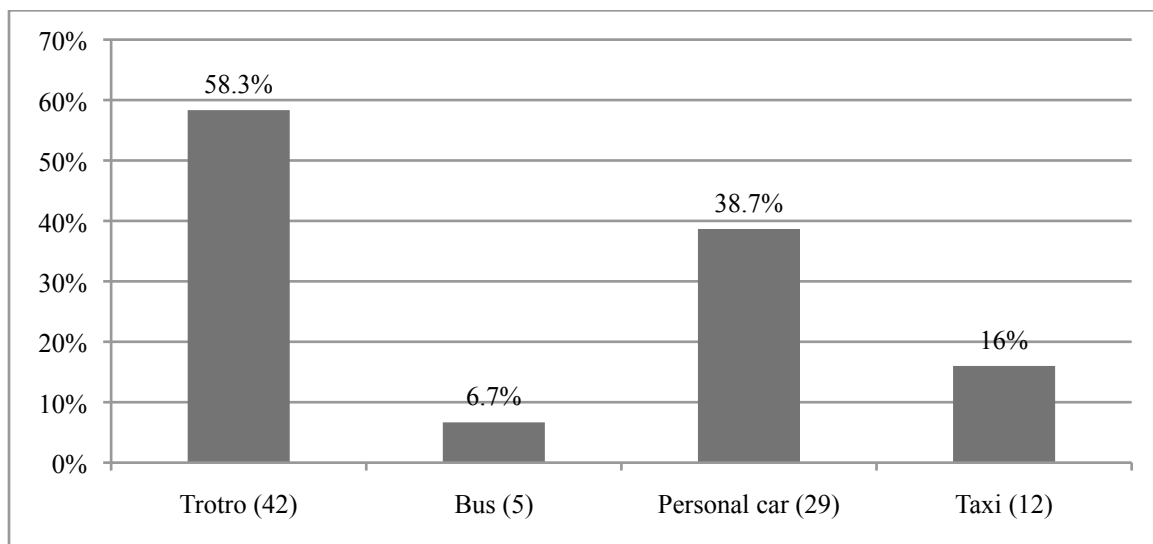
Figure 21. Modes of transportation used by households to reach preferred retail outlet

Tro-tros are used by 58.3 percent of households to reach and/or return from their

preferred retail outlet. This may be due to the higher frequency of *tro-tros* than buses. *Tro-tros*

are also cheaper compared to taxis. The second most common mode of transportation is a

personal vehicle, which 62.7 percent of households owned but only 40.3 percent of households'

say they use to travel to get food products. Of total households, 16.7 percent state they use a taxi

as a mode of transportation to/from their preferred retail outlet. Many respondents state the use

of taxis is to return from retail outlets due to the large amount of purchases. The public bus is

used by only 6.9 percent of households, which is most likely due to the infrequency of buses.

5.1.3 Consumer Preferences

Respondents were asked to name the type of retail outlets where they preferred to do the majority of their food purchasing. Households could name more than one type of retail outlet as a preference. Of total households, 86.7 percent prefer traditional markets, 20 percent prefer supermarkets and 10.7 percent prefer mini markets (Figure 22).
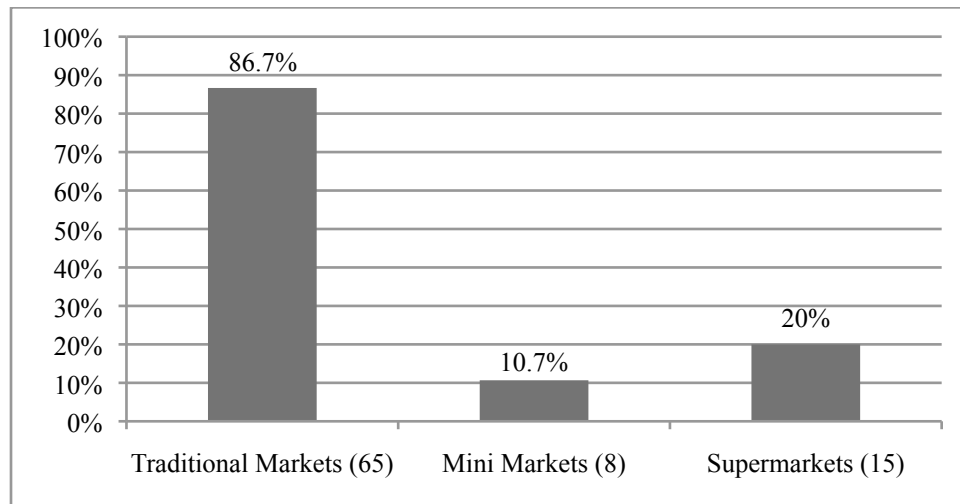
Figure 22. Preferred retail outlets of households

It is not surprising that a higher percentage of households prefer traditional markets because of the availability of all types of items (food and provisions) and higher quality of domestic FFVs. Many respondents that state they prefer both supermarkets and traditional retail outlets because they purchase processed foods like canned goods and soda beverages in supermarkets and FFVs and locally processed foods in traditional retail outlets.

Respondents were asked choose up to three reasons from a set list as to why they chose their preferred retail outlet. This included proximity (distance), low prices, quality, ability to obtain specialty items, know trader, hygienic, convenience[33] and other (Figure 23).
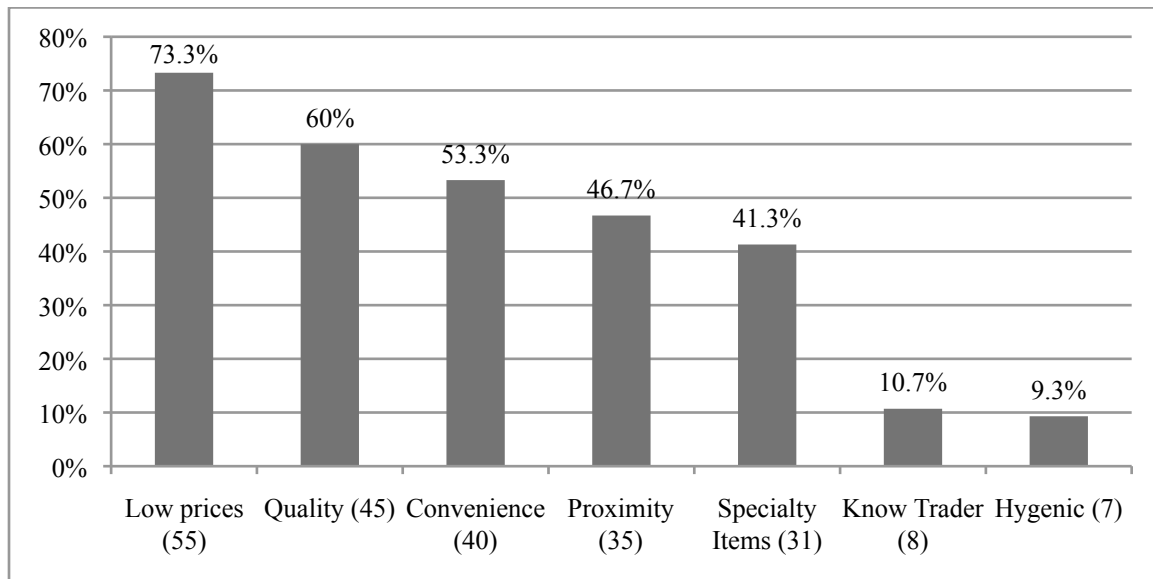
Figure 23. Consumer preferences in choosing preferred retail outlet

The most common reasons are low prices (73.3 %) and quality (60 %). The finding on low prices is supported by studies about consumer behavior in developing country, where purchasing power is usually lower and there are high rates of poverty (Minten, 2008). Convenience (53.3 %) and proximity (46.7 %) are also common which is probably due to the issues with traffic congestion in Greater Accra. Knowing the trader is cited by 10.7 percent of households to explain why they prefer a particular retail outlet. This was anticipated to be higher because it was believed that relationships between consumers and traders were highly valued. The least common preference cited is hygienic conditions, at 9.3 percent, which is only stated

---

[33] This was explained as ability to get everything one needed at place and/or since they were already going there they would also get food products (shopping at the mall for clothing and stopping at Shoprite to get some groceries).

about supermarkets, and which is consistent with studies on supermarketization (Goldman, Ramaswami, & Krider, 2002).

Consumer preferences for traditional markets and supermarkets are compared below. The top three reasons stated by consumers were low prices, quality and proximity. Of the 65 households that state they prefer traditional markets, 76.9 percent state low prices while of the 15 households that state they prefer supermarkets, only 26.7 percent state low prices. Prices were observed in supermarkets and compared to prices in traditional markets. The prices for processed goods like canned and packaged foods in supermarkets and traditional markets are similar, while FFVs are much higher priced in supermarkets. Of the households that state they prefer traditional markets, 52.3 percent gave quality as a reason and 40 percent of the households that prefer supermarkets say quality is the reason. Respondents mentioned that traditional markets have quality FFVs while supermarkets have quality processed and packaged foods. Of households, 41.5 percent favor traditional markets due to proximity while only 15 percent of households that prefer supermarkets use that reason. In addition, 49.3 percent of respondents state they prefer Dome market, the closest large retail outlet at 5.2 miles from Ashongman Estates. Proximity as a reason why households prefer a retail outlet is believed to be important due to the large amount of traffic and congestion in the Greater Accra metropolitan area. Furthermore, 33.3 percent state convenience and hygienic conditions. It is likely that convenience causes a preference for supermarkets because most are located near other commercial businesses, such as Shoprite in the Accra Mall. There, respondents can complete additional tasks as well as buy groceries. It was anticipated that hygienic conditions of supermarkets would be a reason consumers prefer them due to their focus on providing hygienic conditions, compared to traditional markets (Figure 24).
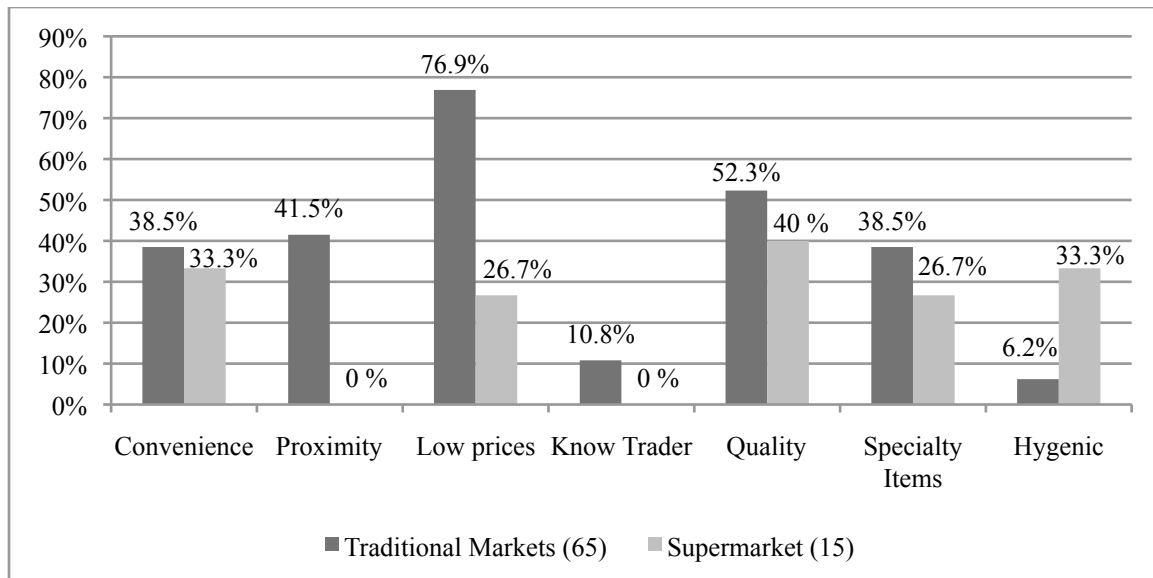
Figure 24. Comparison of preferences between traditional markets and supermarkets

To expand on the three most common preferences, of the 37 households who prefer Dome, 64.9 percent state they prefer Dome because of low prices, although it is often stated by consumers and interviewees that the prices are higher at Dome than other traditional markets. This could be because prices are low enough to make up for the savings in time and money spent in transport. For instance, 62.2 percent state proximity and 40.5 percent of households state convenience as why they prefer Dome. Both of these preferences are probably because it is the nearest traditional market. In addition, 43.2 percent state they prefer Dome due to the high quality of food items, which is typical of FFVs in traditional markets. Furthermore, 27 percent state they prefer Dome because they can get specialty items (Figure 25).
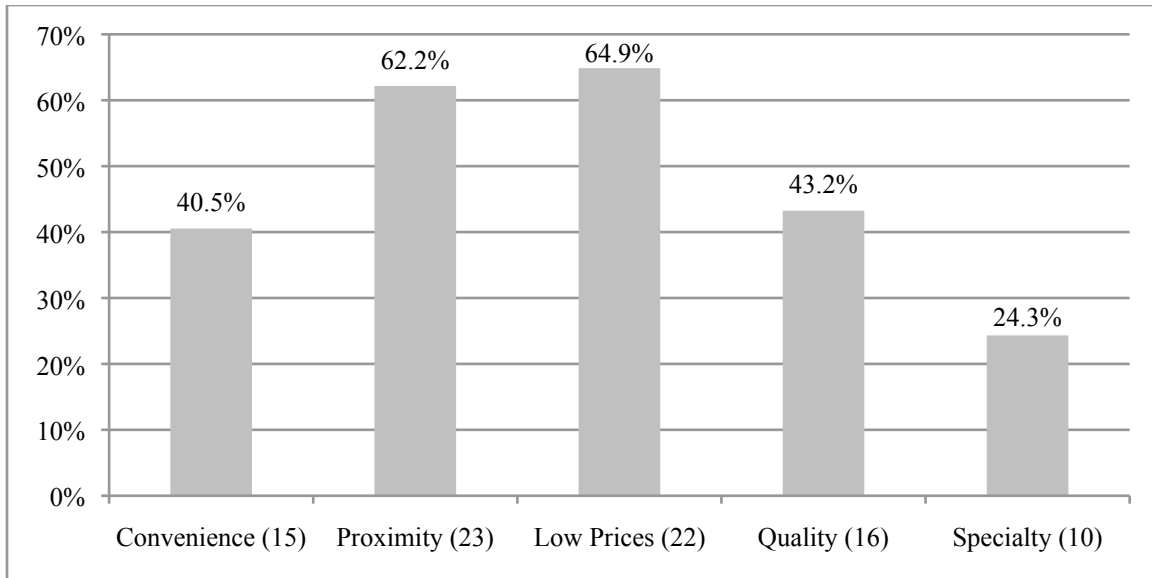
Figure 25. Preferences for Dome market

Another interesting finding is that of the 46 households that state they shop at supermarkets, 67.4 percent state they prefer only traditional retailers and of those, 90 percent state only traditional markets. This agrees with much of the literature on traditional markets that says supermarkets are frequented by consumers but that traditional markets remain the main food retail outlet for several reasons, including availability of affordable and high quality FFVs. On the other hand only 5.3 percent state they prefer only supermarkets. Furthermore, 24 percent of the households that frequent supermarkets state they prefer both traditional retailers and supermarkets (Figure 26).
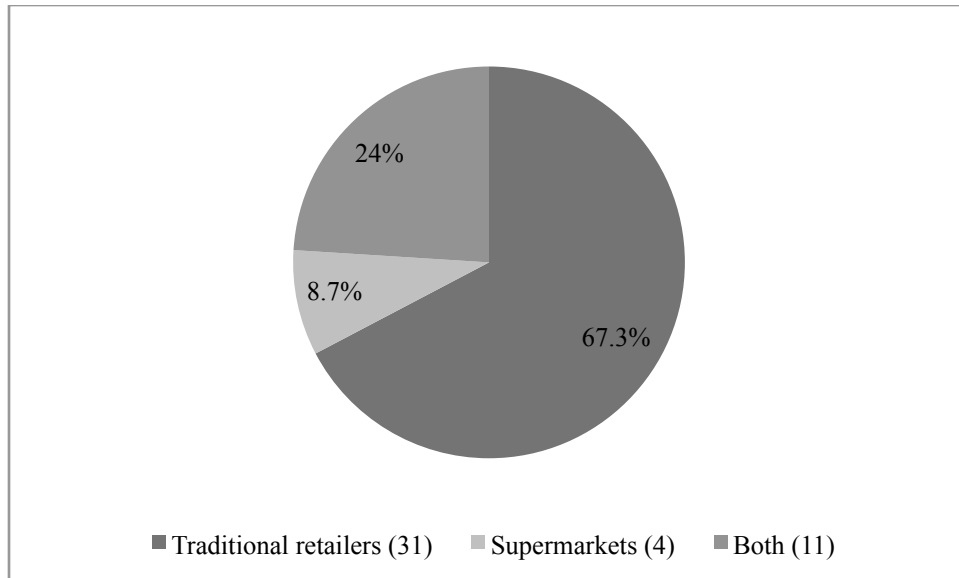
Figure 26. Preferred retail outlets of households that shop in supermarkets

Of the households that state they prefer both traditional retailers and supermarkets it is oft stated by respondents that they prefer buying processed foods at the supermarket and FFVs in the traditional market. In addition, respondents state they prefer buying processed foods at the supermarket because it provides a climate controlled atmosphere compared to traditional markets where products often sat in the sun and heat.

5.1.4 Socioeconomic status and the choice of food retail outlets

There are five proxy indicators used to differentiate households according to socioeconomic status (SES) in order to measure whether households of different statuses behave differently in the food retail environment. Proxies are used for income because it is widely acknowledged that self-reported measures of income are not reliable due to the understandable reluctance of respondents, as well as inconsistencies in income week-to-week for the self-employed in the informal sector (Morris, et al., 2000). Household tenure was split into three

categories: 1) own a house outright or with a mortgage, 2) rent, or 3) 'looking after[34]'. Two

measurements of household employment were used as a proxy for SES. First, households were

identified by whether there was a member that was unemployed. This indicator was used because

if a member of the household was unemployed and looking for a job, the household was

deficient economically. The second measurement was what sectors employed members of the

household worked in: formal, informal or both. Car ownership was also used as a proxy for SES

because public/private transportation was affordable and car ownership did not guarantee easier

or cheaper access to points outside the neighborhood due to high levels of traffic and congestion.

A household either owned a vehicle or not. In addition, to SES measurement, households were

identified by whether the female head was employed or not. This indicator was used because the

literature often states that a household with a female head that works outside the house is more

likely to purchase convenience food like processed products.

Of the total survey households, 57.3 percent reported they own their home outright or

with a mortgage, 29.3 percent of households rent their home, and 13.3 percent of respondents

reported they are 'looking after' their current residence. According to the 2010 census, 32

percent of households own their home in the Greater Accra region, while 47 percent rent, and

20.6 percent are 'looking after' there current residence (Ghana Statistical Service, 2012). Of total

survey households, 36 percent have members that are only employed in the formal sector, 34.7

percent have members that are only employed in the informal sector, 22.7 percent have members

that are employed in both sectors, and 6.7 percent have no employed members. Of total

households, 28 percent have at least one member who is unemployed looking for a job. A vehicle

---

[34] 'Looking after' refers to people who live rent-free and squatters who lived in incomplete structures with or without permission as well as self-constructed squatter structures.

is owned by 62.7 percent of survey households. The female household head is employed in 49.3

percent of households and unemployed in 50.7 percent (Table 10).

Table 10. Household socio-demographic characteristics

Tenure	Respondents (75)	Percentage
Own or mortgage	43	57.3 %
Rented	22	29.3 %
Looking After	10	13.3 %
Household Employment		
Formal	27	36 %
Informal	26	34.7 %
Mixed	17	22.7 %
No Employment	5	6.7 %
Unemployed household member	21	28 %
Female Household Head		
Employed	37	49.3 %
Unemployed	38	50.7 %
Vehicle Ownership	47	62.7 %

In summary, these household characteristics describe a residential neighborhood of

mostly upper to middle class working families with children that owned, mortgaged or rented

their homes. Thus, this sample is not representative of the Greater Accra region, implying that

these findings cannot be extrapolated.

5.1.5 Statistical Tests

A t-test for independence is used to determine the relationship between the above SES

and preferred choice of retail outlet. A t-test for independence is used when there are two groups

and a single measurement of a dependent variable. It measures whether the mean of one group is

different from the mean of the other (Marion, 2004). A P-value less than .05 is used to determine

whether the means between groups are statistically significant. In Excel, a 2-tail test is chosen

because there is prediction as to which group would be higher. There are three types of T tests

that can be used in Excel. Type 3 test is used in cases of unequal variances (Burton, 2002). For

the remaining two independent variables (employment and tenure), a one-factor analysis of

variance (AOV) otherwise known as an ANOVA is used. This test is used when there are three

or more groups and there is only one dependent variable measured. It measures whether one of

the group means is different from the other means, but not which groups (Marion, 2004).

The only significant finding presented in Table 11 is that in the households that own

vehicles, 80.4 percent shop in supermarkets while only 32.1 percent of households that do not

own a vehicle shop in supermarkets. This can be attributed to two reasons. First owning a vehicle

is an indicator of an upper to middle class family that may have more disposable income,

affording them the opportunity to shop in shopping centers like the Accra Mall and ANC Mall.

Second, culturally the ability to purchase items in shopping centers is a status symbol, so those

who own a vehicle may frequent these areas in order to show status. Although it is not

statistically significant, it is worth noting that households that own vehicles are more likely to

buy food from hawkers. This could be because hawkers often locate on the street at intersections

and areas that suffer from congestion, hawking their goods to drivers.

Although these findings are not statistically significant they warrant mentioning.

Households that look after their household are less likely to shop in supermarkets. This could be

because supermarkets are traditionally frequented by the upper and middle class and those who

squat their residence are more likely lower income. On the other hand, households that have

members that work in the formal sector are more likely to frequent supermarkets. This could be

because these family members work in areas that are more commercial and supermarkets are

conveniently close to their workplace. Households that rent and squat their residences and

households where all members work in the informal sector are more likely to purchase items

from a cold store. This could be because they themselves do not own a refrigerator or freezer, so

they purchase frozen meat products that they plan on consuming in the near future.

Table 11. Socioeconomic analysis and retail outlets

SES Indicators	Respondents	Super market (46)	Mini Market (69)	Roadside (39)	Coldstore (57)	Hawker (37)
Vehicle Ownership	75					
No Vehicle	28	32.1 %*	96.4 %	53.6 %	82.1 %	35.7 %
Own Vehicle	47	80.4 %*	89.4 %	53.3 %	73.9 %	57.4 %
Tenure	75					
Own house	43	66.7 %	90.7 %	61.9 %	67.4 %	48.8 %
Rent	22	63.6 %	95.5 %	47.6 %	90.5 %	59.1 %
Looking After	10	40 %	90 %	30 %	90 %	30 %
Employment	70					
Formal	27	70.4 %	85.2 %	57.7 %	69.2 %	44.4 %
Informal	26	46.2 %	96.2 %	44 %	92.3 %	53.8 %
Mixed	17	64.7 %	94.1 %	52.9 %	64.7 %	47.1 %
Unemployment	75					
No unemployment	54	66 %	92.6 %	57.7 %	77.4 %	51.9 %
Unemployment	21	52.4 %	90.5 %	42.9 %	76.2 %	42.9 %
Working Female Household Head	75					
Employed	37	59.5 %	94.6 %	51.4 %	78.4 %	51.4 %
Unemployed	38	63.2 %	89.5 %	52.6 %	73.7 %	47.4 %

The only significant finding in Table 12 (that presents analysis on shopping in traditional

markets) is that working female household heads are more likely to shop at Makola and

Abgobloshie. This may be because they work outside the neighborhood and are more likely to be

in the center of the city due to the location of their workplace, making it convenient for them to

shop there.

Table 12. Socioeconomic analysis and traditional markets

SES Indicators	Respondents (75)	Dome (69)	Madina (39)	Makola (34)	Abgobloshie (23)	Yam Market (29)
Vehicle Ownership						
No Vehicle	28	92.9 %	53.6 %	50 %	28.6 %	25 %
Own Vehicle	47	91.5 %	51.1 %	42.6 %	34.1 %	50 %
Tenure						
Own house	43	93 %	53.5 %	48.8 %	41.5 %	47.5 %
Rent	22	90.9 %	50 %	50 %	23.8 %	40.9 %
Squatter	10	90 %	50 %	20 %	10 %	10 %
Employment						
Formal	27	88.9 %	40.7 %	40.7 %	24 %	42.3 %
Informal	26	96.2 %	57.7 %	50 %	38.5 %	28 %
Mixed	17	88.2 %	58.8 %	47.1 %	37.5 %	50 %
No employment	5	100 %	60 %	40 %	20 %	60 %
Household Unemployment						
No unemployment	54	90.7 %	48.1 %	44.4 %	23.1 %	43.4 %
Unemployment	21	95.2 %	61.9 %	47.6 %	55 %	31.6 %
Working Female Household Head						
Employed	37	91.9 %	59.5 %	56.8 %*	45.9 %*	32.4 %
Unemployed	38	92.1 %	44.7 %	34.2 %*	15.8 %*	44.7 %

5.1.6 Summary of findings

The findings from the household survey show that traditional markets remain the main
and preferred food retail outlet, however multiple food retail outlets continue to be frequented by
households. Traditional markets remain the strongest retailer in the food retail environment in
Accra that is undergoing supermarketization. In addition, low prices and quality are the two most
stated reasons why respondents prefer a food retail outlet, and these are where traditional
markets hold an advantage. For instance, Ashongman residents prefer Dome, which is probably
because of proximity and cost related to opportunity costs of traveling in the Greater Accra
metropolitan area. Furthermore, although mini markets are not the main food retail outlet for
respondents, mini markets are frequented by a majority of households to buy items households

needed on short notice that do not warrant a trip to the traditional market and thuscreate increased access to food.

5.2 WHAT TYPES OF FOODS DO CONSUMERS PURCHASE?

One of the research questions of this study concerns what foods consumers are purchasing? In order to answer this question, a food list of 58 items split into five groups: staples, fresh vegetables, fresh fruits, proteins, and highly processed was included in the household survey. In addition, food items were described as imported or domestic and/or non-processed, processed and locally processed (Appendix 4).

5.2.1 Background

During the 1970s to the 1980s there was a dramatic decline in agriculture production and exports in Ghana due to poor development and economic policies. This resulted in increased food imports that Ghana continues to be highly dependent on. The current shortfall of domestic food production can be attributed to dependence on rain-fed agriculture and traditional practices (Wolter, 2009). Furthermore, government subsidies were removed for inputs like fertilizer for maize production, in addition to little public investment put into improving technologies and production (Barbier, 2000; Wolter, 2009). Currently, domestic agriculture production only meets half of cereal and meat needs and 60 percent of fish consumption. Ghana is only self-sufficient in starchy staples such as cassava, yam and plantains, while rice and maize production falls below demand (Wolter, 2009). Although domestic production fails to meet the country's needs, since 1961 there has been an increase of available calories from 1986 kcal/person/day to 2934

kcal/person/day in 2009, an increase of almost 1000 kcal/person/day (data extracted from FAO

Food Balance Sheets)[35].

The people of Accra are heavily reliant on the urban traditional markets for access to

food. More than 90 percent of all food consumed is purchased for cash (Maxwell, et al., 2000).

Urban populations and the affluent have more diversified diets that have high levels of

vegetables and fruits, ASFs, fats and oils, soda beverages and snack foods than the poor and rural

residents. This is because urban areas have more processed and packaged foods and imported

food items (Maxwell, 1998; Maxwell, et al., 2000). Poorer households also get more of their

calories from domestically produced starchy staples than the more affluent do (Maxwell, 1998).

However other factors also influence diets, including lifestyles, social relationships, marriage

patterns, family structures, and availability of packaged and processed foods, advertising and the

media. For instance, women working outside the home are increasingly looking for time-saving

foods (Maxwell, et al., 2000; Maxwell, 1998).

A basic meal in Ghana contains a starchy food eaten with a sauce or soup and fish, meat

or egg (Figure 27) (Food by Country, 2001; Maxwell, et al., 2000).

---

[35] Available at Food and Agriculture Organization of the United Nations:
http://faostat3.fao.org/home/index.html#DOWNLOAD

Figure 27. Fufu in a tomato sauce with canned mackerel (fish)

According to a study done by Plahar and colleagues (1999) on food availability and consumption behaviors in southern Ghana, food intake is typically twice daily. However a study by Nti (2008) found that most respondents eat three meals a day, while a few eat only twice daily. In both studies, most households eat supper as the main meal prepared and consumed at home, while breakfast and lunch are the most common meals purchased outside the home as street food. Street food consumption is related to income, as well as whether women work outside the home, proximity to traditional markets, and demographics (Maxwell D. , 1998). Furthermore, Nti (2008) finds that about two-thirds of the respondents cook two meals a day at home, with a small amount stating they only eat in-home prepared meals. The survey results confirmed these findings. In the household survey, respondents were asked: in a typical week, how many home-prepared meals the entire household eats at home? Breakfast is eaten in the

home on average 5.52 times a week, lunch 4.04 and supper 6.57 times. On average, households

eat 2.31 meals a day at home.

5.2.2 Staples

In most African communities people rely on a few staple crops (Oniang'o, Mutuku, &

Malaba, 2003). For people of Accra, grains, cereals, roots and tubers dominate the total food

consumption basket. Other than rice, the rest of the staples are prepared into dough. For instance

maize is made into banku and kenkey, millet or sorghum is made into tuo zaafi, and cassava,

yams and plantain are made into fufu, konkonto and gari[36] (Maxwell, Levin, Armar-Klemesu,

Ruel, Morris, & Ahiadeke, 2000). Corn and cassava dough (Figure 28) are prepared locally and

widely available in traditional retail outlets. These doughs are further prepared in home to create

the starchy dishes named above.

As can be seen in Figure 29, 74.7 percent of households buy maize in grain form that

requires milling and 49.3 percent buy corn dough that is locally processed. Since mills are easily

accessible in the neighborhoods, maize is often bought in grain form. The lower percentage of

families that buy corn dough could be attributed to the relatively easy process of preparing that

food product. Non-processed cassava and gari are each bought by 82.7 percent of households.

This is probably because cassava is widely used in many of the staple dishes and the preparation

of gari is a specialized and time consuming process.

---

[36] A starchy food made from grated and dry-roasted cassava that is processed locally and widely available
(Oniang'o, Mutuku and Malaba 2003).

Figure 28. Corn and cassava dough in a traditional market

Yams and plantains, that are widely available, are both purchased by more than 90 percent of households. Furthermore, 94.7 percent of households buy imported rice while only 42.7 percent consume domestically produced rice (Figure 29).
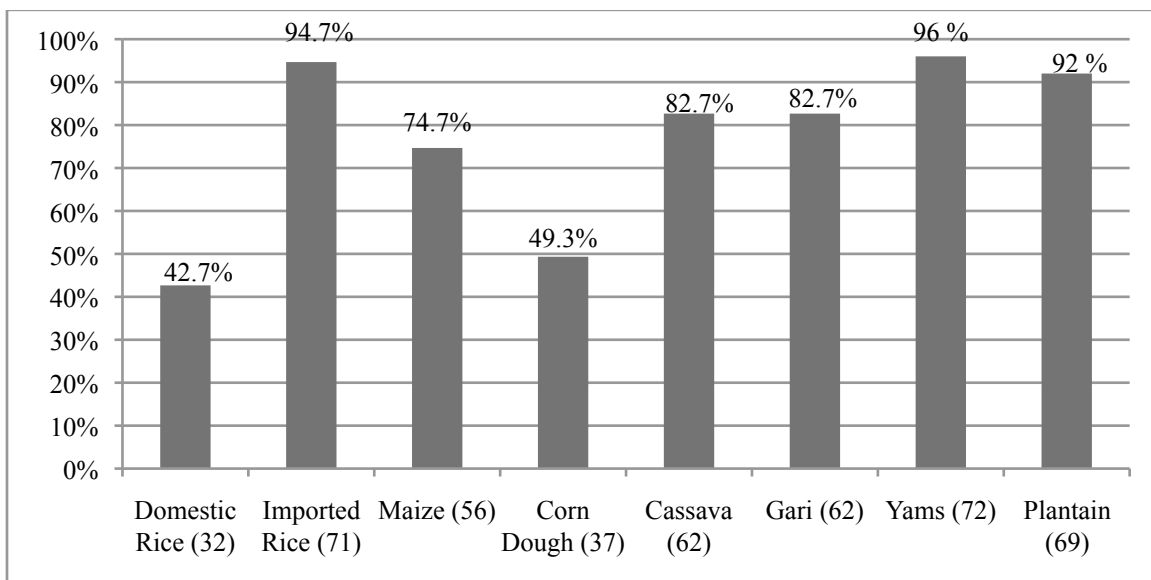
Figure 29. Staple consumption by households

The results showed that imported rice is more widely purchased by households in Ashongman Estates than domestic rice, which is supported by findings on rice consumption in Ghana. First, Ghana only produces 30 percent of the domestic demand for rice (Mohapatra, 2013). Second, rice is produced in the north, making it expensive to transport to urban areas in the south compared to imported rice that is subsidized. Third, consumers in urban areas prefer the taste of imported rice varieties like jasmine rice (Wolter, 2009). Fourth, domestic rice is not widely available in Accra and therefore is expensive. For instance, many rice traders in traditional markets do not carry domestic rice because it is not profitable and there is little consumer demand, because of the higher prices compared to imported varieties. The higher price of domestic rice is due to the combination of higher cost of production, low yields and subsidies on imported rice. Increased importation of rice in Ghana is linked with catastrophic impacts on the rural economy and social structures in the north (Mohapatra, 2013).

5.2.3 Fresh Fruits and Vegetables (FFV)

Domestically grown and commonly eaten vegetables in Ghana include; tomatoes, onions, eggplant, "kontomire" (leaves of cocoyam plant), spinach, carrots, okra, and pepper (Food by Country, 2001). Over 90 percent of households buy tomatoes, onions and eggplant ("garden eggs"). This is most likely because they are grown domestically and are central ingredients in many sauces. Furthermore, kontomire, cabbage and cucumbers, which are purchased by around 85 percent of households, are also grown easily in Ghana. On the other hand, cauliflower, a fairly new food crop in Ghana and relatively expensive, is purchased by only 57.3 percent of households (Figure 30).
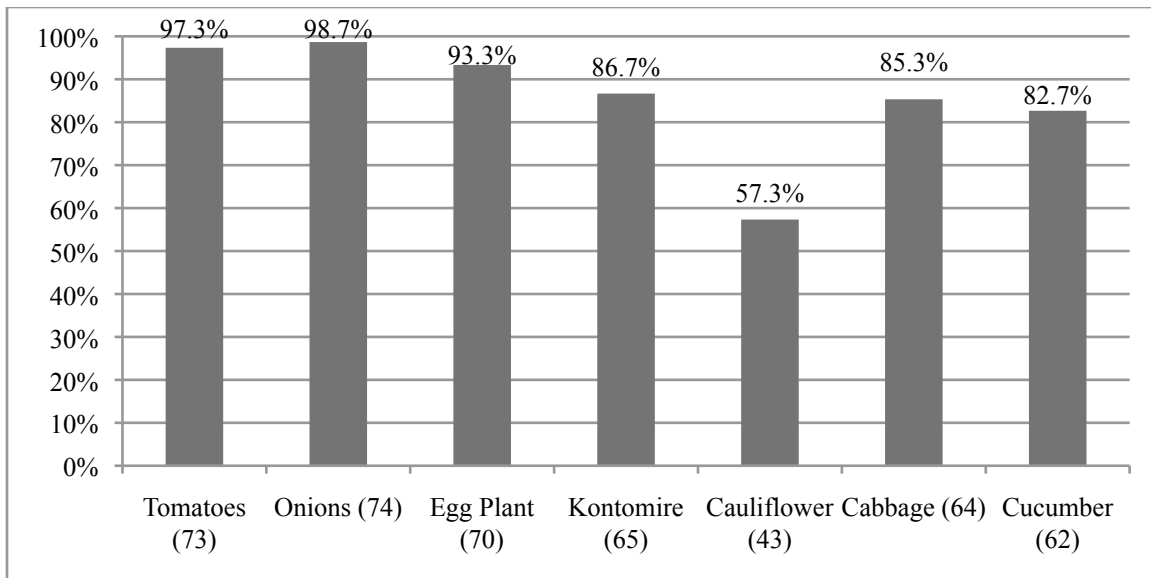
Figure 30. FFV consumption by households

The main domestically grown fruits in Ghana include oranges, mangos, bananas, avocados, pineapples and papaws (Food by Country, 2001). Of household respondents, 84 percent state they purchase oranges, however 17.3 percent of households also have their own orange trees. Mangos are grown by 10.7 percent of households and 77.3 percent of surveyed households purchase mangos. Bananas are purchased by 76 percent of households and bananas are also commonly sold by hawkers for snack food. Apples and grapes are imported from South Africa and although they are increasingly available in SSA countries where they do not grow, they are more expensive compared to domestically grown fruit. The higher price is probably why only 69.3 percent of households purchased apples and 49.3 percent of households purchased grapes (Figure 31).
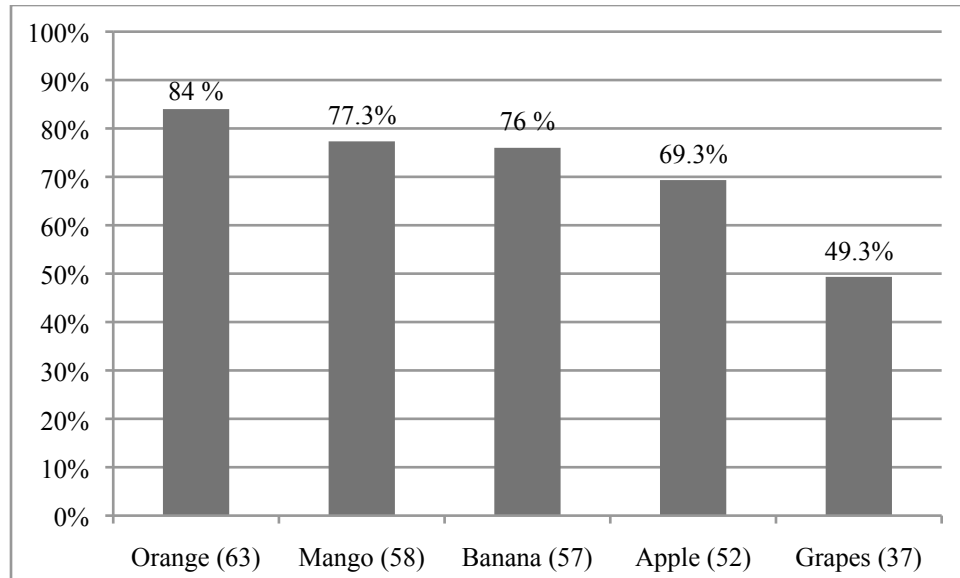
Figure 31. FFV consumption by households: domestic versus imported

In summary, domestically produced FFVs are more commonly purchased by household survey respondents, compared to imported and non-traditional FFVs like cauliflower. For instance, imported fruits like apples and grapes are purchased by fewer households. Cauliflower, which is now domestically produced, is also purchased by fewer households. Possible reasons for the lower percentage of households that purchase these items are they have yet to become part of the typical Ghanaian diet or the prices for these items are relatively expensive compared to similar foods that are domestically produced.

5.2.4 Animal Source Foods (ASFs)

ASFs are consumed more by urban residents and the affluent compared to the poor and rural residents (Maxwell, et al., 2000). The question asked whether households purchased a food item and where. Every household purchases some sort of ASF and fish. This is not surprising since Accra is a coastal community with a healthy fishing sector and meat consumption is culturally acceptable. For instance, 66.7 percent of households consume corned beef and 70.6

percent of households consume frozen and/or fresh beef. The lower consumption of any type of

beef compared to frozen or fresh chicken (consumed by 89.3 percent of households), is likely

because other meats are more expensive than chicken. In addition, chicken consumption in

Ghana has increased immensely over the last decade with importation of frozen chicken from

European countries (Oxley, 2012). Goat, which is normally eaten on holidays and special events,

is purchased by 69.3 percent of households. Sausage (chicken, beef and/or pork and usually

canned) is consumed by 66.7 percent of households, while eggs are purchased by nearly every

household (Figure 32). This is probably because these items are widely available throughout the

food retail environment.
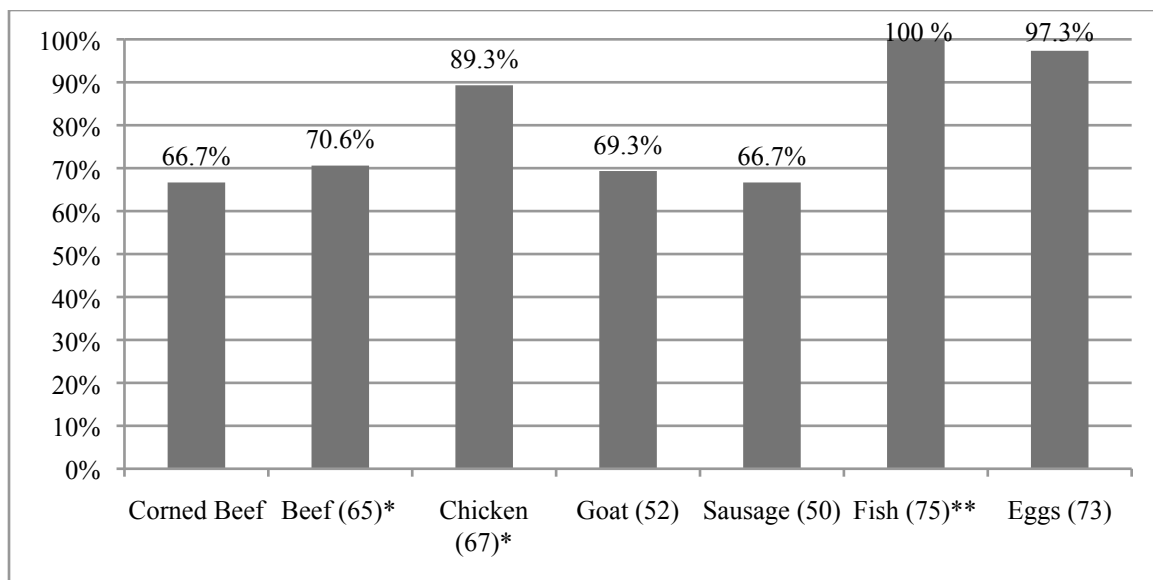
Figure 32. ASF consumption by households

*Fresh and frozen **Fresh, frozen, salted, smoked, dried and canned

5.2.5 Canned and highly processed foods

Since the liberalization of agrifood markets in Ghana in the 1980s and 1990s, canned and

processed foods have become part of a typical diet in Ghana (Clark, 1994). Of respondents, 95.5

percent purchase canned tomatoes, while only 32 percent purchase other canned vegetables and

12 percent purchase some sort of canned fruit. The high percentage of households that purchase

canned tomatoes is likely because tomatoes are used in many common sauces. The lower amount

of families that purchase other canned vegetables and fruits is probably because fresh fruits and

vegetables are widely available and affordable. Furthermore, 90.7 percent of households

purchase some sort of canned fish, which is likely because of the high consumption of fish in

southern Ghana overall and its coastal location (Figure 33).
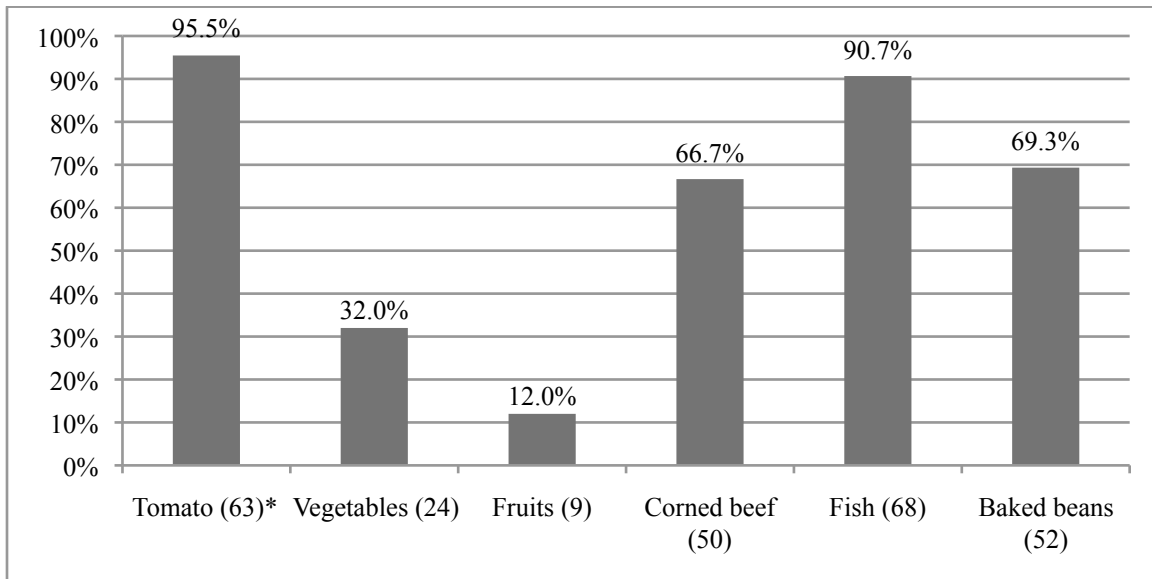
Figure 33. Canned food consumption by households

Furthermore, packaged foods and sugary beverages are commonly purchased by

households (Figure 34). The high percentage of families that purchase these foods is because

they are available throughout the food retail environment, especially in mini markets.
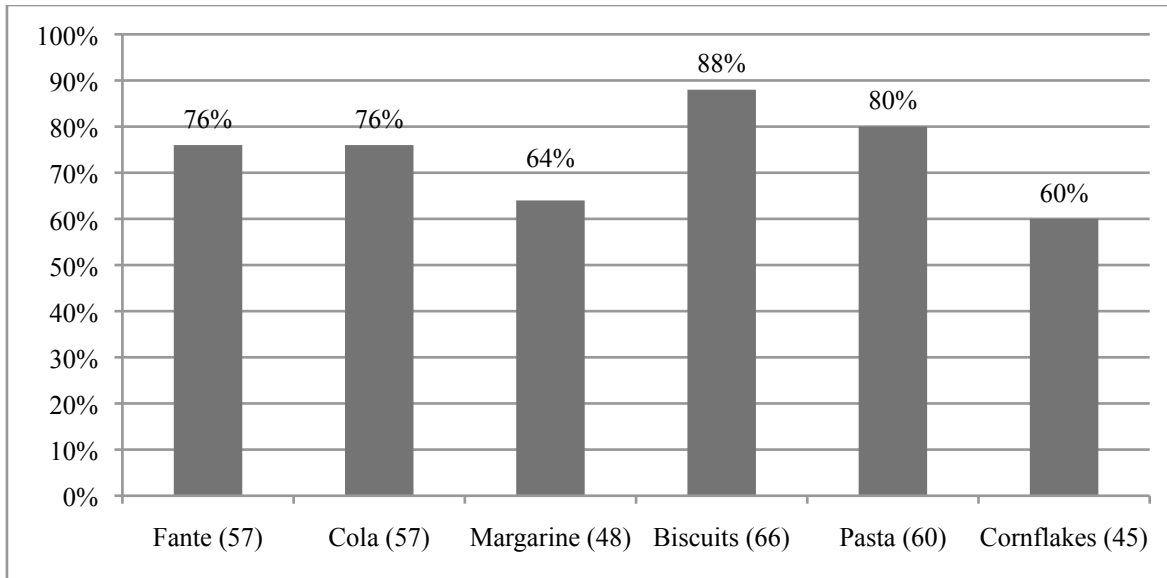
Figure 34. Highly processed food consumption by household

In summary, canned, packaged and highly processed foods (other than canned vegetables and fruits, excluding tomatoes) are purchased by a high percentage of households.

5.2.6 Socioeconomic Analysis

Statistical analysis was completed using the same indicators and statistical tests as in the previous section for research question two. There are no significant statistical results to be reported.

5.3 WHERE DO CONSUMERS PURCHASE DIFFERENT TYPES OF FOODS?

One of the research questions of this study asks what foods consumers are purchasing and in what type of outlets? In order to answer this question, a food list of 58 items split into five groups; staples, fresh vegetables, fresh fruits, proteins and highly processed was included in the household survey. In addition, food items were described as imported or domestic and/or non-

processed, processed and locally processed (Appendix 4). Consumers were then asked to answer in what retail outlets they purchased these items.

5.3.1 Domestic and imported rice

As stated above, domestic rice is only purchased by 42.7 percent of households and imported rice is purchased by 94.7 percent of households. Domestic rice is not as widely available in supermarkets. This is backed up by consumers' responses in the household survey. Domestic rice is purchased in a supermarket by only one of the households, because domestic rice is not commonly sold in supermarkets. On the other hand, 43.8 percent of households that purchase domestic rice do it in traditional markets, 25 percent in mini markets and 12.5 percent in roadside stands. Imported rice is purchased by 62 percent of households in traditional markets, 15.5 percent in supermarkets, 23.9 percent in mini markets and by none of the households at roadside stands (Figure 35).
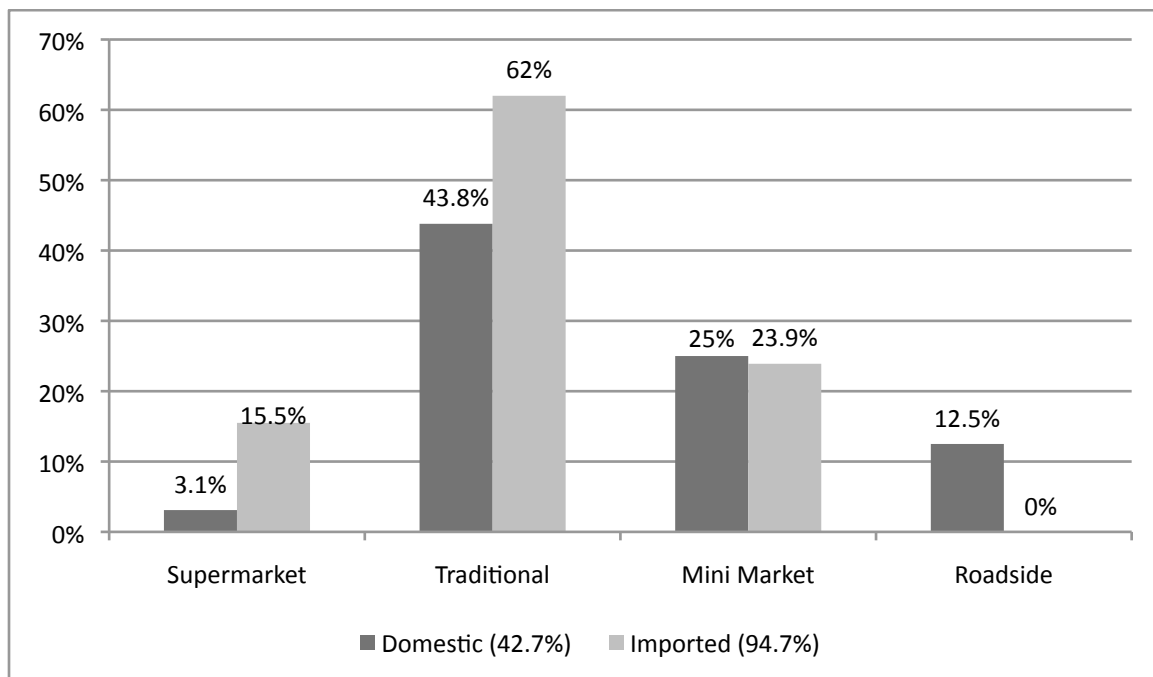
Figure 35. Retail outlets where consumers purchase domestic versus imported rice

These findings suggest that imported rice is widely available in traditional retail outlets and supermarkets, while domestic rice has not entered supermarkets to a large degree and in many cases is not even available at every rice trader in traditional markets. In addition, it is common to see domestic rice as the only item sold in roadside stands.

5.3.2 Fresh Fruits and Vegetables (FFVs)

According to the literature, supermarkets in most developing countries have yet to break into the FFVs market, which is the same finding in this study. Domestic FFVs are almost always purchased by households in traditional markets. On the other hand, imported apples and grapes from South Africa are purchased in supermarkets as well as traditional retail outlets. This may be because supermarkets like Shoprite (a South African company) have an efficient supply chain and logistics set up to import apples and grapes into all their stores across Africa. In addition, apples are purchased from hawkers by 19.2 percent and grapes by 24.3 percent of households. This was confirmed by observations and is likely because hawkers purchase apples and grapes from the supermarket to sell (Figure 36).
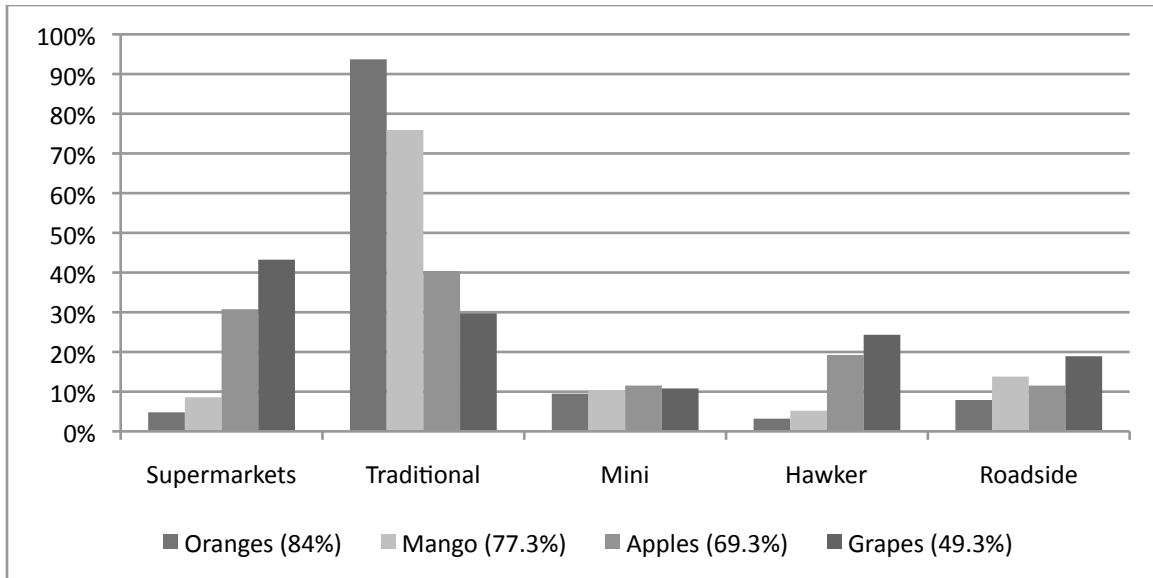
Figure 36. Retail outlets from where consumers purchase domestic versus imported FFVs

In summary, domestic FFVs are purchased in all traditional retail outlets and rarely in supermarkets , likely because in supermarkets domestic FFVs are not high quality or available. On the other hand, imported FFVs like apples and grapes are purchased in both supermarkets and traditional retail outlets. Thus, imported FFVs have now arrived in traditional retailers' shops and consumers are able to easily access such items there and not only in supermarkets.

5.3.3 Processed foods

There are several canned foods that are widely available for purchase in supermarkets and traditional retail outlets. Corned beef, fish, baked beans and tomatoes are commonly purchased by households. Most households buy these goods in traditional markets, but around 20 percent of households purchase these items in supermarkets and around 30 percent state they purchase these items in mini markets (Figure 37).
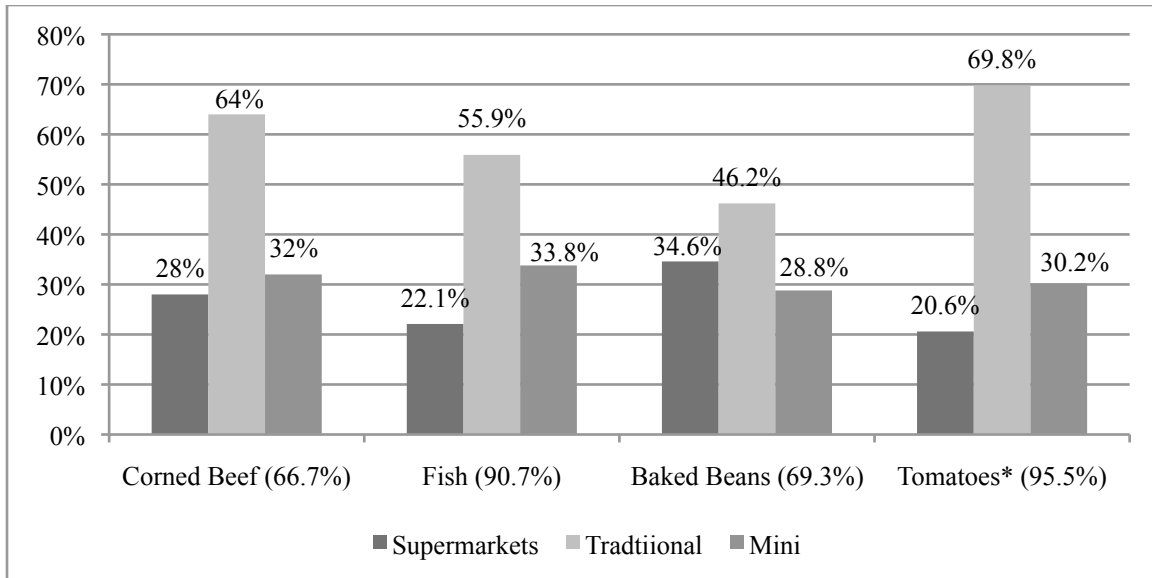
Figure 37. Retail outlets from where consumers purchase canned foods
* Due to an error, only 66 households were asked whether they purchased canned tomatoes.

These findings confirm that processed foods like canned goods have entered the

traditional retail environment on all levels. Since low prices are the most stated reason why

consumers prefer a particular retail outlet, these results support the observation that prices for

canned goods are similar in traditional markets and supermarkets. The reason so many

households purchase canned goods in mini markets is likely because households needed such

goods on short notice and did not want to spend the time and money to go to a traditional market

or supermarket.

5.3.4 Highly processed foods

There are several highly processed foods commonly purchased by households (Figure

38). These include vegetable oil, bread, pasta, cookies and cola. Pasta, cookies and cola are

purchased from mini markets in Ashongman Estates and bread is purchased in local bakeries.

This is important because previous findings show that mini markets increase access to food, but

especially processed foods.

Processed Foods

	Vegetable Oil (100%)	Bread (98.7%)*	Pasta (80%)	Cookies (88%)	Cola (76%
Supermarket	24%	20%	35%	39%	28%
Traditional	64%	48%	31%	27%	12%
Mini Market	21%	23%	48%	44%	59%

■ Supermarket   ■ Traditional   ■ Mini Market
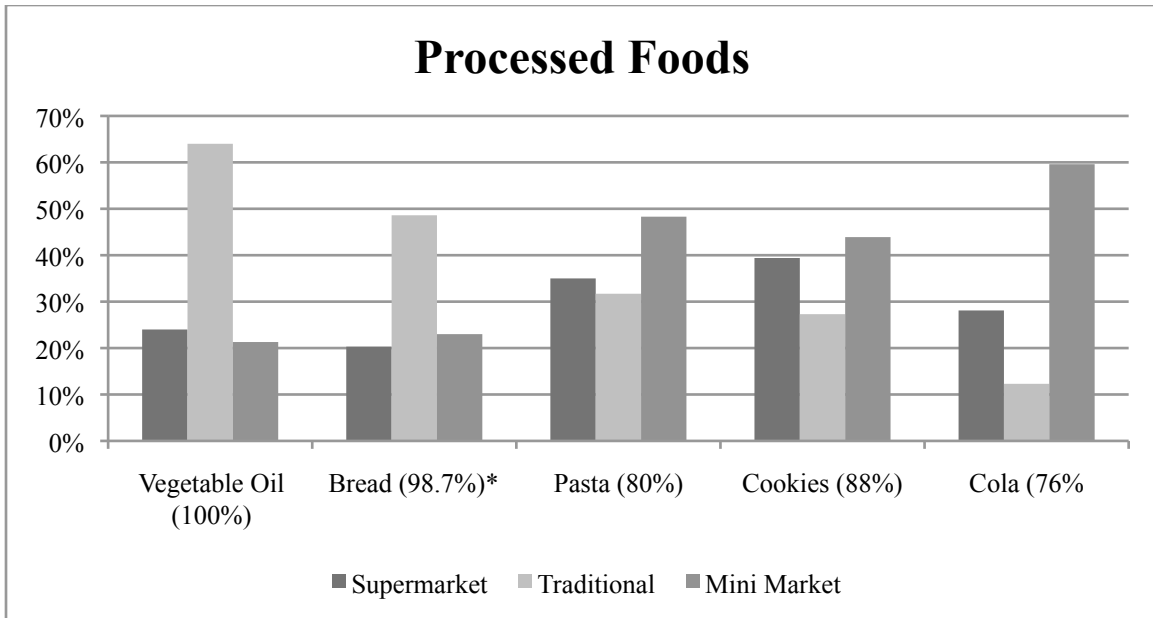
Figure 38. Retail outlets from where consumers purchase highly processed foods

* Instead of a traditional market, this represents a local bakery.

5.4 SUMMARY

In summary, consumers frequent many different types of food retail outlets and purchase a variety of food items from domestic to imported goods and locally processed foods to non-traditional food items. Although supermarketization is taking place, it appears that traditional retailers like traditional markets and mini markets continue to be favored by consumers and are meeting needs in their area.

CHAPTER 6.

SUMMARY AND CONCLUSIONS

6.1 INTRODUCTION

The introduction and expansion of supermarkets in Greater Accra are showing visible signs of change in the food retail environment. In order to better understand how consumers are behaving and accessing food in the current food retail environment four questions were posited in this study.

1. How is the current food retail environment in the Greater Accra metro area in Ghana structured?

2. In the current food retail environment where do consumers buy food for in home consumption?

3. In the current food retail environment what types of foods are consumers buying for in home consumption?

4. In the current food retail environment where do consumers purchase different types of foods for in home consumption?

By answering these questions, this study is able to map the food retail environment and better understand consumer behavior and food access. The final section is divided into four sections. The first section presents a summary of the five key findings of this case study. The second section presents recommendations for improving the food retail system in Accra. The third section is limitations and constraints of this study and the fourth section is possible future research, followed by the conclusion.

6.1.1 Traditional Markets remain strong

Contrary to the claims in the literature that consumers will abandon traditional markets

and retailers in favor of supermarkets, the evidence from this study seems to suggest that the

majority of consumers continue to frequent traditional markets as their primary food retail outlet.

This is evident in the fact that the majority of consumers frequent and prefer traditional markets,

but also that supermarkets were visited normally monthly compared to weekly visits to

traditional markets. Consumers' preferences for traditional markets are based on low prices and

the quality of the food, like domestic FFVs that were of lower quality or not even available in

supermarkets. Furthermore, consumers are more likely to frequent traditional markets near their

neighborhood because of convenience and proximity. This can be attributed to high traffic

congestion.

6.1.2 Affordable transportation increases access to food

Due to affordable and constant public/private transportation, consumers are more easily

able to access food retail outlets outside of their neighborhood. It is common to find in literature

on food access in developed countries that the development of food retail outlets in special

commercial zones outside of neighborhoods and high costs of transportation limit access to

healthy and affordable food. In the case of Greater Accra, high transportation costs do not appear

to limit access to traditional markets that carry all types of foods, although traffic congestion

does raise the opportunity costs related to shopping, which is most likely why weekly, instead of

daily, shopping trips are undertaken by the majority of consumers.

6.1.3 High access to a variety of foods in the retail environment

A variety of foods are easily and affordably accessible throughout the food retail

environment. All types of foods, including imported FFVs and staples like rice and canned

goods, have penetrated the traditional food retail environment. Thus consumers are able to consume a more diverse and Western style diet in spite of accessing food in only traditional retail outlets. Although consumers can purchase items like canned and packaged goods throughout the traditional retail environment, some consumers are choosing to purchase such items in supermarkets due to perceived higher quality because of better storage and climate control. In addition, supermarkets offer more hygienic conditions protected from the outside elements and focused on cleanliness. On the other hand, supermarkets have yet to penetrate the domestic FFV market and locally processed foods markets like corn or cassava dough, resulting in traditional markets having a higher quality and variety of foods. Until supermarkets enter the domestic FFV market it appears that the hygienic conditions and climate control will not change the majority of consumers from using traditional markets as their primary food retail outlet.

6.1.4 Neighborhood mini markets increase access to food

Due to a lack of planning and zoning enforcement, informal food retail outlets like mini markets are able to operate businesses in residential neighborhoods that would normally be banned through zoning and enforcement in developed countries. These neighborhood mini markets increase access to a variety of foods, fresh and processed. Although mini markets are rarely the main food retail outlet for consumers, the majority of consumers frequent them to buy a variety of affordable foods throughout the day, especially in the evening hours when traditional markets are closed or a trip to a retailer outside the neighborhood for one or a few items is costly. While the increased access to food is good for neighborhood residents, it must also be recognized that mini markets also increase access to unhealthy highly processed foods like sugary beverages and cookies.

6.2 LIMITATIONS AND CONSTRAINTS

There are many limitations and constraints to this study. A larger and more representative sample size of Greater Accra residents would allow for broader assertions about consumer behavior and access to food. Due to limitations in time, it was decided to complete a case study of a neighborhood rather than attempt to study the entire region. On the other hand, the strength of this case study gaining a deeper insight into how consumers in a geographically distant suburb access food and behaves, both within the built food retail environment in their neighborhood as well as in Greater Accra. It also would have been preferred to survey more neighborhood households, but traffic congestion in Accra made such efforts almost impossible, given time and resource constraints. Furthermore, this study is only a snapshot in time thus no assertions about changes over time can be made. the goal originally was to gather prices of foods in different retail outlets to compare. However, during mini market and trader interviews it was found that prices were not stable and highly fluctuating, thus broad observations and notes on overall prices were taken instead. The data suffers from a number of shortcomings: some observations are missing; questions pertaining to race/ethnicity were not included, thus the analysis did not include any information on different ethnic groups; proxy questions of income did not appear to be demonstrative of SES, thus SES analysis is weak. Furthermore, the sample size was not representative of the Greater Accra population.

6.3 RECOMMENDATIONS

This study has identified several recommendations to sustain the current widespread access to food in Accra, improve the traditional retail food environment and attempt to prevent the negative health consequences of increased access to processed foods. First, this study has shown that planning and enforcement of laws dealing with the traditional food retail environment

is minimal at this point. As planning improves it is critical that planners focus on transportation infrastructure and traffic congestion on routes in and around traditional markets in order to cut down on high opportunity costs for distributors and consumers in getting to and from traditional markets. Planners must also realize the benefits of informal neighborhood enterprises like mini markets in providing access to food and include them in plans and zoning. Additionally, this study found that consumers think traditional markets are unhygienic and crowded. In order to address this issue local authorities that collect taxes need to invest in infrastructure like roofing, cleaning stations, concrete alleyways and hygienic restroom facilities. Fourth, this study shows that there is widespread access to unhealthy processed foods throughout the urban environment, which could result in a rise in diseases like obesity and diabetes across the population such as developed countries are already experiencing. It is important that the government focus on education about nutrition and health consequences of unhealthy eating habits. Public education campaigns were common in Ghana on television and in advertisements. With these new types of consumption, new campaigns will need to be created to educate the public about obesity and DR-NCDs.

6.4 FUTURE RESEARCH

Future research on consumer behavior and access in the food retail environments of developing countries needs to take into account several additional aspects. First, a food system assessment of all components of the food system in Greater Accra would give planners and policy makers an idea of what the issues are and what is working. Also, since this research is only a snapshot in time, it would be interesting to return and complete a similar study in the future in order to see if any changes have taken place. Second, to add more depth, health

measurements could be recorded in order to track whether consumption behavior and access to certain food types are resulting in an increase in overweight and obesity.

6.5 CONCLUSION

In conclusion, the food retail environment for consumers in the neighborhood of Ashongman Estates is diverse and all types of foods are accessible. New food retail outlets like supermarkets are present in the current food retail environment of Greater Accra. For instance there are several domestic supermarket Maxmart and Melcom stores and the first TFC supermarket Shoprite. At this point in time it does not appear that supermarkets are negatively impacting traditional retailers like traditional markets, mini markets, roadside stands, cold stores and hawkers or increasing access to unhealthy foods that are already widely available. However, it may be that in the future an increased number of modern retail outlets like convenience stores and supermarkets will compete with traditional retailers.

APPENDIX 1.

SATELLITE IMAGES OF THE STUDY REGION

ASHONGMAN ESTATES - GOOGLE SATELLITE IMAGE 1/11/2010

ZONE 1 - GOOGLE SATELLITE IMAGE 1/11/2010

ZONE 2 - GOOGLE SATELLITE IMAGE 1/11/2010

ZONE 3 - GOOGLE SATELLITE IMAGE 1/11/2010
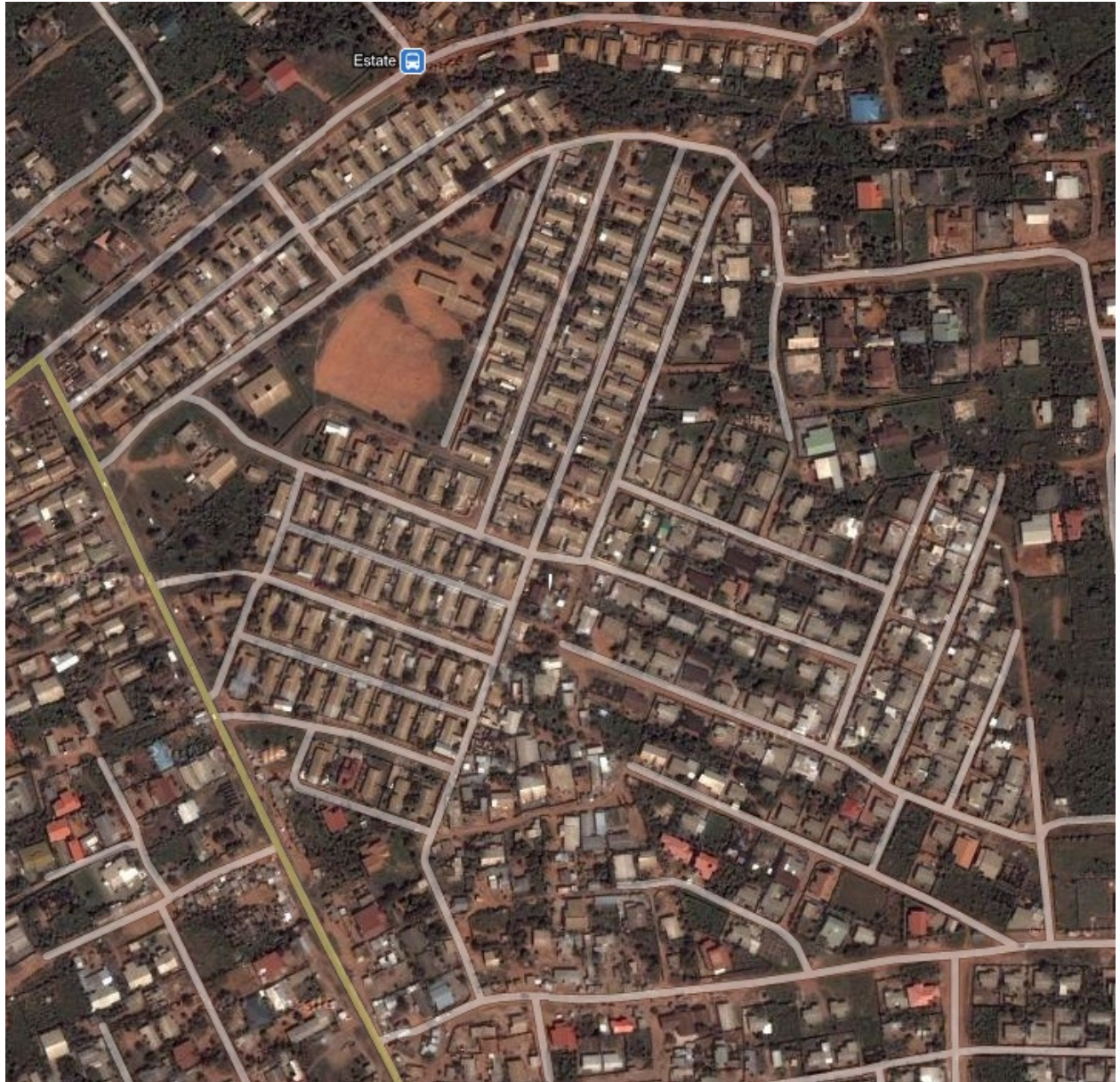
APPENDIX 2.

DISTRIBUTOR INTERVIEW

FACESHEET		
Interview number:_____ Food Distribution Location:_____		
Food Distribution Type: _____ Address or Location _____ GPS coordinates:_____(Description):_____		
Date & Time Surveyed: Date:_____ Day:_____ Time:_____		

Hi. I am Shelley. I am currently collecting data on the food environment in (location). I am interested in interviewing food traders about their business. You are being invited to participate in this research as a representative. It would be greatly appreciated if you would participate? I will try not to take more than 30 minutes of your time.

The goal of this interview is collect information about you and your business. This information will be used to create a short story about your life and experiences selling food. This will include why you have chosen to become a trader, what you do as a trader, what types of food items you sell and a little bit about your life to give your story context. I don't want to interfere with your business so please continue selling your goods. When you have free moments I can ask you a few questions. This interview will be recorded, to make it easier for the researcher. You may skip any questions you do not wish to answer. Your participation is completely voluntary. No personal identification information will be accessible or released to anyone other than the researcher and research assistant.

1. Is it ok if we record this interview? Yes___   No____

2. Can you tell me a little about yourself as a food trader?

    a. How long have you been trading?

    Answer_____

    b. How long have you been trading at _____(location name)?

    Answer_____

3. Can you tell me about your business location choices?

    a. What factors attracted you to locate your business at this location?

    b. Do you have retail places in multiple locations around the city?

    Yes___   No___   If yes, please explain?

    c. Do you move this business to other locations throughout the week?

    Yes____   No____

    d. Would you prefer a different location?

    Yes____   No_____   Please explain

    e. Do you have plans for future relocation?

    Yes____   No____

    If yes, what factors would you looking for in your new location? Please explain.

    f. Are there any constraints preventing you from moving from your current

    location?

    Yes____   No_____   If yes, please explain.

4. Why did you choose to become a trader? Please explain

5. From where and whom do you obtain the food that you sell?

6. Do you deliver food to customers upon request? If so, how do you do this? (mode of transport, to their home, etc.)

7. Do the food items that you sell change with seasons?

   Yes___   No___   If yes, please explain.

8. What are the top five food items that you sell most frequently?

9. How much time a week do you devote to trading?

10. If you don't mind can I ask you a bit about your life and family to give context to your story?

   a. Are you single, married, widowed or divorced?

   b. Do you have any children? Yes___   No____

      i. If so are you supporting them financially through your activity as a trader? Please explain

   c. Do you have any other occupation or have you in the past?

11. Is there anything else you would like to add about your life, business or experiences to make your story more complete?

APPENDIX 3.

HOUSEHOLD SURVEY

FACESHEET

Survey number _____   Photo Number _____

ID number _____   Zone_____

Street _____   House Number _____

GPS Lat_____ Long_____ Alt_____

Date & Time Surveyed Date_____ Day_____ Time_____

The purpose of this survey is to gather information from the person who is responsible for making food purchase decisions for your household. This information will be used to create a picture of the food environment, consumption trends and accessibility. You are being invited to participate in this survey because you are the primary person responsible for making food purchase decisions and your residence is located in the study area, Ashongman Estates. Your participation in this survey will last approximately 15 - 20 minutes. You may skip any questions you do not wish to answer. Your participation is completely voluntary. No personal/household identification information will be accessible or released to anyone other than the researcher and research assistant.

Section A Food consumption

1. How many people live in this household? _____

2. What is your position or role in this household?

Head of Household_____   Madam of Household _____   Family member (nuclear)_____

Family member (extended)_____   Maid/servant _____   Other (specify)_____

3. How many people do you buy food for? _____ persons (not incl. only breastfeeding

infants)

3a. Of those how many are children under 5 years of age who consume solid food? ____

3b. Of those how many are children ages 6-17 years? _____

4. In a typical week, how many home prepared meals does the entire household eat at

home?

Breakfast _____   Lunch _____   Supper_____   Total _____

5. In a typical week, do you prepare meals at home to be taken to eat outside the home (i.e.

lunch for work, lunch for school)?   Yes____   No____

5a. If yes, how many home prepared meals are taken to eat outside the home?

Breakfast _____   Lunch _____   Supper _____   Total _____

5b. And, by whom? School children _____ Workers _____   Other_____

6. If less than 7 times for each (see above), where else do the other household members

purchase or obtain their food?

Section B Food purchasing choices

7. Do you grow or raise your own food (i.e. garden, trees)? Yes_____No_____

7a. If yes, what food products?

8. Do you purchase food from?

Dome market   Yes____   No____

Madina market   Yes____   No____

Makola market   Yes____   No____

Abgobloshie mkt   Yes____   No____

Yam market   Yes____   No____

Other traditional mkt   Yes____   No____

            Name_____

Super market   Yes____   No____

       Name:_____

Mini-supermarket   Yes____   No ____

          Within walking distance   Yes____   No_____

Road-side seller   Yes____   No____

Cold storage facility   Yes____   No____

Hawkers   Yes____   No____

Family/friends   Yes____   No____

Farmer   Yes____   No____

Other   Name_____

Other   Name_____

Other   Name_____

9. Do you purchase _____ ?

10. Where do you purchase this item (Dome, Madina, Makola, Super Market, Mini-market)?

11. How often do you purchase this food item?

12. How much do you purchase at a time? One at a time, what you need, bulk

Staples	Yes	Where	How often?	Quantity
Rice (local)				
Rice (Imp)				

Maize			
Maize (dough)			
Cassava			
Gari			
Yams			
Plantains			
Tomatoes (fresh)			
Tomatoes (tin)			
Onions			
Garden Eggs			
Kontomire			
Cauliflower			
Cabbage			
Cucumbers			
Peppers			
Oranges			
Mango			
Bananas			
Apples			
Grapes			
Vegetables (tinned)			
fruits (tinned)			
beef (fresh)			

beef (frozen)			
Corned beef			
pork (fresh)			
pork (frozen)			
chicken (fresh)			
chicken (frozen)			
Sausages			
goat meat			
fish (fresh)			
fish salt, smoke, dried			
fish (frozen)			
fish (tinned)			
Eggs			
Beans			
baked beans			
Milk (liquid)			
Milk (powder)			
fruit (juice)			
soy milk			
chocolate drink			
Fanta			
Coca-cola			

Margarine				
Biscuits				
Bread				
Noodles or Pasta				
Corn Flakes				
Toffees				
Chocolate				
Maggi				
Dawadawa				
Palm Nut oil				
Vegetable oil				

13. Where do you prefer to buy the majority of your household food

_____

14. Why do you prefer shopping at this location? (Three most important reasons)

Convenience_____   Geographical Proximity_____   Lower prices_____

Know trader _____   Good Quality_____   A variety of foods_____

Specialty foods_____   Other (specify)_____

15. Are you able to buy the majority of your food from your preferred food market(s)?

    Yes____ (Skip to question 10)   No ____

16a. If No, Why

Distance ____   Cost ____   Time restraints ____   Transport ____   Other (specify)_____

16. How do you normally get to your preferred food market?

Walking___   Tro-tro___   Bus___   Taxi___   Car___   Other (specify) _____

Section C Demographics

1. Is this your usual residence? Yes ____   No____

2. How would you describe your current residence?

    11a. Single Family house _____   Multi-family house ____

    11b. Rented residence _____   Owner residence_____ Looking after _____

3. Are you currently employed?   Yes_____   No_____

    12a. If yes, what is your main occupation? _____

    12b. Formal or Informal sector? (circle one)

4. How many members of the household are employed? ____

    4a. How many in the formal sector? ____

    4b. How many in the informal sector? ____

5. Are there any members of the household who are currently unemployed looking for a

    job? Yes_____   No_____ (skip to question 7)

6. If yes, how many? _____

7. What is your highest level of education?

    Primary____   Standard 8 ___   Secondary___ Post-secondary____

8. Does your household own a vehicle? Yes___   No___

9. Sex: female___   male___

APPENDIX 4.

FOODS LIST

Foods	Domestic vs. Imported	Processed vs. non-processed
Staples		
Rice (local)	Domestic	N/A
Rice (Imp)	Imported	N/A
Maize	Domestic	Non-processed
Maize (dough)	Domestic	Processed
Cassava	Domestic	Non-processed
Gari	Domestic	Processed
Yams	Domestic	N/A
Plantains	Domestic	N/A
Fresh Vegetables		
Tomatoes	Domestic	Non-processed
Onions	Domestic	Non-processed
Garden Eggs	Domestic	Non-processed
Kontomire	Domestic	Non-processed
Cauliflower	Imported	Non-processed
Cabbage	Domestic	Non-processed
Cucumbers	Domestic	Non-processed
Peppers	Domestic	Non-processed
Fresh Fruits		
Oranges	Domestic	Non-processed
Mangos	Domestic	Non-processed
Bananas	Domestic	Non-processed
Apples	Imported	Non-processed
Grapes	Imported	Non-processed
Protein		
Beef (fresh)	Domestic	Non-processed
Beef (frozen)	N/A	Processed
Corned beef	N/A	Processed
pork (fresh)	Domestic	Non-processed
pork (frozen)	N/A	Processed
chicken (fresh)	Domestic	Non-processed
chicken (frozen)	N/A	Processed
Sausages	N/A	Processed
goat meat	Domestic	Non-processed
fish (fresh)	Domestic	Non-processed
fish salt, smoke, dried	Domestic	Processed

fish (frozen)	N/A	Processed
fish (tinned)	N/A	Processed
Eggs	Domestic	Non-processed
Beans	N/A	Non-processed
baked beans	N/A	Processed
Other		
Tomatoes (tinned)	N/A	Processed
Vegetables (tinned)	N/A	Processed
Fruits (tinned)	N/A	Processed
Milk (liquid)	N/A	Processed
Milk (powder)	N/A	Processed
fruit juice	N/A	Processed
soy milk	N/A	Processed
chocolate drink	N/A	Processed
Fanta	N/A	Processed
Coca-Cola	N/A	Processed
Margarine	N/A	Processed
Biscuits	N/A	Processed
Bread	N/A	Processed
Noodles or Pasta	N/A	Processed
Corn Flakes	N/A	Processed
Toffees	N/A	Processed
Chocolate	N/A	Processed
Maggi	N/A	Processed
Dawadawa	N/A	Processed
Palm Nut oil	Domestic	Processed
Vegetable oil	Imported	Processed

BIBLIOGRAPHY

Alabi, J., Alabi, G., & Ahiawodzi, A. (2007). Effects of "susu" - a traditional micro-finance mechanism on organized and unorganized micro and small enterprises (MSEs) in Ghana. *African Journal of Business Management, 1*(8), 201-208.

Armah, F. A., Yawson, D. O., & Pappoe, A. A. (2010). A systems dynamics approach to explore traffic congestion and air pollution link in the city of Accra, Ghana. *Sustainability, 2*, 252-265.

Aryeetey, E., & Kanbur, R. (2008). *The Economy of Ghana Analytical Perspectives on Stability, Growth & Poverty.* Chippenham, Great Britain: Woeli Publishing Services.

Asiedu, A. B., & Agyei-Mensah, S. (2008). Traders on the run: Activities of street vendors in the Accra Metropolitan Area, Ghana. *Norwegian Journal of Geography, 62*, 191-202.

Ayine, D. M. (2004). Managing trade liberalization: Legal system deficiencies and the political economy of contingency protection in Ghana. *Journal of African Law, 48*(2), 207-238.

Bader, M. D., Jennifer, A. A., Morenoff, J. D., & House, J. S. (2010). Measurement of the local food environment: A comparison of existing data sources. *American Journal of Epidemiology, 171*, 609-617.

Barbier, E. B. (2000). Links between economic liberalization and rural resource degradation in the developing regions. *Agricultural Economics, 23*, 299-310.

Beautiful Ghana. (2013). *Beautiful Ghana.* Retrieved January 23, 2013, from http://www.beautifulghana.com/content/view/5/62/lang,en/

Bigg, M., & Motsoeneng, T. (2013, August 30). Mall developers feel the pull of Africa's consumer boom. *Reuters.* Accra/Johannesburg. Retrieved September 1, 2013, from http://www.reuters.com/article/2013/08/30/us-africa-malls-idUSBRE97T08420130830

Bortei-Doku, E., & Aryeetey, E. (1995). Mobilizing cash for business: Women in rotating susu clubs in Ghana. In S. Ardener, & S. Burman (Eds.), *Money-Go-Rounds: The Importance of ROSCAs for Women* (pp. 77-94). Berg.

Boselie, D., Henson, S., & Weatherspoon, D. (2003). Supermarket procurement practices in developing countries: redefining the roles of public and private sectors. *American Journal of Agriculture Economics, 85*(5), 1155-1161.

Britwum, A. (2011). Trade unions and the informal economy in Ghana. In *Trade Unions in West Africa: historical and contemporary perspectives* (pp. 197-223). Bern: Peter Lang AG, International Academic Publishers.

Britwum, A. (2013). Market queens and the blame game in Ghanaian tomato marketing. In C. Scherrer, & D. Saha (Eds.), *The Food Crisis Implications for Labor* (pp. 53-72). Munchen, Mering: Rainer Hampp Verlag.

Bureau of African Affairs. (2011, November 4). *Background Note: Ghana.* Retrieved December 3, 2011, from U.S. Department of State: http://www.state.gov/r/pa/ei/bgn/2860.htm#geo

Burton, R. (2002). *Using Excel to complete basic statistical tests*. Retrieved from Alverno College: http://depts.alverno.edu/nsmt/stats.htm

Cheadle, A., Psaty, B., Wagner, E., et al. (1990). Evaluating community-based nutrition programs: assessing the reliability of a survey of grocery store product displays. *American Journal of Public Health, 85*, 1690-1692.

Chopra, M., Galbraith, S., & Darnton-Hill, I. (2002). A global response to a global problem: the epidemic of overnutrition. *Bulletin of the World Health Organization, 80*(12), 952-958.

Clark, G. (1994). *Onions are my husband: survival and accumulation by West African market women.* Chicago and London: The University of Chicago Press.

Clarke, G., Eyre, H., & Cliff, G. (2002). Deriving indicators of access to food retail provision in British cities: Studies of Cardiff, Leeds and Bradford. *Urban Studies, 39*(11), 2041-2060.

Codjoe, S., & Dzanku, F. M. (2009). Long-term determinants of Deforestation in Ghana: The role of Structural Adjustment Policies. *African Development Review, 21*(3), 558-588.

Coe, N. M., & Wrigley, N. (2007). Host economy impacts of transnational retail:the research agenda. *Journal of Economic Geography, 7*, 341-371.

Cummins, S., & Macintyre, S. (2009). Are secondary data sources on the neighborhood food environment accurate? Case study in Galsgow, UK. *Preventitive Medicine, 49*(6), 527-528.

D'Haese, M., & Van Huylenbroeck, G. (2005). The rise of supermarkets and changing expenditure patterns of poor rural households case study in the Transkei area, South Africa. *Food Policy, 30*, 97-113.

Donkin, A. J., Dowler, E. A., Stevenson, S. J., & Turner, S. A. (1999). Mapping access to food at a local level. *British Food Journal, 101*(7), 554-564.

Drewnowski, A., & Popkin, B. M. (1997). The nutrition transition: New trends in the global diet. *Nutrition Reviews, 55*(2), 31-43.

Farina, E., Nunes, R., & Monteiro, G. (2005). Supermarkets and their impacts on agrifood system in Brazil: The competition among retailers. *Agribusiness, 21*(2), 133-147.

Flodman Becker, K. (2004). *The Informal Economy.* Sida, Department for Infrastructure and Economic Co-operation. Retrieved September 19, 2013, from Sida: http://www.sida.se/English/About-us/Publication_database/Publications-by-year/2004/mars/The-Informal-Economy/

Food by Country. (2001). Retrieved February 23, 2013, from http://www.foodbycountry.com/Germany-to-Japan/Ghana.html

Frazão, E., Meade, B., & Regmi, A. (2008). Converging patterns in global food consumption and food delivery systems. *USDA, Economic Research Service, 6*(1), 22-29.

Ghana Statistical Service. (2012). *2010 population and housing census: summary report of final results.* Retrieved June 27, 2013, from Government of Ghana: http://www.statsghana.gov.gh/pop_stats.html

ghanadistricts.com. (2013). Retrieved June 5, 2013, from http://www.ghanadistricts.com/home/

Gocking, R. S. (2005). *The History of Ghana.* Westport, CT, United States of America: Greenwood Press.

Goldman, A., Krider, R., & Ramaswami, S. (1999). The persistent competitive advantage of traditional food retailers in Asia: Wet markets' continued dominance in Hong Kong. *Journal of Macromarketing, 19*, 126-139.

Goldman, A., Ramaswami, S., & Krider, R. E. (2002). Barriers to the advancement of modern retail formats: theory and measurements. *Journal of Retailing, 78*, 281-295.

Gordon, C., Purciel-Hill, M., Ghai, N. R., Kaufman, L., Graham, R., & Van Wye, G. (2011). Measuring food deserts in New York City's low-income neighborhoods. *Health and Place, 17*, 696-700.

Gorton, M., Sauer, J., & Supatpongkul, P. (2011). Wet markets, supermarkets and the "Big Middle" for food retailing in developing countries: Evidence from Thailand. *World Development, 39*(9), 1624-1637.

Humphrey, J. (2007). The supermarket revolution in developing countries: Tidal wave or tough competitive struggle? *Journal of Economic Geography, 7*, 433-450.

Jeong, H.-w. (1998). Economic reform and democratic transition in Ghana. *World Affairs, 160*(4), 218-230.

Johnson, P. M. (2005). *Transaction costs*. Retrieved September 1, 2013, from A Glossary of Political Economy Terms: http://www.auburn.edu/~johnspm/gloss/transaction_costs

Kearney, J. (2010). Food consumption trends and drivers. *Philosophical Transactions of the Royal Society Biological Sciences, 365*, 2793-2807.

Kennedy, G., Nantel, G., & Shetty, P. (2004). Globalization of food systems in developing countries: A synthesis of country case studies. In FAO, *Globalization of food systems in developing countries: Impact on food security and nutrition* (pp. 1-25). Rome: FAO.

Lang, T. (2003). Food industrialisation and food power: Implications for food governance. *Development Policy Review, 21*(5-6), 555-568.

Larsen, K., & Gilliland, J. (2008). Mapping the evolution of 'food deserts' in a Canadian city: Supermarket accessibility in London, Ontario, 1961-2005. *Interntional Journal of Health Geographics, 7*(16).

Lyon, F. (2003). Trader Associations and Urban Food Systems in Ghana: Institutionalist Approaches to Understanding Urban Collective Action. *International Journal of Urban and Regional Research, 27*(1), 11-23.

Makoka, D. (2005). The emergence of supermarkets in Malawi: Implications for agrifood markets and the small farmer. In T. Tsukomu (Ed.), *Agricultural and Rural Development in Malawi: Macro and Micro Perspectives* (pp. 121-139).

Maruyama, Masayoshi, & Trung, L. (2007). Supermarkets in Vietnam: Opportuntities and obstacles. *Asian Economic Journal, 21*(1), 19-46.

Maxmart. (2013). Retrieved September 1, 2013, from http://www.maxmartghana.com/about_us.html

Maxwell, D. (1998). *The political economy of urban food security in Sub-Saharan Africa.* Discussion Paper, International Food Policy Research Institute, Food Consumption and Nutrition Division. Retrieved from International Food Policy Research Institute: http://www.ifpri.org/publication/political-economy-urban-food-security-sub-saharan-africa

Maxwell, D., Levin, C., Armar-Klemesu, M., Ruel, M., Morris, S., & Ahiadeke, C. (2000). *Urban livelihoods and food and nutrition security in Greater Accra, Ghana.* International Food Policy Research Institute. Retrieved June 26, 2013 from http://www.who.int/nutrition/publications/foodsecurity/livelihoods_foodsecurity_ghana.pdf

Melcom Group of Companies. (2013). Retrieved September 1, 2013, from http://www.melcomgroup.com/index_2.html

Mensah, P., Yeboah-Manu, D., Owusu-Darko, K., & Ablordey, A. (2002). Street foods in Accra, Ghana: how safe are they? *Bulletin of the World Health Organization, 80*(7), 546-554.

Miller, D. (2008, July). Food Frontiers in Zambia: Resistance and Partnership in Shoprite's Retail Empire. *Africa Files*. Retrieved July 23, 2008, from http://www.africafiles.org/printableversion.asp?id=18515

Minten, B. (2008). The food retail revolution in poor countries: Is it coming or is it over? *Economic Development and Cultural Change*, 767-789.

Mohapatra, S. (2013, April 12). *Ghana Celebrates Rice.* Retrieved August 10, 2013, from International Rice Research Institute: http://www.irri.org/index.php?option=com_k2&view=item&id=12530:ghana-celebrates-rice&Itemid=100094&lang=en

Moore, L. V., & Diez Roux, A. V. (2006). Associations of neighborhood characteristics with the location and type of food stores. *American Journal of Public Health, 96*(2), 325-331.

Morris, S. S., Carletto, C., Hoddinott, J., & Christiaensen, L. J. (2000). Validity of rapid estimates of household weath and income for health surveys in rural Africa. *Journal of Epidemiology Community Health, 54*, 381-387.

Muratbayeva, B. (2010). *Zongo and the community of work and life in Accra, Ghana.* Researcch Report, Bielefeld, Germany. Retreived from http://www.uni-bielefeld.de/tdrc/ag_sozanth/downloads/Zongo%20and%20the%20community%20of%20work%20and%20life%20in%20Accra,%20Ghana

Ndikumana, L., & Verick, S. (2008). The linkages between FDI and domestic investment: Unravelling the development impact of foreign investment in Sub-Saharan Africa. Bonn: Institute for the Study of Labor (IZA).

Neuman, W. L. (2011). *Social Research Methods: Qualitative and Quantitative Approaches* (7 ed.). Allyn & Bacon.

Neven, D., & Reardon, T. (2004). The rise of Kenyan supermarkets and the evolution of their horticulture product Procurement Systems. *Development Policy Review, 22*(6), 669-699.

Neven, D., Reardon, T., Chege, J., & Wang, H. (2006). Supermarkets and Consumers in Africa. *Journal of International Food and Agribusiness Marketing, 18*, 103-123.

Nti, C. A. (2008). Household dietary practices and family nutritional status in rural Ghana. *Nutrition Research and Practice, 2*(1), 35-40.

Nyanteng, V. K., & Wayo Seini, A. (2000). Agricultural policy & the impact on growth and productivity 1970-95. In E. Aryeetey, J. Harrigan, & M. Nissanke (Eds.), *Economic Reforms in Ghana: The Miracle and Mirage* (pp. 267-283). Oxford: Africa World Press Inc.

Oniang'o, R. K., Mutuku, J. M., & Malaba, S. J. (2003). Contemporary African food habits and their nutritional and health implications. *Asia Pacific Journal of Clinical Nutrition, 12*(3), 231-236.

Opoku, D. K. (2010). From a 'success' story to a highly indebted poor country: Ghana and neoliberal reforms. *Journal of Contemporary African Studies, 28*(2), 155-175.

Overa, R. (2007). When men do women's work: Structural adjustment, unemployment and changing gender relations in the informal economy of Accra, Ghana. *The Journal of Modern African Studies, 45*(4), 539-563.

Owusu, F. (2001). Urban impoverishment and multilple modes of livelihood in Ghana. *The Canadian Geographer, 45*(3), 387-403.

Owusu, F. (2007). Conceptualizing livelihood strategies in African cities: Planning and development implications of multiple livelihood strategies. *Journal of Planning Education and Research, 26*(4), 450-465.

Oxley, N. (2012, November 28). Ghana: take 70,900 metric tons of frzen chicken, add politics. *The Crossing*. Ghana. Retrieved from http://stepscentre-thecrossing.blogspot.com/2012/11/ghana-take-70900-frozen-chickens-add.html

Pellow, D. (2002). *Landlords and Lodgers: Socio-Spatial Organization in an Accra Community*. Westport, CT: Praeger.

Phelan, C. (2011). West African trade unionism past and present. In C. Phelan (Ed.), *Trade Unions in West Africa: Historical and contemporary perspectives* (Vol. 7, pp. 1-22). Bern: Peter Lang AG, International Academic Publishers.

Pingali, P. (2006). Westernization of Asian diets and the transformation of food systems: Implications for research and policy. *Food Policy, 32*, 281-298.

Plahar, W., Nti, C., Quaye, W., & Nyako, P. (1999). *Household food availability and consumption behaviour in the coastal savanna zone of Ghana*. Food Research Institute, C.S.I.R. .

Popkin, B. M. (1994). The nutrition transition in low-income countries: An emerging crisis. *Nutrition Reviews, 52*(9), 285-298.

Popkin, B. M. (2002). Part II. What is unique about the experience in lower- and middle-income less-industrialised countries compared with the very-high-income industrialised countries? *Public Health Nutrition, 5*(1A), 205-214.

Popkin, B. M. (2006). Technology, transport, globalization and the nutrition transition food policy. *Food Policy, 31*, 554-569.

Popkin, B. M., Adair, L. S., & Wen Ng, S. (2011). Global nutrition transition and the pandemic of obesity in developing countries. *Nutrition Reviews, 70*(1), 3-21.

Rapley, J. (2007). *Understanding Development: Theory and Practice in the Third World* (3 ed.). Boulder: Lynne Rienner Publishers.

Rayner, G., Hawkes, C., Lang, T., & Bello, W. (2007). Trade liberalization and the diet transition: a public health response. *Health Promotion International, 21*(S1), 67-74.

Reardon, T., & Berdegue, J. A. (2002). The rapid rise of supermarkets in Latin America: Challenges and opportunities for development. *Development Policy Review, 20*(4), 371-388.

Reardon, T., & Hopkins, R. (2006). The supermarket revolution in developing countries: Policies to address emerging tensions among supermarkets, suppliers and traditional retailers. *The European Journal of Development Research, 18*(4), 522-545.

Reardon, T., & Timmer, C. P. (2007). Transformation of markets for agricultural output in developing countries since 1950: How has thinking changed? *Handbook of Agricultural Economics, 3*, 2808-2855.

Reardon, T., Timmer, P. C., Barrett, C. B., & Berdegué, J. (2003). The rise of supermarkets in Africa, Asia and Latin America. *American Journal of Agricultural Economics, 85*(5), 1140-1146.

Reardon, T., Timmer, P., & Berdegue, J. (2004). The rapid rise of supermarkets in developing countries: Induced organizational, institutional, and technological change in agrifood systems. *Journal of Agricultural and Development Economics, 1*(2), 168-183.

Regmi, A., & Gehlhar, M. (2001). Consumer preferences and concerns shape global food trade. *Food review, 24*(3), 2-8.

Regmi, A., & Gehlhar, M. (2005). Processed food trade pressured by evolving global supply chains. *USDA, Economic Research Service, 3*(1), 12-19.

Rosen, S., & Shapouri, S. (2008, September). Obesity in the midst of unyielding food insecurity in developing countries. *USDA, Economic Research Service, 6*(4), 10-15.

Ruel, M. T., & Garrett, J. L. (2004). Features of urban food and nutrition security and considerations for successful urban programming. *Globalization of food systems in developing countries: impact on food security and nutrition, 83*, pp. 27-53.

Schildkrout, E. (1978). *People of the zongo The Transformation of Ethnic Identities in Ghana.* Cambridge University Press.

Schmidhuber, J., & Shetty, P. (2005). The nutrition transition to 2030: Why developing countries are likely to bear the major burden. *Seminar of the European Association of Agricultural Economist.* England: FAO.

ShopRite. (2013). Retrieved February 25, 2013, from http://www.shoprite.co.za

Stamoulis, K. G., Pingali, P., & Shetty, P. (2004). Emerging challenges for food and nutrition policy in developing countries. *Journal of Agricultural and Development Economics, 1*(2), 154-167.

Temple, N. J., Steyn, N. P., Fourie, J., Phil, M., & De Villiers, A. (2011). Price and availability of healthy food: A study in rural South Africa. *Nutrition, 27*, 55-58.

The Habari Network. (2013, January 20). Retrieved September 1, 2013, from The Habari Network: http://www.thehabarinetwork.com/ecowas-urges-members-to-hasten-troop-deployment-in-mali

Timmer, P. C. (2004). Food policy in the era of supermarkets: What's different? *Journal of Agricultural and Development Economics, 1*(2), 50-67.

Timmer, P. C. (2009). Do supermarkets change the food policy agenda? *World Development, 37*(11), 1812-1819.

Traill, B. W. (2006). The rapid rise of supermarkets? *Development Policy Review, 24*(2), 163-174.

Tschirley, D. (2010). Opportunities and constraints to increased fresh produce trade in East and Southern Africa. *Paper prepared for 4th Video Conference under AAACP-funded series of high value.* Retrieved from http://fsg.afre.msu.edu/zambia/VC4Position_Paper_FreshProduce_Trade_D_Tschirley.pdf

Unger, S., & Wooten, H. (2006). *A food systems assessment for Oakland, CA: Toward a sustainable food plan.* Oakland Mayor's Office of Sustainability. Retrieved from: http://clerkwebsvr1.oaklandnet.com/attachments/14033.pdf

UN-Habitat. (2009). *Ghana Urban Profile.* Nairobi: UN-Habitat. Retrieved from: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC4QFj

AA&url=http%3A%2F%2Fwww.unhabitat.org%2Fpmss%2FgetElectronicVersion.asp%
3Fnr%3D2724%26alt%3D1&ei=_9qfUp_iNYGmyQHE34DQCw&usg=AFQjCNGyksiF
mP0Ia7EiQiu1TXFiRTad5A&sig2=TFAMbibbYh7ttYHjbn-
cNA&bvm=bv.57155469,d.aWc&cad=rja

Watson, J. (2013, February 21). *Defining China's Challenges.* Retrieved August 31, 2013, from
IGD.com: http://www.igd.com/our-expertise/Economics-horizon-scanning/Global-
economy/12690/Defining-Chinas-challenges/

Watson, V. (2009). 'The planned city sweeps the poor away...': Urban planning and 21st century
urbanisation. *Progress in Planning, 72*, 151-193.

Weatherspoon, D. D., & Reardon, T. (2003). The rise of supermarkets in Africa: Implications for
agrifood systems and the rural poor. *Development Policy Review, 21*(3), 333-355.

Weng, Q. (2010). *Remote Sensing and GIS Integration.* United States of America: McGraw Hill
Companies.

Winkler, E. (2008). Food accessibility, affordability, cooking skills and socio-economic
differences in fruit and vegetable purchasing in Brisbane, Australia. Brisbane: University
of Queensland.

Wolter, D. (2009). Ghana: Agriculture is becoming a business. *OECD Journal: General Papers,
2*, 9-32.

World Health Organization. (2013a). *Foreign Direct Investment (FDI).* Retrieved 9 1, 2013,
from World Health Organization:
http://www.who.int/trade/glossary/story029/en/index.html

World Health Organization. (2013b). *Structural Adjustment Programmes (SAPs).* Retrieved
September 1, 2013, from World Health Organization:
http://www.who.int/trade/glossary/story084/en/