THE SOCIOCULTURAL DYNAMICS OF FOOD (IN)SECURITY AMONG FARM HOUSEHOLDS IN OYO STATE, NIGERIA

by

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ABSTRACT

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There has been a slow decline in progress towards achieving global food security with one out of every nine people in the world suffering from hunger. Increased agricultural productivity remains the predominant approach used in tackling global food insecurity which has led to the neglect of the cultural context food insecure people live in. This descriptive phenomenological study investigated the sociocultural factors that influence food security in two farming communities in Oyo state, Nigeria. In-depth interviews were conducted with thirty farm households in *Ago-Amodu* and *Elepo* to elicit a description of their food production, consumption and distribution behaviors.

The major finding from this study is that discriminatory gender and generational norms influenced food-related behaviors in farm households, which put women and children at a disadvantage. However, married women were less vulnerable to food insecurity compared to female household heads due to limited access and control of productive resources. Another key finding is that farm households defined hunger and poverty differently than commonly defined. Farm households defined hunger as unavailability of a socially desirable food (yam) using their cultural norms and values, therefore hunger was not unavailability of food but the lack of a socially desirable food – yam. Farm households also had a diverse diet consuming food from at least five groups daily. They could however be vulnerable to food insecurity during the annual

hunger season, which usually occurs for three months right before harvest. This transitory food insecurity is influenced by an inextricable linkage of environmental, economic and cultural factors in both villages.

The findings of this study suggests that food security needs to be examined through a gender lens, and gender should be disaggregated to reflect its interaction with other identities like marital status and age. Additionally, it is important to understand that the definitional terms used in conceptualizing food security concepts like hunger may differ depending on the sociocultural context. The factors influencing food insecurity should also be examined holistically to ensure the design and implementation of sustainable food security projects that are culturally relevant, economically viable, and environmentally efficient.

CHAPTER 1. INTRODUCTION

1.1 Introduction

There is a consensus that food should be a basic human right, making this right a reality however remains one of the greatest challenges of the 21st century with one out of every nine people in the world suffering from hunger (Food and Agriculture Organization [FAO], International Fund for Agricultural Development [IFAD], United Nations Children's Fund [UNICEF], World Food Programme [WFP] & World Health Organization [WHO], 2018; FAO, 2008). To achieve global food security, safe food must be available, accessible, supplied in a stable manner and used in nutritionally advantageous ways by all people (FAO, 2006; 2008). The availability of food is usually prioritized over access and utilization due to the focus on poverty as the underlying cause of food insecurity (FAO, 2002; FAO, 2009; Martin, 2010). Increased food production alone however cannot lead to food security, especially given that some people are more vulnerable to food insecurity than others even when food is readily available (FAO, 2009; FAO et al., 2018).

Food Security is the condition in which all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life (International Food Policy & Research Institute [IFPRI], 2017a) Vulnerable populations to food insecurity include farm households and women and people living in low income countries who are more likely to be malnourished because they are severely or chronically food insecure (Ghattas, 2014). Food insecurity contributes to various forms of malnutrition as food insecure people do not only suffer from not having enough to eat but also uncertain access to food can lead to irregular eating patterns which results invariably in the multiple burden of malnutrition for the individuals or households (FAO et al., 2018).

The multiple burden of malnutrition has been defined as the coexistence of undernutrition along with overweight and obesity, or diet-related non-communicable diseases within individuals, households, and populations, and across the life-course (World Health Organization [WHO], 2016). Malnutrition in addition to diet is the largest factor responsible for the global burden of disease. According to WHO (2019), a healthy diet mainly includes a combination of different foods such as cereals, starchy tubers, legumes, fruits and vegetables as well as animal protein while ensuring the consumption of less fat, salt and sugars. Since a healthy dietary pattern serves as protection against diseases, people are more vulnerable to malnutrition and non-communicable diseases such as diabetes, stroke, heart disease and cancer when their dietary patterns are unhealthy (WHO, 2019a). Out of a world population of around 7 billion, about 2 billion people suffer from micronutrient malnutrition, 2 billion adults are obese and 1 in 12 people have type 2 diabetes (IFPRI, 2016). This burden of malnutrition as well as dwindling natural resources and climate change have added to the complexity of global food security (Fanzo, 2015; Fan & Brzeska, 2016). Agriculture's heavy reliance on natural resources and climatic conditions makes small farm households one of the most vulnerable groups to food insecurity globally (FAO, 2019).

Most of the world's poor are farm households who live on less than two dollars a day and make up half of the world's undernourished people although they produce four-fifths of the food in developing countries (IFPRI, 2017b; The World Bank, 2016). Farm households in developing countries are more likely to be food insecure because agriculture in these countries is mostly rain-fed and low mechanized resulting in unstable food production (FAO et al., 2018; Popkin et al., 2012). The agricultural sector is obviously a front-runner in tackling food insecurity and meeting caloric needs, which it does mainly through development policies and

programs. Nutrition is however often left out of these initiatives, which makes addressing malnutrition an unaccounted part of the agricultural development mandate (Fanzo, 2015; Thurow, 2016). This is because the majority of agricultural interventions are aimed at improving productivity based on the rationale that when small-scale farmers produce more, their income increases, which then translates to a reduction in poverty and subsequently food insecurity (FAO, IFAD, & WFP, 2002; Mandyck & Schultz, 2015; Thurow, 2016). However, a growing body of evidence shows that poor people value freedom from fear and violence, social inclusion, education and health just as highly as income (The Organization for Economic Co-operation & Development [OECD], 2012).

Further, many agricultural initiatives designed to improve food insecurity have had limited impact due to the neglect of key cultural factors that drive food-related behaviors among vulnerable populations like farm households (Davidson, 2016; Scott, 1998).The emphasis on increased agricultural productivity is also evident in the strong empirical focus on the economic dimension of food insecurity in developing countries like Nigeria (see Akerele, Momoh, Aromolaran, Oguntona, & Shittu, 2013; Aromolaran, 2004; Babatunde, Omotesho, & Sholotan, 2007; Babatunde, Omotesho, Olorunsanya, & Owotoki, 2008). The gradual decline in progress towards solving global food security has however led to the emergence of new concerns based on the understanding that the problem cannot be addressed from an economic perspective alone (FAO, IFAD, UNICEF, WFP, & WHO, 2017). These global agencies strongly suggest that increased income does not necessarily translate into better nutritional status or outcomes (Du, Mroz, Zhai, & Popkin, 2004; Popkin, Adair & Ng, 2012). For example, in Nigeria, Aromolaran (2004) found that income does not sufficiently explain the issue of food security among poor households as the increase in disposable income had no impact on nutritional status evident in

the low caloric intake within these households (p. 526). Similarly, Akinsami and Doppler (2005) concluded that economic access to food does not translate to food security among farm households in southeast Nigeria especially since food security in the region manifests socially and psychologically. This recent line of research highlights the need for empirical studies to examine the non-economic factors that influence food insecurity in developing countries like Nigeria in order to tackle food insecurity effectively.

1.2 Factors Influencing Food Insecurity

Everyone could potentially be at risk of food insecurity especially during emergencies, however, some groups of people more likely to be food insecure than others even under normal circumstances (WFP, 2009). Farm households, women, and children are more likely to be vulnerable to food insecurity everyday as well as future risks due to several factors that must be addressed simultaneously in order to achieve a food secure world for all (Development Initiatives, 2018). There is a nexus of socio-economic, political, institutional, environmental and cultural factors that drive food insecurity at the individual, household, national and global levels (FAO, 2005). These factors include climate change, domestic food production, technology, policies and laws, natural resources, conflict, poverty, distribution, and markets, increasing population, urbanization, changes in wealth, changes in eating habits and food preferences, natural disasters, infrastructure, gender, education, and cultural attitudes (FAO, 2005; United States Department of Agriculture [USA], 2019). However, this study focused on household level factors, environmental factors, and poverty as key variables affecting food insecurity.

At the household level in particular, food security depends on household livelihood systems, food access, family size, eating habits, food preparation, nutritional knowledge, and

food distribution (Caswell & Yaktine, 2013; FAO, 2005; Rahim et al., 2011, Reincke, et al., 2018). According to Reincke, et al. (2018), households who have diverse livelihood systems especially those combining agricultural and non-agricultural sources of income are more likely to be food secure during hunger season and emergencies like crop loss. Further, cultural norms and values dictate food choices, food preparation, and eating habits, which often result in gender and generational disparities in terms of food access evident in women and children being less food secure within households (Ajani, 2008; Caswell & Yatkine, 2013).

Environmental factors like climate change are also increasingly affecting food security negatively. This is because agriculture depends heavily on natural resources and climate (FAO, 2008). Both climate change and the anthropogenic depletion of natural resources make the achievement of global food security more challenging in a world that currently is home to hundreds of millions of hungry people (Fanzo, 2015; Fan & Brzeska, 2016; FAO et al., 2017, FAO et al., 2018). In fact, The Food and Agriculture Organization has identified climate change as one of the major reasons why there has been a decline in progress made towards solving global hunger over the past decade (2018). Although, many regions of the world are already experiencing climate change impacts, Africa is the most vulnerable to climate change with many countries in the region recording significant changes in climatic conditions such as higher temperatures and less precipitation (Allen et al., 2019). These climatic changes have increased the frequency and intensity of climate-related disasters in Africa (FAO, 2019). Climate change also threatens the livelihood of farm households, the majority of whom are already vulnerable to hunger and food insecurity (FAO, 2018; OECD & FAO, 2016; Wheeler & von Braun, 2013). Additionally, climate change has been shown to impede economic access to food and stable food supplies as well as effective utilization of food (Brown et al., 2018; Schmidhuber & Tubiello,

2007). Combined these adverse climate change effects on the global food system will continue to exacerbate food insecurity especially among vulnerable groups like farm households in low-income countries.

In addition to household and environmental factors, poverty is one of the major determinants of food insecurity with the majority of those who are food insecure living in low- and middle-income countries (FAO et. al, 2018; Meade & Thome, 2017; Thome et al., 2018). The food economy of these countries depends on food availability, access and stability, which are hindered when households have limited access to economic resources (Development Initiatives, 2018; FAO et al., 2018). The majority of poor households in the world live on less than two dollars a day and cultivate less than two hectares of land (IFPRI, 2017; The World Bank, 2016). The lack of access to economic resources makes poor households vulnerable to food insecurity directly as well as indirectly due to their inability to cope with natural and man-made disasters like climate change and conflicts (Development Initiatives, 2018; OECD & FAO, 2016). Poor households also lack adequate purchasing power therefore they have restricted economic access to food; however, even households who produce their own food are among the most vulnerable to food insecurity (FAO, 2005b; IFPRI, 2017a). Ike et al. (2017) found that farm households in Northeastern Nigeria, in particular those who own less land and have lower income were more likely to be food insecure than non-agricultural households. According to Vatila et al. (2009), farm households are more vulnerable to food insecurity because of agricultural seasonality, which makes hunger seasonal as well. This assertion is further reiterated by Khandker & Mahmud (2012), wh0 revealed that farm households in Bangladesh are usually food insecure during the three months of the year when crop-related activities are reduced.

While increased income does help in alleviating food insecurity by increasing food production and availability, it cannot on its own lead to a hunger free world because it does not account for all dimensions of food security - especially utilization. Studies have shown that the nutritional status of poor households does not necessarily improve with higher income, rather, previously undernourished households become overweight or obese due to diet changes (FAO et al., 2018; Ghattas, 2014; Popkin, Adair, & Ng, 2012). One of the reasons for this transition is that economic factors like increased income and food production are not the only drivers of food-related decisions, these decisions depend on cultural factors that dictate farm households' eating habits and dietary patterns.

1.3 Culture and Food Security

Food and culture are inextricably linked because familial and communal bonds are formed through shared food production, consumption and eating rituals (Bellasco & Scraton, 2002; Counihan, 2012; Falk, 1994; James, Curtis, & Ellis, 2009). Food consumption at the household level transcends the physical act of eating food because the decision of what food to eat and who eats it at what time is rooted within the context of cultures, traditions, and social structures (Weingärtner, 2004; Fanzo, 2015). Culture also dictates the value placed on different needs, which explains why poor farm households may spend additional income based on their social values rather than change or diversify their diets. It is therefore common for extra household earnings to go towards non-food needs such as children's education, marriage rites, sacred religious rituals and/or social celebrations (Davidson, 2010; Shipton, 2010).

Even in cases where increased income is spent on food, it does not mean households are making better nutritional decisions because the cultural norms, values, and beliefs of their

society still dictate households' food-related decisions (Alonso, et al., 2018; Helman, 2007; Jackson, 2011). Culture drives what is considered food and how it should be eaten, for example, a big body size is culturally symbolic of wealth in many sub-Saharan communities therefore diet is usually very dense and high in carbohydrate content (Osseo-Asare, 2005). Food taboos are also common in almost all human societies, setting boundaries on what members can and cannot eat (Meyer-Rochow, 2009). The consumption of eggs and meat is restricted for children in some West African cultures based on the belief that it makes children prone to stealing (Ekwochi et al., 2016; Olum, Okello-Uma, Tumuhimbise, Taylor, & Ongeng, 2017). In addition, recent studies have shown a tendency to abandon local foods and eating habits as highly processed food become increasingly available and desirable in communities and countries (FAO, IFAD, UNICEF, WFP & WHO, 2017).

Some culturally-dictated food decisions are also discriminatory based on gender and result in unequal nutritional outcomes among household members because cultural norms and beliefs in some societies favor men over women, which restrict women's decision-making powers as well as limit women's access to productive resources and food (FAO, 2018; Chege, Kimiywe, & Ndungu, 2015; WFP, 2019). This disadvantaged position occupied by women has resulted in the prevalence of severe food insecurity and micronutrient deficiencies among women compared to men in many regions of the world (FAO et al., 2018). In Nigeria, female-headed households in Nigeria are less likely to be food secure than male-headed households (Babatunde et al., 2008). The poor diet and nutrition outcomes of women in Nigeria can be tied to the religious, cultural, and social norms of the patriarchal society they live in (Ajani, 2008), where men eat first, and women eat last in households (Agada & Igbokwe, 2016). Further, most food taboos in Africa are targeted at women especially during pregnancy, prohibiting their

consumption of important nutrient sources like eggs and certain meats (Arzoaquoi et al., 2015; Ekwochi et al., 2016; Osseo-Asare, 2005). Examining the relationship between cultural factors and food insecurity offers a holistic understanding of food security because culture is the mechanism people use to negotiate and assign meanings to their society, including its natural resources, climate and economy (Handwerker, 2002). Therefore, while adopting an economic or environmental approach to food security may overlook culture, a meaningful cultural exploration of food must include these factors in the exploration of relevant factors within the socio-cultural context in which the investigation is taking place.

1.4 Problem Statement

Research suggests that many initiatives in developing countries have failed due to the lack of consideration of the cultural context poor people live in (Davidson, 2016; United Nations, 2013). The continued emphasis on increased agricultural productivity in the food security debate has led to a limited understanding of the social dynamics of food security. Existing scholarship suggests that food insecurity cannot be effectively tackled by focusing only on economic access to food globally (FAO, IFAD, UNICEF, WFP & WHO, 2017) or locally (Ajani, 2008; Akinsanmi & Doppler, 2005; Aromolaran, 2004). Rather, huge gaps remain on the specific food consumed by different cultural groups across the world and what factors drive them using culturally appropriate measures since current measures are highly westernized (Development Initiatives, 2018). Specifically, agricultural research in Nigeria remains highly economic-centered and quantitatively driven, so it does not paint a complete picture of food security in the country. Quantitative research has often been shown to reduce complex social phenomena like hunger and food security to numbers, which do not reflect the reality of these phenomena and the contexts under which they exist in households, communities, and countries (Jerven, 2013). The

impact of culture on food insecurity has been acknowledged but there is still a lot of research to be done on the exact role culture plays and the extent to which it influences nutritional outcomes. Further, food insecurity is driven by a nexus of economic, environmental, political and cultural factors that are usually examined in isolation to each other across several disciplines. Developing an understanding of how these factors interact under specific cultural settings is important as it could serve as a window into the lives of populations that are vulnerable to food insecurity to understand their food choices and dietary patterns within their social context.

In combination, this body of literature points to the need for qualitative food security studies that explore the connection between socio-cultural factors and food-related behaviors such as intra-household food consumption and distribution in order to gain a more comprehensive understanding of the complex issues affecting food security in developing countries like Nigeria. Done effectively, this approach will encourage the design and implementation of culturally appropriate policies and programs that effectively address food insecurity. This study was therefore designed to investigate environmental, economic, and socio-cultural factors that influence food insecurity. The rationale for this approach is based on the reality that agricultural development and food security initiatives usually prioritize economic and environmental factors at the forefront of poverty and hunger research, while cultural factors are given much less consideration (Alonso, Cockx, & Swinnen, 2018; Davidson, 2016). Increasingly research is demonstrating that the tendency to overlook culture has led to the failure of many food security initiatives leaving unforeseen consequences in their wake that often increase rather than decrease the vulnerability risk of the people they are trying to help (Ferguson & Lohman, 1994; McCann, 2005; Scott, 1998; Shipton, 2014).

1.5 Significance

The study explores food through a socio-cultural lens, which can show how food transcends the act of eating to satisfy hunger, hence emphasizing the values and beliefs attached to food by farm households. This can help explain the paradox of the double burden of malnutrition that is the coexistence of undernutrition and obesity within the same household, community and society, which is estimated to cost the global economy $3.5 trillion annually (FAO, 2017a).

Furthermore, the study will also provide empirical evidence on how farm households in rural Nigeria make decisions about food which can improve the knowledge available to development practitioners on the four pillars of food security – availability, access, stability and utilization. This would also reveal if and what educational gaps exists with regards to dietary choices which can be addressed to ensure that farm households make healthier diet and eating choices that will improve their nutritional status. By exploring intra-household food distribution, the study will highlight the gender and generational dynamics related to food and nutrition, which can promote the framing of food security issues and policies in a gender-sensitive manner.

With respect to practice, the findings of this study will reveal the socio-cultural factors that have underlying effects on people's habits and behavior with regard to food. This can help the government and donor agencies to design and implement food security programs that are culturally appropriate thus effective in addressing food and nutrition insecurity especially on a long-term basis. The findings can also enhance development practitioners' understanding of how the beneficiaries of agricultural development projects (farm households) are thinking about issues of food, diet and nutrition.

1.6 Purpose

The purpose of this study was to explore food production, consumption and distribution among farm households in two rural communities in Oyo state, Nigeria. Further, the study examined the role of socio-cultural factors in shaping these food-related behaviors and the nutritional status of the farm households.

1.7 Research Questions

RQ1. What are the demographic characteristics of farm households in Ago-Amodu and Elepo Villages of Oyo state, Nigeria?

RQ2. What foods do farm households produce and consume, and do they differ by village?

RQ3. What socio-cultural factors drive the food production behaviors of farm households?

RQ4. What socio-cultural factors drive food consumption and distribution within farm households of each village?

RQ5. How do socio-cultural factors influence food security in each village?

RQ6. Are there common socio-cultural factors that influence food security between villages?

1.8 Assumptions

The researcher made the following assumptions in the study:

1. Women dedicated the most time to food preparation within households.
2. Members of the same household share common norms, values and beliefs about food.

3. Participants provided information that accurately reflects their knowledge, beliefs and practices concerning food based on their historical, social and political realities and perspectives.

4. Agriculture was the primary source of income for the households participating in the study.

5. The data collection instrument was valid and reliable.

CHAPTER 2. REVIEW OF LITERATURE

2.1 Introduction

This chapter will provide an overview of food security as a 21st century grand challenge in the world, Africa and Nigeria. An exploration of food security in terms of malnutrition and vulnerability as well as three major drivers of food security are also be presented. The chapter also includes a discussion of the conceptual and theoretical frameworks used to inform the study and an explanation of the need for the study. Finally, the chapter concludes with a description of the context in which the study took place and the rationale for selecting the two communities used in the study.

2.2 Purpose of the Study

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2.3 Research Questions

The study aimed to provide answers to the following questions:

RQ1. What are the demographic characteristics of farm households in Ago-Amodu and Elepo Villages of Oyo state, Nigeria?

RQ2. What foods do farm households produce and consume, and do they differ by village?

RQ3. What socio-cultural factors drive the food production behaviors of farm households in both villages?

RQ4. What socio-cultural factors drive food consumption and distribution within farm households of each village?

RQ5. How do socio-cultural factors influence food security in each village?

RQ6. Are there common socio-cultural factors that influence food security between villages?

2.4 Food Security

Food is a basic human need. It is the fundamental right of every human to be free from hunger, and have access to safe, nutritious and adequate food (FAO, 2005a, 2005b, 2019c). While the right to food has become legally binding internationally, transforming policy to practice remains a challenge at the national level as only a few governments have legislative policies to this effect and even fewer have implemented these policies (FAO, 2008; FAO, 2019c). A food secure world remains farfetched especially in recent years where there has been a decline in progress made in tackling global hunger although the world produces enough food to feed its population [FAO, 2018]. Hence, food insecurity remains one of the main grand challenges of the 21st century with about 850 million hungry people across the world going to bed without food every night (WFP, 2018).

Defined solely in terms of food supply at first, food security as a concept has evolved due to issues like famine and the failure of agricultural development initiatives like the Green Revolution and Structural Adjustment Programs to eradicate hunger and poverty (Clay, 2002; Heidhues, & Obare, 2011). A food secure world is one where all people, at all times, have

physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (World Food Summit, 1996, para. 1). This current definition of food security accounts for economic as well as non-economic dimensions of food security such as the behavior of populations vulnerable to hunger thereby highlighting the multidimensionality of food security (Clay, 2002). Further, this definition highlights four dimensions or pillars: 1) availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid), 2) access to adequate resources for acquiring appropriate foods for a nutritious diet given the legal, political, economic and social context of the community in which individuals live, 3) stability with regards to food availability and access when individuals, communities or populations have access to adequate food at all times including during sudden shocks or seasonal shifts, and 4) utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met (FAO, 2006, p. 1). For individuals, households and populations to be food secure, all four dimensions must be addressed simultaneously (FAO, 2008).

Food insecurity can be transitory or chronic depending on duration, cause and time of occurrence. Transitory food insecurity is temporary, it occurs suddenly when there is inadequate access to food to meet nutritional needs and results from short-term shocks or fluctuations in food availability and access (FAO, 2006, 2008). Chronic food security occurs when there is a persistent inability to meet minimum food requirements over a long period due to poverty, lack of access to assets and productive resources (FAO, 2006, 2008; FAO et al., 2018). Food insecurity can also be seasonal, occurring at specific times during the year in a cyclical and predictable manner implying that it is both chronic and transitory since it is temporary but

recurrent (Devereux, Sabates-Wheeler, & Longhurst, 2012; FAO, 2008). Although the definition of food security has evolved to become more holistic, food availability remains predominant among the four dimensions of food security with the continued emphasis on increased productivity and income as the means of achieving food security (Thome, Mead, Daugherty, & Christensen, 2018). However, there is an increasing body of evidence showing that increased productivity alone does not address all dimensions of food security since it leaves the nutrition of poor households out of the food security mandate. Food security initiatives that are nutrition-sensitive are important because uncertain availability and access to safe and nutritious food opens multiple pathways to malnutrition and contributes to the paradoxical occurrence of different forms of malnutrition at individual, household, community, national and global levels (FAO et al., 2018).

2.4.1 The Relationship between Food Security and Malnutrition

A close relationship exists between food security and malnutrition mainly because food must be available, accessible and utilized in nutritionally-effective ways in order for humans to live a healthy life. Inadequate access to nutritious food has been proven to negatively influence nutrition, often leading to the multiple burden of malnutrition in individuals and households as well as generational shifts in nutrition (FAO et al., 2018; Ghattas, 2014; Maitra, 2018).

Food security and malnutrition are closely interrelated because food insecurity contributes to poor diet, which is the common cause of malnutrition and the second leading risk factor for death globally (FAO et al., 2018). Malnutrition simply means poor nutrition either by consuming less or more calories or nutrients than necessary (UNICEF, n.d.). Although equated with undernutrition, malnutrition also refers to overnutrition and micronutrient-related nutrition

(WHO, 2018b). Undernutrition includes conditions where an individual for his or her age has a low weight (underweight), low height (stunting), a low weight for their height (wasting) or suffers from micronutrient deficiencies (WHO, 2016, 2018a). In contrast, overnutrition refers to overweight and obesity, which is when an individual has excess weight for his or her height as well as diet-related non-communicable diseases like diabetes, stroke and heart disease (WHO, 2018b). Finally, the World Health Organization (2016) defines malnutrition as deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients (para. 1). The occurrence of contrasting forms of malnutrition within the same individual, household and population further complicates global malnutrition. This is referred to as the double burden of malnutrition and the majority of countries in the world are still struggling with this challenge (Development Initiatives, 2018; WHO, 2017).

The double burden of malnutrition is characterized by the coexistence of undernutrition along with an individual becoming overweight, with obesity, or with diet-related non-communicable diseases within individuals, households and populations, and across the life-course (WHO, 2017, p. 2). This burden manifests at the household level with multiple members having different forms of malnutrition usually across generation, a common example is the birth of undernourished children by obese or overweight mothers (Delisle & Batal, 2016; Tzioumis & Adair, 2014). It is also common for household members who are undernourished or overweight to suffer from hidden hunger that is related to micronutrient deficiencies or diet-related non-communicable diseases as well (FAO et al., 2018).

The close relationship between food insecurity and malnutrition negatively influences the nutritional status of individuals, households, communities and population through multiple forms of malnutrition (Figure 2.1). For example, food insecure individuals and households are more

likely to be undernourished, obese and overweight, and suffer from nutrient deficiencies due to the physiological, physical and psychological stress of living with chronic or transitory food insecurity (FAO, 2008; FAO et al., 2018; Ghattas, 2014; Maitra, 2018). Uncertain access to food leads to irregular eating patterns in terms of quantity, quality, diversity and frequency, which invariably results in maternal and child malnutrition (FAO et al., 2018; Ghattas, 2014).

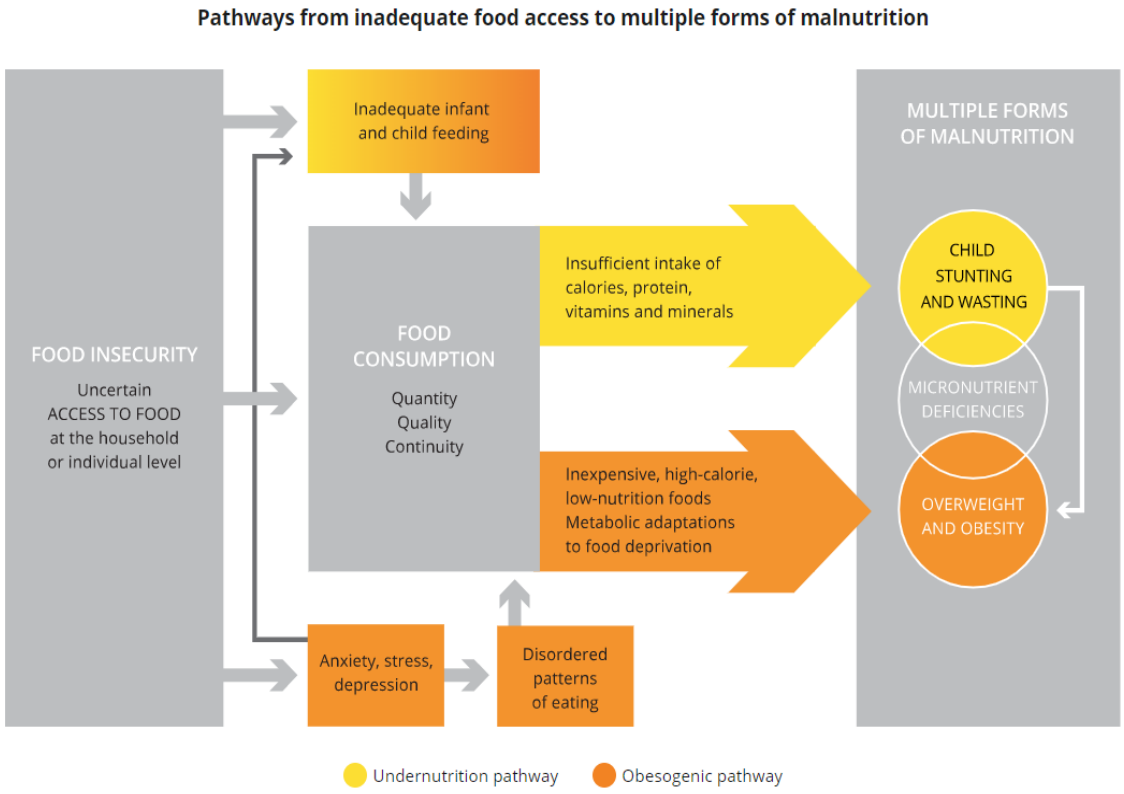

Figure 2.1. Pathways from inadequate food access to multiple forms of malnutrition (FAO et al., 2018).

Apart from availability and access, how food is utilized within the household is another dimension of food security that is deeply connected to overweight, obesity and non-communicable diseases. For example, in attempts to cope with shortages of food, families often consume unhealthy, but inexpensive foods that have high energy, fats, refined oils and sugar

(Ghattas, 2014; Popkin et al., 2012) rather than higher priced foods that are rich in fiber and protein. Paradoxically, increase in economic prosperity can also result in intra and intergenerational nutrition transitions (FAO et al., 2018; WHO, 2017; WHO, 2018a) that shift the quantity and quality of dietary patterns in unhealthy ways. Nutrition transition occurs because of rapid changes in social, economic, and demographic status in low- and middle-income, which change the food system and dietary patterns of households (FAO et al., 2018; Ghattas, 2014; Popkin, et al., 2012). Studies have shown that the nutrition and lifestyle transitions that occur when low-income households and countries attain higher socioeconomic status results in the abandonment of traditionally healthy diets for foods with high fat and sugar content as well as a reduction in energy expended (Table 2.1). These shifts have been associated with a reduction in undernutrition but an increase in overweight, obesity (Delisle & Batal, 2016; Tzioumis & Adair, 2014; WHO, 2017) and non-communicable diseases within individuals, households and populations (WHO, 2017). It is important to understand the link between food insecurity and malnutrition because considering one without the other is insufficient in achieving the goal of a hunger free and healthy global population.

Table 2.1.

Stages of the Nutrition Transition

Characteristic	Stages		
	Pre-transition	Transition	Post-transition
Diet (prevalent)	Grains, tubers, vegetables, fruits	Increased consumption of sugar, fats and processed foods	Processed foods with high content of fat and sugar; low fiber content
Nutritional problems	Undernutrition and nutritional deficiencies predominate	Undernutrition, nutritional deficiencies and obesity coexist	Overweight, obesity and hyperlipidemia predominate

Source: FAO et al. (2018).

There has been slow progress towards tackling global malnutrition over the past decade, as number of individuals affected by different forms of malnutrition remain high (UNICEF, 2019). In 2018, a third of adults and children worldwide are overweight or obese, about half of the deaths in children under five years old are linked to malnutrition, one in nine people are undernourished and a third of reproductive women are anemic (Development Initiatives, 2018; WHO, 2018b; UNICEF, 2018).

2.5 Factors Influencing Food Insecurity

The FAO's Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) provides a framework for analyzing food insecurity in a dynamic and futuristic manner (Figure 2.2). The framework highlights the complexity of food insecurity and the interrelated factors that make individuals and households vulnerable to food insecurity. These factors are a broad range of environmental, socioeconomic, cultural and biological drivers of

food security at individual, household, community, subnational and national levels. The framework shows that economic access to food driven mainly by income and poverty determines household food consumption. The framework also emphasizes the influence of four dimensions of food security - food availability, accessibility, stability and utilization as well as the non-food factors, care practices, and health sanitation that influence the quantity and quality of food consumed by individuals. Further, the nutritional outcome is dependent on two main sub factors, food consumption and the biological utilization of this food. Therefore, the nutritional status of an individual is explained as a product of the relationships and linkages between food security dimensions and the vulnerability context in which the individual exists (FAO, 2008a).

Overall, the FIVIMS allows for a more holistic understanding of food insecurity by highlighting the intricate link between underlying causes and effects of food insecurity, which allows for the selection of appropriate strategies for tackling food insecurity at different levels and under various contexts. This study will discuss three of the main factors influencing food insecurity – economic, environmental and cultural factors. According to the FIVIMS, there are many factors influencing food insecurity at different levels, but only environmental, economic and socio-cultural factors will be discussed. These factors were chosen based on their relevance to the purpose of the study as discussed in the subsections below.

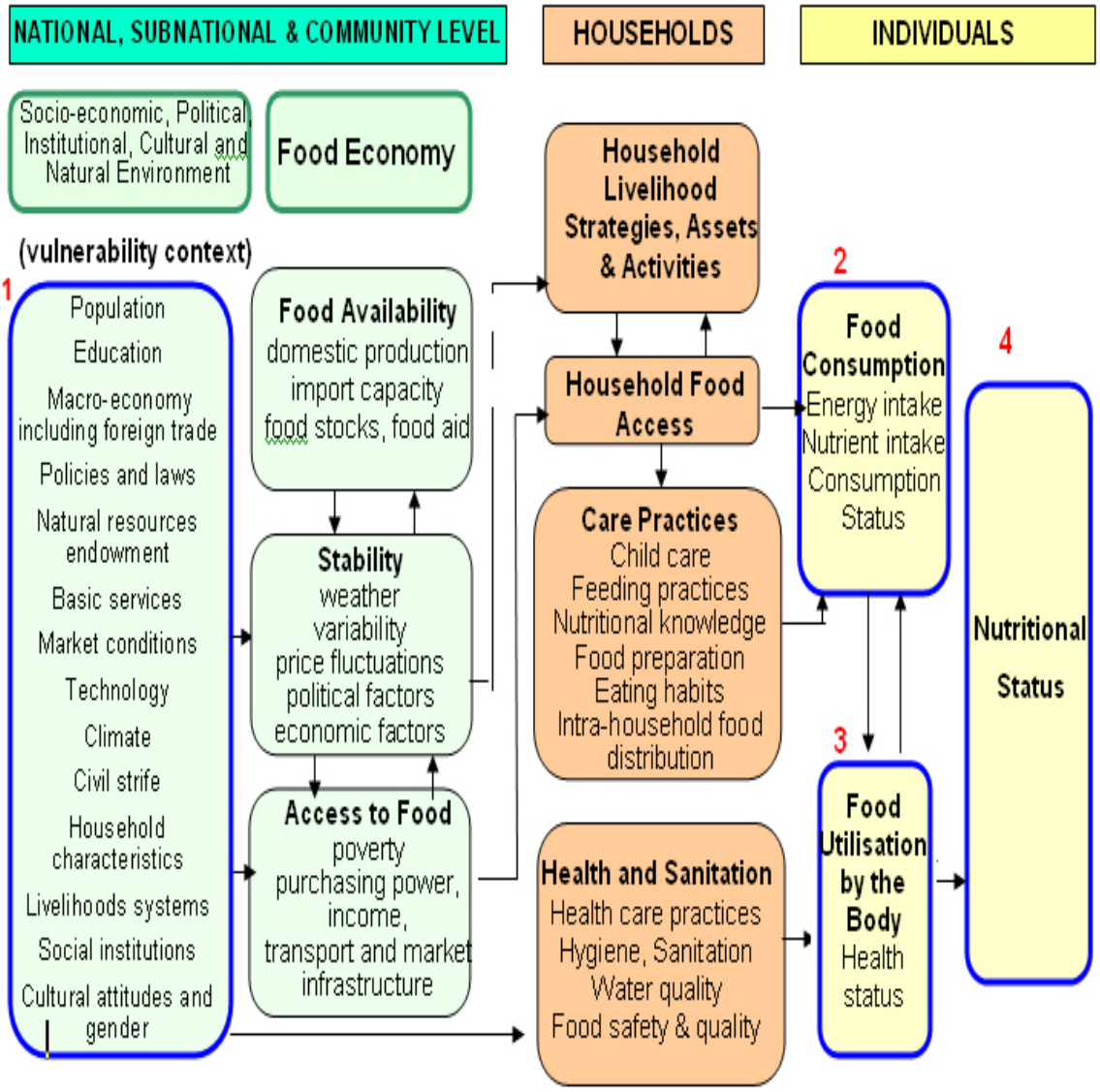

Figure 2.2. Food Insecurity and Vulnerability Information and Mapping Systems Framework (FAO, 2005a)

2.5.1 Environmental Factors

The earth's climate is changing, which is evident in the rising sea levels, temperature increases and warmer oceans, as well as decreased snow cover, and increased occurrence of extreme events such as floods, droughts, and heat waves (Intergovernmental Panel on Climate

Change [IPCC], 2018). Many regions of the world are already experiencing greater than average temperatures and this trend will continue without climate change mitigation (Allen et al., 2018). Africa is the most vulnerable region in the world to climate change and the continent is already experiencing its impacts with a significant increase in temperature over the past five decades, less precipitation and more frequent and intense extreme events like drought (FAO et al., 2018; Morton, 2007; UN, 2006; 2019). According to FAO (2019b), Nigeria was one of the top ten countries affected by climate-related disaster events in 2018 due to massive flooding that affected almost 2 million people.

There is a bidirectional relationship between climate change and agriculture, where climate change negatively affects agriculture and agriculture serves as the source of the major cause of climate change. Climate scientists agree that human activities especially fossil fuel use and agricultural practices are the major causes of climate change, in fact, the agricultural sector is the largest emitter of greenhouse gases (National Aeronautics and Space Administration [NASA], 2019). Although, Africa is not a major emitter of greenhouse gases, the high dependence on agriculture as a source of livelihood makes the region vulnerable to climate change since climatic conditions dictate agricultural activities and practices (USDA, 2019). Climate change therefore poses a unique challenge for agriculture because the sector has to find a way to feed a growing global population under increasing climate-related risks without accelerating climate change and its impacts.

Agriculture plays a significant role in African economies contributing an average of 15% of total Gross Domestic Product (GDP) and up to 50% in some countries (OECD & FAO, 2016, p. 60). The agricultural sector has also bore a significant proportion of the loss caused by climate change in Africa, hence, climate change threatens the livelihood and food supply of farmers who

are already poor and food insecure (FAO, 2018; OECD & FAO, 2016). Over eighty percent of agricultural loss is caused by climate change related disasters especially drought (FAO et al., 2018). Nigeria farmers, in particular, are experiencing crop losses due to rising temperatures and changes in rainfall pattern that has resulted in drought in the north and flooding in the south (Nigerian Federal Ministry of Environment, 2015). Further, climate change models have predicted a reduction in crop yields for African farmers because of shocks from frequent and intense extreme events (Schlenker and Lobell, 2010). This implies that farmers will remain vulnerable to climate change impacts unless they engage in climate change adaptation and mitigation.

Climate change threatens all dimensions of food security because it has a direct or indirect influence on many factors that influence food security (Brown et al., 2015; FAO, et al., 2018). This is because climate change is likely to affect all aspects of the global food system such as processing, storage, transportation and consumption, thereby resulting in food price hikes, less diet diversity, and unstable access to food (Brown et al., 2015, p. 3; WFP, 2019). Small farm households, the majority of whom are already food insecure, will be more vulnerable to hunger and food insecurity because of climate change (FAO, 2018; FAO, et al., 2018; WFP, 2012; WFP, 2019). Further, reliance on rain-fed agriculture will increase farm households' vulnerability to climate change impacts in Africa, which will intensify the occurrence of seasonal food insecurity. This is because research has shown that rainfall patterns are changing negatively in most parts of Africa in terms of timing, frequency and intensity, the impacts of which is already evident in lower crop yields (FAO, et al., 2018).

2.5.2 Economic Factors

There is a strong association between poverty and food insecurity since economic access to food is necessary for good nutritional status. According to FAO (2002), food insecurity and poverty have a reverse relationship such that food insecurity is an extreme form of poverty and poverty is the underlying cause of food insecurity. Most of the world's poor are farm households who live on less than $2 a day and make up half of the world's undernourished people (IFPRI, 2017; The World Bank, 2016). Global food security reports show that chronic food insecurity is prevalent in low- and middle-income countries because of limited access to economic resources, which results in vulnerability to chronic and transitory food insecurity (Development Initiatives, 2018; FAO et al., 2018). In Nigeria, research has identified poverty as the major determinant of food insecurity, hence the problem is usually framed using an economic perspective. The assertion that poverty is the root cause of food insecurity has led to a focus on economic factors such as income, food prices, and productivity as the main drivers of nutritional status at different levels by most researchers and development practitioners.

As stated in previous sections, there is a high prevalence of food insecurity in Nigeria and food insecurity remains high in the country mainly because poverty inhibits food availability among households (FAO, 2017). In the few national surveys on food insecurity in Nigeria, Ajani (2008) and Akinyele (2009) cited poverty as one of the major barriers to achieving food security. Other studies conducted across states and regions in Nigeria concluded that household income was a major determinant of food security status. In a study examining how households in southwestern Nigeria cope with food insecurity, Akerele et al. (2013) revealed that households with lower income were less food secure compared to those with high income levels. In other

studies, Babatunde et al (2007) and Abu & Soom (2016) also found income to be a significant predictor of food security among households in north-central Nigeria.

The emphasis on economic factors led to the erroneous assumption that the panacea to food security is wealth and increased agricultural productivity, which has and continues to lead to the dearth of many food security initiatives. Research on economic determinants of food security are mostly quantitative, which can lead to reductionist interpretations of food insecurity data (Jerven, 2013). This is because quantitative studies often explain concepts such as income, productivity and even gender as aggregates. In the exploration of malnutrition and hunger among fishing households along Lake Victoria, Geheb et al (2008) discovered that in order to explain the increased level of malnutrition among farm households, it was not sufficient to know how much they earned only, it was also important to identify the person who controls household earnings. The study revealed that men who control the income made from fishing only return home with a small portion of the income generated thereby making their households vulnerable to food malnutrition. In another study analyzing the vulnerability to food security in the Democratic Republic of Congo, almost the same proportion of poor and rich households were found to be food insecure (Akpako, 2014).

It has been well documented that engaging in agriculture, as a source of livelihood does not shield households from chronic or transitory food insecurity. In fact, the majority of the poor and undernourished in the world are smallholder-farm households (IFPRI, 2017; The World Bank, 2016). In Nigeria, farm households were more likely to be food insecure than households that did not depend on agriculture for their livelihood (Ike et al., 2017). The study also revealed that the likelihood of being food insecure was higher for farm households who practiced subsistence farming. This challenges the assumption that increased agricultural productivity only

can alleviate food security, but the ultimate goal of many food security initiatives remains improved socioeconomic status.

The Green Revolution is one of the prominent projects initiated to tackle global food security over five decades ago. Launched in the 1960s across Asia, Latin America, and Africa, its main objective was to an increase in crop yields through the development of high-yielding crop varieties for developing countries (IFPRI, 2002). This included the establishment of agricultural research centers in developing countries that focused on maize, wheat and rice, crops that were perceived as being important to local farm households (Pingali, 2012). Although, the green revolution led to significant increases in agricultural productivity, hence profitability for farm households across Asia and Latin America, the project failed to produce the same impact in Africa (IFPRI, 2002; Pingali, 2012). Agricultural development experts tied the failure of the green revolution primarily to the daunting ecological and political challenges that are *peculiar* to Africa (Blaustein, 2008, p. 8). Other reasons cited for the failure of the Green Revolution in Africa include poor infrastructure, high transport costs, lack of modern agricultural techniques like irrigation, and market/price policies that are peculiar to the continent (Blaustein, 2008; Dawson, Martin, & Sikor, 2016; IFPRI, 2002; Pingali, 2012).

However, evidence exists that development projects like the green revolution failed and continue to do so because of their overreliance on the economic framework, which leads to the neglect of social issues that are important in the local contexts in which they are implemented (Ferguson, 1994; Shipton, 2010). Development projects designed on the economic framework continue to label social issues as *micro-issues* that are inconsequential to agricultural practices and/or food security in Africa (Davidson, 2016, p. 20). It is important to explore food insecurity within the socio-cultural context in which it exists, to ensure that important but often overlooked

factors are highlighted, projects are designed in culturally appropriate ways and resources are used effectively to achieve desirable results.

In 1981, Amartya Sen's seminal work on poverty and famine challenged the assertion that improved agricultural productivity automatically leads to food security. Sen posited that hunger does not exist because of insufficient food production or food unavailability. Instead, hunger exists due to lack of access to food, which is determined by economic and political factors such as income, food production, economic stability, power structure, and government policies. He further argued that hunger could best be understood in terms of entitlement relationships, which set the boundaries on ownership of commodities like food based on the rights and opportunities, afforded an individual within a social system. According to entitlement theory, individuals and households are vulnerable to hunger when their entitlement set does not provide sufficient food for their survival even when food is abundant in their society (Sen, 1981). Therefore, continued emphasis on food availability at the expense of food access will do little in tackling food insecurity and hunger but rather create risks for food access particularly among vulnerable groups (Martin, 2010). The entitlement approach allowed for the exploration of the effects of economic (food prices, market exchange), political (hostile food policies, war) and environmental factors (drought, floods) on food access. The lack of consideration of other factors that shape food consumption at the individual and household levels such as rigid food habits, and ignorance, however, serves as a major limitation of the approach (Devereux, 2001; Sen, 1981, p. 50). Sen's (1981) economic analysis of hunger was groundbreaking but could not sufficiently account for all the dimensions of food security especially utilization. It also neglected the underlying cultural values and beliefs that drive people' entitlement to food in a social system.

Almost four decades after Sen's work, global trends show that addressing the four pillars of food security – food availability, access, stability, and utilization is the only way to achieve a hunger-free world (FAO et al., 2018; Development Initiatives, 2018). Food security initiatives, however, often still neglect the utilization dimension of food security, which deals with nutrition and dietary patterns at the household level (Fanzo, 2015; Thurow, 2016). Research has shown that malnutrition, which is strongly linked to food security, can be exacerbated by economic prosperity as improved socioeconomic status can result in intra and intergenerational nutrition transitions over time (FAO, 2006; WHO, 2017). As nutrition transition becomes increasingly common especially in low- and middle-income countries experiencing rapid economic growth, the double burden of malnutrition also becomes heavier (FAO et al., 2018; Popkin, Adair, & Ng, 2012). Obesity is becoming increasingly high among low- and middle-income countries because as poor households attain higher socioeconomic status, their dietary patterns often take an unhealthy turn (FAO et al., 2018; Ghattas, 2014; WHO, 2017). Households living in low, middle, and high-income brackets can also experience obesity because of disordered dietary patterns that are the consequence of living with both chronic and seasonal food insecurity (Delisle & Batal, 2016).

Aromolaran (2004) concluded that income does not sufficiently explain the issue of food security among poor households as the increase in disposable income had no impact on nutritional status evident in the low caloric intake within these households (p. 526). Economic access to food does not translate to food security among farm households in Nigeria especially because food security in the region manifests socially and psychologically (Akinsami & Doppler, 2005). Research and projects based on the economic approach have shown that economic analysis of food security cannot provide a holistic explanation of food security that is one that

explains paradoxes such as the double burden of malnutrition and the vulnerability of farm households to food insecurity.

2.5.3 Cultural Factors

Culture can be defined as simply the mechanism used by members of a social group to assign meaning to their environment (American Sociological Association, 2018). Culture includes the shared practices, values, beliefs, norms and artifacts of a group (Little, 2012, p. 3). Conceptualizing culture can be challenging because there is a tendency to categorize people into oversimplified dichotomies based on commonalities which thereby may downplay variations within those groups (Handwerker, 2002; Narayan, 1993). Shared cultural meanings motivate behaviors by becoming entrenched within the social system as members interact and influence each other's thoughts and actions (Handwerker, 2002). People's actions have meaning; hence, human activities cannot be separated from the meanings attached to them (Schudson, 1989). New members of the society learn activities and the meanings attached to these activities in order to belong through four elements of culture: norms, values, beliefs, and expressive symbols (Peterson, 1979, p. 37). Little (2012) defines the cultural elements as follows: norms are established modes of behavior in a group, some of which may have serious consequences when broken (p. 87); values are standards about what is good in a social system, and beliefs are shared tenets or convictions that are held true by members of a society (p. 84); humans also use symbols and language to make sense of their world and convey meanings shared by society members (p. 88). People and culture are inseparable because culture is what people use to navigate their daily lives, it dictates what they do and how they do it (Handwerker, 2002; Schudson, 1989).

The assumption that food consumption is just about the physical act of eating food is overly simplistic as it ignores the social, psychological, and symbolic elements of food (Holtzman, 2006). Members of a group (family, community, or society) learn the norms, values, and beliefs about food that are acceptable in the group as culture passes on from one generation to the next (Axelson, 1986; Montanari, 2006). These cultural elements become deeply entrenched in groups so much so that they drive members' decisions on what, when and how to eat, as well as who eats what (Amone, 2014; Weingärtner, 2004; Fanzo, 2015). Therefore, food does not just serve as a means of sustenance because shared food consumption and eating rituals form the basis for human relationships and bonds that are the bedrock of society (Bellasco & Scraton, 2002; Counihan, 2012; Falk, 1994; James et al., 2009). Further, food is a mechanism for expressing cultural identity especially in farming communities where the cultivation and consumption of certain foods have high socio-cultural significance (Piot, 1999). Farm households do not cultivate crops for economic reasons only, they may continue to allocate resources to food crops that are not high yielding just because they identify with the food as being a significant part of their cultural heritage (Jackson, 2011; Perreault, 2005; Shipton, 2010). In most African communities, food is a vehicle for social relationships and sacred rites, hence, the cultural significance of food can take precedence over its economic value in food production and consumption decisions (Jackson, 2011). Due to the predominant emphasis of food security initiatives on food production and consumption, the cultural factors that drive food choices and preferences are often overlooked, which may explain the prevalence of the multiple burden of malnutrition in many societies (Alonso et al., 2018; Fanzo, 2015).

Culture also influences the definition of development concepts like food security, hunger and poverty, which results in different conceptualization of these issues by development

practitioners, researchers, and participants. Researchers and practitioners define hunger in terms of insufficient consumption of dietary energy (FAO, et al., 2018). Farming communities across Africa on the other hand define hunger as the lack of a certain staple food or crop such that the scarcity of that particular food is equated to starvation even when other foods are available. Farming communities define hunger as the scarcity of rice in Congo, Sierra Leone and Guinea (Davidson, 2016; Jackson, 2011, Pottier, 1999), maize in Malawi (Ecker & Qaim, 2011; Smale & Heisey, 1997), yam in Nigeria (Korieh, 2007), and fish in Uganda (Johnson & Bakaaki, 2016; Johnson, 2017). This is important because the dissonance between practitioners and populations vulnerable to food insecurity concerning what it means to be food insecure makes it difficult to measure and address food security accurately.

2.6 The Relationship between Cultural Factors and the Four Dimensions of Food Security

Culture is a critical factor as it influences all four dimensions of food security - availability, access, utilization, and stability. In short, cultural elements determine the types of foods available in a particular setting, who has access to these foods, how the foods are used and how stable the production of these foods are. The next four sections detail specifically how cultural factors influence food security

2.6.1 Cultural Factors: Food Availability

The type of food that is available in a particular community depends on the predominant culture in that community. The foods currently available for human consumption are products man's interaction with his environment over thousands of years, an interaction that culture has helped to foster. About 7,000 plant species have been cultivated for human consumption in history and about thirty of crops currently provide almost all of human energy needs (FAO,

2019e, para. 9). Culture has been instrumental in preserving agricultural biodiversity, serving as the medium of transmission for farmers' knowledge from one generation to the next (Heywood, 2013). The cultural elements of each society also drive the selection of foods that eventually become the regular diet and influence decisions concerning food production including what to cultivate and how to cultivate them in a society (Alonso et al., 2018; Helman, 2007). This implies each culture defines food differently and foods consumed in a particular social system may be taboos in another. Agricultural production therefore cannot be separated from the cultural context in which farmers live because farmers rely mostly on their indigenous knowledge to create farming systems that are culturally acceptable and well adapted to their local ecologies (McCann, 2005; Pottier, 1999; Scott, 1998).

In addition, the norms and values of farming communities dictate the adoption of agricultural technology, innovation and loans/credits by farm households. Increased income is just one of the numerous factors farmers consider when making production decisions since farming systems have to be well adapted to the cultural, economic and environmental realities of farm households. African farmers have preserved indigenous farming systems rather than adopt non-traditional agricultural technologies or systems mainly due to cultural and environmental compatibility. Agriculture experts who favor mono-cropping have been critical of the practice of intercropping by African farmers but intercropping is well suited for the unique environmental and climate characteristics peculiar to African agricultural systems such as soil variability, unpredictable rainfall and sudden seasonal swings (McCann, 2005). Intercropping also facilitates dietary diversity and reduces the risk of crop loss, which makes farm households less vulnerable to food insecurity (Heywood, 2013). Culture also drives poor farm households to make decisions that make no rational sense to development practitioners but make perfect sense

in the sociocultural contexts in which these households live. Davidson (2016) discovered that the *Jola*, a farming community in rural Guinea-Bissau, adamantly continued cultivating rice to the frustration of development practitioners even when cultivation of rice paddies became more labor intensive and low yielding due to climate change. The rejection of mechanized farming in favor of manual rice cultivation was driven by the cultural value of hard work attached to rice cultivation, which along with rice consumption is the center of *Jola* life and identity so much so that interactions, transactions, and spirituality in the community are negotiated using rice. The *Luo* in Kenya exhibited similar attitudes to the *Jola*, when Shipton (2010) explored the issue of credit and financing between the people and development practitioners. The cultural significance placed on fertile soils as being a key source of familial pride among the *Luo* led to the non-adoption of fertilizers despite experiencing lower yields. Further, increased productivity does not necessarily results in more food for a farming household especially when farmers have to rely on loans due to the culturally accepted value in sharing farm produce with less privileged community members. This reduces the farming household's food supply for consumption and commercial purposes, hence, loans does not always leave farmers better off nutritionally and economically.

2.6.2 Cultural Factors: Access to Food

Lack of access to food is the major cause of food insecurity because an inequality exists in food distribution and consumption around the world (OECD, 2013; Sen, 1981). There is enough food produced globally to meet the average caloric requirements of every individual in the world, however, unequal access to food results in some people consuming excess calories while about 850 million people do not consume enough calories to meet their nutritional needs (Development Initiatives, 2018; OECD, 2013; WHO, 2018b). This trend shows that food

availability does not guarantee food security rather households require social and economic access to food to be food secure (FAO et al., 2018; OECD, 2013; Sen, 1981). Social and economic access to food in any society depends on cultural norms, values and beliefs that set boundaries on who eats what and at what time (Alonso et al., 2018; FAO et al., 2018). Income usually dictates economic access to food, which is evident in the strong association between poverty and food insecurity as shown in the previous sections.

Cultural factors also influence economic access to food by dictating the control of resources like income and food within households, communities and societies (FAO et al., 2018). Women have less access to and control over productive resources like land and capital compared to men due to cultural restrictions placed on resource ownership in some societies (Ajani, 2008; Allendorf, 2007; IFPRI, 2014; Quisumbing & Maluccio, 2003). This gender inequality in resource access makes women more likely to be vulnerable to severe food insecurity than men are (Anderson et al., 2017; Akerele, Momoh, Aromolaran, Oguntona, & Shittu, 2013; Amaza, Umeh, Helsen, & Adejobi, 2006; Babatunde, et al., 2008; Dzanku, 2019; FAO et al., 2018; Fawehinmi & Adeniyi, 2014; Tibesigwa & Visser, 2016). In addition, household food and nutrition security suffer when men control productive resources and income (Agbada & Igbokwe, 2016; Geheb et al., 2008) but improves when women are in control of decision-making within the household (Cunningham et al., 2015; Raskind, 2018; Smith et al., 2003). The general wellbeing of households is in fact better when women control and allocate resources within the household (Quisumbing & Maluccio, 2000; Quisumbing & Maluccio, 2003).

Further, culture drives social access to food through norms and beliefs that determine what foods are important, the amount of food allocated and the order in which food is allocated to different members of a household (FAO et al., 2018; Harris-Fry et al., 2017; Lyana &

Manimbulu, 2014). These cultural factors foster gender and generational inequalities in intrahousehold food distribution, which restricts women and children from having access to adequate food that meet their caloric and nutritional needs (Chege et al., 2015; FAO et al., 2018; Gittelsohn & Vastine, 2003; Hyder et al., 2005; WFP, 2019). It is culturally valuable in most societies for women especially mothers to be sacrificial therefore women often prioritize the needs of other household members over theirs and this applies to intrahousehold food distribution as well (FAO et al., 2018; James et al., 2009; Keenaan & Stapleton, 2009). Cultural beliefs and values can sometimes transcend humans to include animals owned by the household during food allocation. Northern Somalian farmers believe they are as healthy as their animals therefore, it was culturally normal to share relief food with animals during natural disasters and political unrest (FAO, 2005b).

In addition, food taboos limit social access to food depending on the extent to which compliance is enforced within a society (Alonso et al., 2018). Almost all societies have food taboos, which is a codified set of rules about which foods or combinations of foods may not be eaten (Arzoaquoi et al., 2015, p. 1). For example, Somalian pastoralists also do not consume fish based on the belief that it is an urban food (FAO, 2005b) while Hindus do not eat meat because cows are considered sacred (Meyer-Rochow, 2009). Other examples include the prohibition of children in some parts of West and East Africa from eating eggs and meat due to the cultural belief that eating eggs predisposes children to theft (Arzoaquoi et al., 2015; Ekwochi et al., 2016; Olum, et al., 2017; Osseo-Asare, 2005). In Africa, the majority of food taboos usually pertain to women, especially during pregnancy, when culture prohibits the consumption of certain foods to ensure a safe pregnancy and childbirth (Arzoaquoi et al., 2015; Ekwochi et al., 2016; Osseo-Asare, 2005).

Food taboos can restrict the consumption of adequate and nutritious food thereby making people more susceptible to various forms of malnutrition (Olum et al., 2017; Osseo-Asare, 2005; Santos-Torres & Vásquez-Garibay, 2003). However, not all taboos are harmful, in fact, some taboos can help improve nutritional status and prevent diseases. Henrich & Henrich (2010) found that food taboos in Fijian villages were evolutionarily adaptive and served to protect pregnant and lactating women on the islands from fish poisoning. In addition, particular parts of animal meat such as kidney and liver are reserved for pregnant women in some African communities (Lyana & Manimbulu, 2014), which is beneficial to the nutritional status of the women since organ meats are rich sources of micronutrients (Randolph et al., 2007). This restriction can make women less susceptible to anemia, a condition that occurs in one out of every three reproductive women globally.

2.6.3 Cultural Factors: Food Utilization

Culture determines food utilization because there are social rules in every society that guide what people can and cannot eat (Arzoaquoi et al., 2015; Meyer-Rochow, 2009). Food must be pleasurable to the senses, hygienic, and symbolic in order to be culturally acceptable (Poulain, 2002/2017). Desirable food traits in terms of color, texture and storability are culturally determined which could lead to the rejection of available food that do not meet these cultural standards. McCann (2005) found that most Africans prefer white maize to yellow maize, so much so that people refused to consume yellow maize during periods of food scarcity. In sub-Saharan Africa, contemporary diets are heavy in carbohydrates and low in protein, West Africans in particular, would consider that they have eaten only after consuming dense meals (Osseo-Asare, 2005). While this eating pattern increases the likelihood of protein-energy malnutrition and obesity, it is unlikely that it will change because of the cultural value attached

to big body sizes as a sign of wealth (Monteiro, Moura, Conce, & Popkin, 2004; Osseo-Asare, 2005). Culture also dictates what constitutes a meal, which varies across people groups and influences food choices. For fishing communities in Uganda, a meal constitute one or two carbohydrates, fish sauce and fish, however, it is no longer a meal if there is no fish (Johnson, 2017). On the other hand, some Somalian pastoralist do not eat fish because they believe fish consumption is the prerogative of town dwellers (FAO, 2005b). There is a general assumption that livestock ownership implies protein consumption and food security within a household, however, these animals may not be for household consumption because of cultural norms and beliefs. Households in some parts of Africa own chicken, goats and cows for different sociocultural reasons such as performing sacred rites, building networks within their community through gift exchange, or maintaining socioeconomic status (FAO, 2005b; Guèye, 2000; Piot, 1999; Osseo-Asare, 2005).

Humans also do not like trying new foods because food is a symbol for communication and affirmation of beliefs (Anderson, 2012), which makes changing food traditions and eating rituals challenging. The consumption of insects (entomophagy) is one of such old food traditions that prove that food utilization is culturally relative. Insects have been a part of human diet in many regions of the world for a long time with about 2 billion people consuming nearly 1,700 insect species on a regular basis (Barennes, Phimmasane, & Rajaonarivo, 2015; Johnson, 2010; van Huis et al., 2013). Entomophagy is acclaimed as having the potential of contributing significantly to global food security, especially in the context of a growing world population and climate change (Barennes et al., 2015; Durst & Shono, 2010; Nadeau, Nadeau, Franklin & Dunkel, 2014; van Huis et al., 2013). This is because insects are highly nutritious and have less detrimental environmental impact compared to other animals consumed by humans (Adeduntan,

S.A., 2005; Baker, Shin, & Kim, 2016; Rumpold & Schlüter; 2013; van Huis et al., 2013; Yhoung-aree, 2008). However, cultural preferences or prohibitions not nutritional or environmental value determine the consumption or non-consumption of insects across the world (van Huis et al., 2013; van Huis, 2003). Despite the potential of entomophagy, many people, especially those living in western countries still express disgust concerning insect consumption and associate the act to primitive behavior (van Huis et al., 2013). On the other hand, people who consume insects continue to do so mainly for taste and sentimental reasons (refusal to let go of food traditions), not because of the nutritional or environmental value (Durst & Shono, 2010; Yhoung-aree, 2008). The impact of culture on food utilization shows that economic, environmental or nutritional factors are not always the chief drivers of food consumption. The definition of a meal as well as the decision on what to eat and how to prepare it within households are grounded in cultural norms, values and beliefs, even when food is available and accessible.

2.6.4 Cultural Factors: Food Stability

Culture ensures the continuous production and consumption of traditional foods through the transmission of the history and values attached to such foods from one generation to the next. The cultivation of traditional foods are socially, economically, and environmentally sustainable because they have been well adapted to the local ecologies of farm households over long periods of time (Alonso et al., 2018; McCann, 2005; Pottier, 1999; Scott, 1998). Traditional farming systems are less vulnerable to shocks and more cost efficient thereby serving as a stable source of income and food for farm households (Altieri, 2004). Traditional diets are often diverse including meals from various food groups since they have been adapted to suit the nutritional and palatability needs of community members over a long period of time (Milburn, 2004;

Trichopoulou, Costacou, Bamia, & Trichopoulos, 2003; Trichopoulou, Soukara, & Vasilopoulou, 2007). The abandonment of traditional diets for modern ones is strongly associated with the increased prevalence of overweight, obesity and non-communicable diseases in low- and middle-income countries (Bogin et al., 2014; Delisle & Batal, 2016; FAO, 2017a; Gaiha et al., 2010; Ghattas, 2014; Popkin, Adair, & Ng, 2012; WHO, 2017). Abandoning traditional diets can also threaten the livelihood of farm households who cultivate traditional crops. In Nigeria, the preference for imported parboiled rice over local rice has affected domestic rice production negatively because farmers cannot compete with the lower price of imported rice in the market due to high production costs (Nzeka, 2018). Further, the strict adherence to traditional diets in some societies has contributed significantly to nutritional deficiencies and other forms of malnutrition (Bogin et al., 2014).

The undeniable connection between culture and food demonstrates the need for a deeper exploration of food security using a sociocultural lens. A sociocultural exploration of food security does not imply the exclusion of economic or environmental factors influencing food security. It rather offers a more holistic and contextual view of food security by explaining the problems and its chief drivers within specific cultural settings.

2.7 Conceptual Framework

The Food Insecurity and Vulnerability Information and Mapping Systems, FIVIMS framework of the Food and Agriculture Organization informed the conceptual framework for this research (see Figure 2.3). The operational framework developed by the researcher demonstrates the relationship between the nutritional status of farm households and economic factors such as income and local food prices, as well as non-economic factors such as cultural values, beliefs

and practices (see Figure 2.3). As depicted, economic factors like income as well as cultural norms, values and beliefs may influence food production (crops cultivated), consumption (meals eaten) and distribution (how food is shared) within farm households. These food-related behaviors are associated with the nutritional status of farm households operationalized as the different food groups consumed over a one day period. The study controlled for household characteristics like marital status, household size, primary source of food procurement, and livestock ownership.

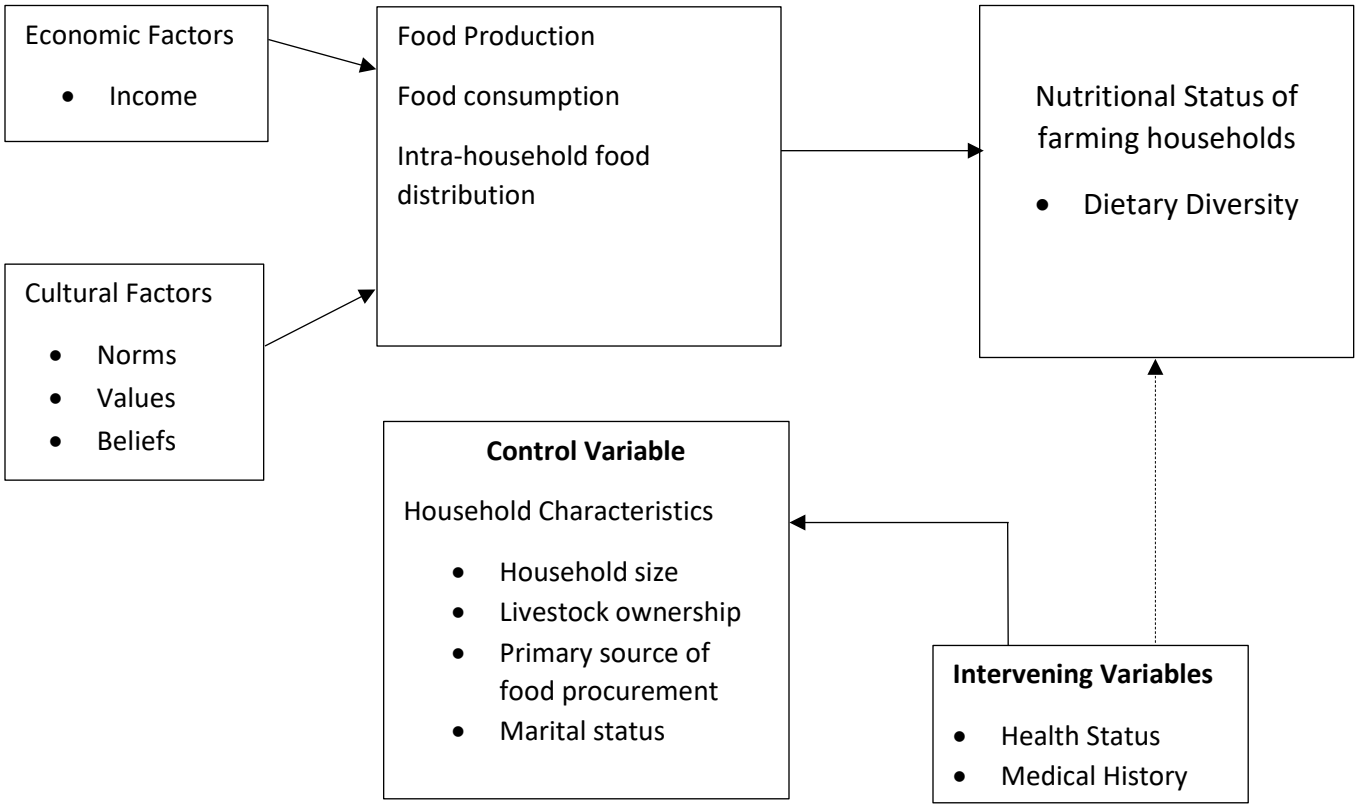

Figure 2.3. Conceptual Framework

2.8 Theoretical Perspective

Despite various efforts directed at achieving a food secure world, progress has declined over the past decade while the multiple burden of malnutrition became more prevalent in many

regions across the world (Development Initiatives, 2018; FAO et al., 2018). The sociocultural context of populations that are vulnerable to food insecurity can be important in providing a holistic understanding of the issue especially as it concerns designing and implementing food security initiatives (UN, 2013). This is because cultural norms, values and beliefs are chief drivers of food-related behaviors within households, communities or societies, which makes food and culture inextricably (Amone, 2014; Fanzo 2015). Research has shown that many development projects aimed at tackling food insecurity and poverty have failed and sometimes increased impoverishment because of scientific arrogance and lack of consideration for cultural factors that shape the behaviors and experiences of project beneficiaries (Davidson, 2016; Scott, 1998; Shipton, 2010). These conclusions suggest that groups who are vulnerable to food insecurity may not define and conceptualize food insecurity in the same manner as researchers and practitioners. Further, global food insecurity may persist if it is not understood in terms of the experiences and cultural context of vulnerable groups. Therefore, Giorgi's descriptive phenomenological method informed this study's exploration of food-related experiences among farm households as well as the sociocultural factors that shaped these experiences.

2.8.1 Phenomenology

Humans eat to satisfy a necessary urge on a daily basis, so apart from breathing, eating is arguably the most important human activity (Fox, 2003; Mintz & Du Bois, 2002). However, food is not just a biological necessity, it is a cultural symbol as well serving as a vehicle for expressing cultural identity and building relationships (Fischler, 1988; Fox, 2003). Societies satisfy the urge to eat in different ways, with each society setting boundaries on what food is, when it should be eaten, and who should eat it (Arzoaquoi et al., 2015). Nutrition also often plays just a small part in food choices (Fox, 2003), which may explain why multiple forms of

malnutrition coexist in the same individual, household, and the world in general despite sufficient global food production (OECD, 2013; WHO, 2018b). Culture and food are inextricably linked, how and why people eat what they eat is driven by culture, which results in different nutritional outcomes for different members of the household, community, or society (Alonso et al., 2018). This is because what is acceptable as food in a particular cultural context may be tabooed in another context, which leaves some parts of the population more vulnerable to food insecurity than others. It is therefore important to understand how different societies conceptualize food insecurity and hunger, as well as how food-related experiences differ among households within their unique sociocultural context. Husserl's phenomenology and Giorgi's psychological phenomenology were used to inform the exploration of these food-related experiences among farm households in the study area.

Hailed the father of modern phenomenology, Husserl conceived phenomenology in the early 1900s as a philosophical theory and method that examines human experiences and consciousness (Giorgi, 2009; Zahavi, 2003). Born mainly out of Husserl's questions about how his own biases and assumptions have influenced his thoughts and perceptions about the world, phenomenology posits that the purest essence of a phenomenon can only be determined by setting aside all previous forms of thinking and knowing (Crotty, 1996; Thomas, 2006, p. 44). Phenomenology has come a long way from the early twentieth century, with several disciplines adopting phenomenological methods to explore a variety of topics such as sexual, racial and gender orientation (Ahmed, 2006; Ahmed, 2007; Birzer, Smith-Mahdi, 2013), religion (Cox, 2010; Flood, 1999; Kristensen, 2013), and healing (O'Dell & Jacelon, 2005; Greenfield & Jensen, 2012).

According to Smith (2018), phenomenology is the study of phenomena as they appear in our experiences or the way we experience phenomena, in order to understand the meaning that things have in our experience (para. 5). Humans assign meanings as they interact with their environment and the essence of these meanings are revealed through the analysis of consciousness in which these interactions occur (Flood, 2010; Smith, 2006). This analysis of consciousness demands that all previous habits of thought be set aside in order to break down the mental barriers these habits place on how phenomena are examined and understood (Husserl, 2012, p. 3). Therefore, Husserlian phenomenology investigates the structure of consciousness by exploring the first-person experience of a phenomenon as it is being experienced in its purest form that is in the absence of a meaning system (Crotty, 1996; Giorgi, 2009; Smith, 2006). This is important because humans do not always critically reflect on their everyday lives, hence, phenomenology offers an approach of examining lived experiences that are specific to a group of people (Lopez & Willis, 2004**)**. To achieve its goal of describing the essence of phenomena, phenomenology has two central tenets, which are intentionality and reduction.

Intentionality refers to the fact that many acts of consciousness are directed towards objects that transcend the acts in which these objects appear (Giorgi, 2009, p. 80). Humans do not merely think or feel, their thoughts and feelings are usually directed towards an object, person or event, therefore, intentionality is how humans frame or refer to an object or event in their mind (Siewert, 2002; Zahavi, 2003). In fact, it could be argued that every lived experience is intentional because human beings are conscious of every thought that comes to the mind such that the meaning of an experience is not just about the content of an event but also how it is represented in the mind (Bourget & Mendelovici, 2016; Giorgi, 2009; McIntyre & Smith, 1989; Smith, 2006). To arrive at the pure essence of an experience, events and objects should be

examined in relation to the form of consciousness directed towards them from a first-person perspective (Zahavi, 2003). However, the consciousness directed towards an object or event can only be identified through a phenomenological reduction that challenges how we see and approach the world (Thomas, 2006).

Phenomenology describes exactly what appears in an experience so nothing is added or subtracted from what is actually present in the experience (Converse, 2012; Zahavi, 2003). To ensure achieve this, Husserl (1970) posits the reduction of an experience to its core by shedding of all prior knowledge, thoughts, biases and assumptions. This state of setting aside preconceived ideas to focus on what is being currently experienced is referred to as Epoché and remains a central tenet of phenomenological inquiry till date (Giorgi, 2009; Moustakas, 1994). According to Husserl (1970), epoché is a phenomenologist attitude assumed by a researcher that involves an abstraction from all objective theoretical interests and critical positioning including those associated with everyday living (p. 45). In doing this, the researcher focuses on what is actually present by stripping away reasoning and meanings that shape their understanding of the world to arrive at the pure essence of an experience (Crotty, 1996; Giorgi, 2009; Husserl, 1970). Epoché can be challenging because humans constantly use past experiences to make sense of current experiences (Giorgi, 2009). However, epoché is simply adopting a particular attitude towards a certain experiential interest, which humans already do on a daily basis when they negotiate between various identities and interests (Giorgi, 2009; Husserl, 2012). Further, epoché requires the suspension of previous belief systems rather than forgetting all previous knowledge and beliefs about a phenomenon (Crotty, 1996; Giorgi, 2009). This means that past knowledge and beliefs should not be engaged while determining the essence of a phenomenon (Giorgi, 2009). In

fact, culture still plays an important role in phenomenology through language since the essence of an experience requires linguistic description (Crotty, 1996).

Husserl proposed phenomenology as a philosophical theory and methodology that focuses on the researcher's first-hand experience of a phenomenon, however, Amedeo Giorgi extended phenomenology to include the researcher's exploration of the lived experiences of others. Giorgi posits the descriptive phenomenological method as an integration of philosophical phenomenology and psychology that explores human experiences and behavior in a non-reductionist manner (Giorgi, 2009; 2010; 2012). The first step in adopting this method is to assume the psychological phenomenological attitude of reduction, which differs from epoché in that the person going through the experience is different from the person (researcher) analyzing the experience (Giorgi, 2009). Therefore, participants remain in their natural attitude while narrating their experience with the phenomenon and the researcher enters the phenomenological attitude during the analysis of participant narratives (Giorgi, 2009; 2012).

After assuming the psychological phenomenological attitude, Giorgi (2009; 2012) outlined three concrete steps the researcher has to go through in order to arrive at the essence of the phenomenon of interest (Giorgi, 2009; 2012). These steps include: 1) reading the whole descriptive narrative to get a sense of the whole data; 2) determination of meaningful units; and 3) transformation of the participants data into phenomenological psychologically sensitive expressions. Interviewing is the common method used in collecting phenomenological data (Creswell, 2013; Giorgi, 2009; Moustakas, 1994), therefore, the first step involves reading all the interview transcripts so that the researcher can have a general idea of what the data is describing (Giorgi, 2012). The second step involves reading the data over and over again with the aim of highlighting meaning units of descriptions, which is similar to thematic coding employed by

qualitative researchers but it should be noted that the researcher assumes a phenomenological attitude of reduction in a phenomenological inquiry (Giorgi, 2009). The third and the most significant step requires that the researcher go through the data once again and start interrogating each meaningful unit in order to determine which psychological meaning accurately depicts the essence of the experience for each participant while also looking out for those that can be generalized to all participants (Giorgi, 2009; 2012; Moustakas, 1994). These psychologically meaningful expressions are then reviewed and written to describe the essence of the phenomenon, which is used to interpret the raw data of the research (Giorgi, 2012). Researchers should also take the participants' context into account when conducting the steps as some important psychological meanings may not be explicitly stated but strongly implied in the transcripts (Giorgi, 2009). This enables the researcher to reflect on the psychological meaning of the participant's narrative and assign meanings to it without adding or subtracting from the essence of the phenomenon as experienced by the participant (Giorgi, 2012).

2.8.2 Phenomenological Studies on Food

Food does not just satisfy hunger, it is the vehicle that drives social relationships and cultural identity within societies (Bellasco & Scraton, 2002; Counihan, 2012; Falk, 1994; James et al., 2009). Food insecurity therefore threatens not just the physical wellbeing of vulnerable groups like farm households but their social wellbeing as well. Phenomenology allows the exploration of experiences pertaining to food in order to arrive at the essence of meanings attached to food, hence, the explaining the complex relationship between humans and food. Several studies have adopted a phenomenological approach to explore food-related experiences among various groups. For example, Evans, Seversten and Shultz (2004), explored the meaning of food among nursing home residents and found that food served as a source of comfort and

nostalgia as well as an expression of ethnic identity. Additionally, Dibsdall, Nigel and Frewer (2002) used phenomenology to analyze the food-related beliefs and experiences of food among low-income women in the United Kingdom. The study revealed that the definition of nutrition as well as food-related behaviors were shaped by childhood patterns, past experiences, family and friends. Further, scholars have employed phenomenology to examine specific food-related behaviors such as Weingarten and Elston's (1990) phenomenological exploration of food cravings, which revealed that cravings do not always reflect bodily needs as commonly assumed rather cravings may be tied to expectations and cognitions.

Phenomenology was selected as an appropriate theoretical perspective for this study because it allows the exploration of the food-related experiences of farm households in order to describe the essence of their food-related behaviors. Since phenomenology assumes that every phenomenon has both quantitative and qualitative aspects, it challenges the notion that quantification is the only mode of rigorous science (Giorgi, 2009). In fact, phenomenology espouses the use of interviews as the main method of collecting data about human experiences of a phenomenon (Moustakas, 1994). As a result, the adoption of the phenomenological psychological method for this study helps to avoid overly simplistic descriptions of food insecurity as well as its primary drivers within the sociocultural context of study participants. This is important because quantifying complex issues like food insecurity tend to be reductionist, often neglecting the cultural and political contexts that define these issues (Jerven, 2013). Additionally, phenomenology requires that researchers assume an attitude of reduction that suspends prior knowledge, bias, and assumptions about the phenomenon of interest (Giorgi 2009; Husserl 1970). The narrative description of the food-related experiences provided by this study will therefore be a depiction of the socio-cultural context of food insecurity strictly from

the farm households' perspectives without the interference of the researcher's knowledge and belief about food insecurity. This is important because many development projects have failed due to the lack of consideration for beneficiary voices and overreliance on the knowledge of development practitioners and researchers (Davidson, 2016, Scott, 1998; Shipton, 2010).

2.9 Need for Study

Despite the fact that smallholder farm households produce four-fifths of the developing world's food, they constitute a significant proportion of the world's poor who live on less than $2 a day, and half of the world's undernourished people (IFPRI, 2017a; The World Bank, 2016). The high prevalence of malnutrition among the world's poor has led to the framing of the problem from an economic perspective. Over the past few decades, most agricultural interventions have been aimed at improving productivity based on the rationale that when small-scale farmers move from subsistence to commercial level of production, their income increases which translates to a reduction in poverty and subsequently a reduction in malnutrition (FAO, IFAD, & WFP, 2002).

Studies have pointed to the fact that improving the socioeconomic status of the poor does not automatically lead to reduction/eradication of hunger and malnutrition or better nutritional status. This is especially evident in the double burden of malnutrition (that is the coexistence of undernutrition and obesity within the same family, community, and country) that plagues the global population today (Du, Mroz, Zhai, & Popkin, 2004; FAO, 2008b; Fan & Brzeska, 2016; Popkin, Adair, & Ng, 2012). Even when food becomes available due to increased agricultural productivity, households still have to make various decisions with regards to food and these decisions are rooted within the context of cultures, traditions and social structures that impact

human nutrition and health outcomes in an individual as well as a globalized way (Weingärtner, 2004; Fanzo, 2015).

Limited research exists on how farm households in Nigeria make decisions about food and what roles sociocultural factors play in this decision-making process. In addition, no studies have been found yet on how the interaction between sociocultural factors and food-related decisions influences the nutritional status of farm households. Further, the majority of the research on farm households in Nigeria continues to focus on food insecurity and malnutrition from an economic perspective primarily by looking at how economic factors such income and food prices influence food security or nutritional status (Babatunde, Omotesho, & Sholotan, 2007; Babatunde, Omotesho, Olorunsanya, & Owotoki, 2008). Only a few studies have looked at food insecurity using a cultural lens, and most of these studies focus mainly on describing food taboos/practices and the implication for food and nutrition security (Agada, & Igbokwe, 2016). This study will therefore enhance the understanding of food security from a sociocultural perspective by using the descriptive phenomenological method to describe the food-related experiences of farm households and the role of sociocultural factors in shaping these decisions.

2.10 Rationale for Selection of Study Population: Vulnerability

The selection of the study population was informed by an examination of vulnerability to food insecurity, which highlighted some groups of people as being more food insecure than others. Vulnerability to food insecurity is defined as the range of conditions that increase the susceptibility of a household to the impact of food security in case of a shock or hazard (FAO et al., 2018, p. 161). Vulnerability analysis of food insecurity examines the likelihood that individuals and households might experience the risk of food insecurity sometime in the future

and their ability to cope effectively with such risk (FAO, 2000; Scaramozzino, 2006; WFP, 2009). While everyone is potentially vulnerable to food insecurity especially during unforeseen or unexpected events such as natural disasters or war, some people are more vulnerable than others during emergencies as well as in everyday life. Empirical evidence shows that people are especially vulnerable to food insecurity if they are female, children, live in a female-headed household, a member of a low- or middle-income country or rely on agriculture as a main source of livelihood. (Akakpo, Randriamamonjy, & Ulimwengu, 2014; Capaldo, Karfakis, Knowles, & Smulders, 2010; Delisle & Batal, 2016; Development Initiatives, 2018).

2.10.1 Women

Research has shown that gender is a key determinant of nutritional status in many countries of the world (Dodson, Chiweza, & Riley, 2012; Dzanku, 2019; Maitra & Prasada Rao, 2018; Martin & Ferris, 2018; Monteiro, Moura, Conde, & Popkin, 2004; Tibesigwa & Visser, 2016). Food insecurity is in fact gendered and generational as women and children are among the most vulnerable to global food insecurity (Capaldo, et al., 2010; Development Initiatives, 2018; FAO et al., 2018; Martin & Lipert, 2012). In African countries, women are less food secure than men are and female-headed households are more vulnerable to food insecurity than male-headed households are (Ajani, 2008; Development Initiatives, 2018; FAO et al., 2018). Tibesigwa & Visser (2016) found that female-headed farm households in rural South Africa are more susceptible to chronic food insecurity compared to their male counterparts. Similar findings were made among households in Nigeria (Akerele, Momoh, Aromolaran, Oguntona, & Shittu, 2013; Amaza, Umeh, Helsen, & Adejobi, 2006; Babatunde, et al., 2008; Fawehinmi & Adeniyi, 2014),

Kenya (Kassie, Ndiritu, & Stage, 2014), Malawi (Kakota, Nyariki, Mkwambisi, & Kogi-Makau, 2011), and sub-Saharan Africa (Dzanku, 2019). Women are also more vulnerable to seasonal food insecurity than men (Adepoju & Adejare, 2013; Anderson et al., 2017; Devereux, et al., 2012) and particularly reproductive women in low-income countries are more susceptible to several forms of malnutrition like obesity and micronutrient deficiencies (Development Initiatives, 2018; Monteiro et al., 2004). Further, young females are more susceptible to obesity in Nigeria than young males are (Ene-Obong et al., 2012; Omigbodun et al., 2010).

The vulnerability of women and children to food insecurity can be explained by behavioral patterns and sociocultural factors that place them at a disadvantage during distribution of household resources including food. According to FAO et al. (2018), women usually change their dietary patterns during hunger periods by sacrificing their food consumption for the wellbeing of the households. Further, cultural norms in some countries dictate the prioritization of men and elders over women and children during food distribution within the household, which results in vulnerability to food insecurity and malnutrition (Chege et al., 2015; Hyder et al., 2005; WFP, 2019). However, a few studies found no significant difference in the food security status of individuals and households based on gender, (Akakpo, 2014; Fisher & Lewin, 2013; Gebrehiwot & van der Veen, 2014; Hadley, Lindstrom, Tessema, & Belachew, 2008), thereby, contending the notion that women are automatically more vulnerable to food insecurity than men are.

The majority of research studies on food security treat gender as dichotomous variable in food security analysis without considering how other identities interact with gender within a socio-cultural context. This binary approach to studying gender analysis of food insecurity tends to homogenize women and may lead to erroneous generalizations (Doss, Menzen-Dick,

Quisumbing, & Theis, 2018; Tavenner et al., 2019). A sociocultural exploration of food insecurity can provide disaggregated data that highlight variations within and between gendered groups, which informs a better understanding of the gender dynamics of food insecurity among vulnerable population.

2.10.2 Smallholder Farm Households

Smallholder farm households make up about 90 percent of the world's farms and produce a significant proportion of the world's food supply, with up to 80 percent in developing countries alone (IFPRI 2017a; Rapsomanikis, 2015). These farm households who cultivate less than two hectares of land are among the most vulnerable groups in the world to food insecurity (Fan, Brzeska, Keyzer, & Halsema, 2013; FAO, 2019a). Studies have shown that households in developing countries who rely heavily on agriculture especially those operating at a subsistence level are more likely to be food insecure due to lower and unstable food production (Anderson, Reynolds, Merfield, & Biscaye, 2017; Capaldo et al., 2010; Rapsomanikis, 2015).

The lack of infrastructure, as well as climate change, and other factors (low mechanization and high rainfall dependence) combine to threaten the food stability of these farm households (FAO et al., 2018; Popkin et al., 2012). This results in smallholder farm households being vulnerable to hunger and food insecurity especially during the months right before harvest, which represents the rainy season in tropical countries (Akakpo, et al., 2014; Anderson et al., 2017; Devereux et al., 2012).

Commonly a "hunger season" occurs as the result of weather variations. This season is defined as the time of the year characterized by low food production, dwindling food reserves and high food prices (Devereux et al., 2012; Vaitla, et al., 2009). Most of the food insecurity

around the world does not occur during natural or manmade shocks and hazards, rather, it happens during hunger season (Vaitla et al., 2012). Hunger season also results in seasonal dietary patterns among households especially in rural areas where most small farm households live such that energy intake declines and diet becomes less diverse during this period (Becquey et al., 2011; Hirvonen, Taffesse, & Hassen, 2015). While the annual hunger season combined with low food production and the laborious nature of low mechanized subsistence farming make farm households susceptible to undernutrition, the psychosocial effects of food insecurity also increases the burden of obesity among poor farm households (FAO et al., 2018; Popkin et al., 2012). Delisle & Batal (2016) asserted that the burden of obesity in low-income countries shifts to the poor, like farm households, when rapid economic growth happens. This is because unstable access to food can lead to changes in eating patterns and the type of foods consumed. Out of fear and anxiety about seasonal hunger, farm households have been shown to overeat or shift from consuming expensive healthier foods to cheaper unhealthy foods rich in salt and sugar content (FAO et al., 2018; Popkin et al., 2012). Reliance on agriculture as a source of livelihood, therefore, does not automatically make household immune from food insecurity or the different forms of malnutrition. This fact seems ironic given the significant role small farm households play in global food production.

2.10.1.1 Food Insecurity in Nigeria

Nigeria is Africa's largest oil-producer but remains an agrarian nation since about 70 percent of its labor force still depends on agriculture as a source of livelihood (FAO, 2019d). Nigerian farmers lack access to funding, inputs, technology and markets therefore 90 percent of

agricultural production is still at the subsistence level (FAO, 2019d; Downie, 2017). Despite being subsistence, the agricultural sector contributed about 22 percent to the national Gross Domestic Product (GDP) in 2018, the second highest contribution by any sector according to the National Bureau of Statistics (NBS, 2019).

Most Nigerian farm households practice low mechanized and rain-fed agriculture on less than an average land size of 0.5 hectares (FAO, 2019d; NBS, The Federal Ministry of Agriculture and Rural Development [FMARD], & The World Bank, 2016). Staple crops cultivated by farmers include cassava, yam, wheat, rice, maize, millet and cowpea. The Nigerian agricultural sector ensured that the nation was self-sufficient in food production until the 1970s contributing 95 percent of its food needs (FAO, 2017b, p. 3). Nigeria is Africa's biggest economy and largest producer of rice as well as the world's largest producer of cassava (FAO, 2019d; Nzeka, 2019) but the nation currently struggles with a high prevalence of chronic food insecurity.

About 27% of Nigerian households experience food insecurity. The percentage of food insecure households can be as high as 34% in some regions of the country and about 50% of Nigerian households experience food shortage at least once a year (NBS, FMARD, & The World Bank, 2016). Child malnutrition is also one of the major challenges the country faces as global malnutrition reports place Nigeria as having the second highest number of stunted (13.9 million) and wasted children (3.4 million) in the world (Development Initiatives, 2018; FAO et al., 2018). According to FAO et al. (2018), an estimated 46 million and 22 million Nigerians were severely food-insecure and undernourished, respectively between 2015 and 2017. However, food consumption trends also point to the increasing prevalence of overweight citizens and the phenomenon of obesity as the next big threat to national health. Oil and fat products along with

grains are the most commonly consumed food items in the country and households seldom consume fruits and dairy products (NBS, FMARD, & The World Bank, 2016, p. 39). Statistical data on obesity in Nigeria is scarce, however, a few studies conducted in different states across have placed the prevalence of overweight people and obesity among adults between 8% and 35% (Adedoyin, Mbada, Balogun, Adebayo, Martins, & Ismail, 2009; Amira, Sokunbi, Dolapo, & Sokunbi, 2011; Desalu, Salami, Oluboyo, & Olarinoye, 2008; Oyeyemi, Adegoke, Oyeyemi, Deforche, Bourdeaudhui, & Sallis, 2012).

2.10.4 Regional Context

Oyo state, one of the thirty-six states in Nigeria is located in the southwestern part of the country and has a population of about 4.5 million people. Majority of the people belong to the Yoruba ethnic group, however, they can be divided into five main sub-ethnic groups – Ibadan, Ibarapa, Oyo, Oke-Ogun and Ogbomosho. Agriculture is the main source of livelihood in the state because the climate of the state favors the cultivation of a wide variety of crops such as maize, yam, cassava, millet, rice, plantain, cocoa, palm tree and cashew (Federal Government of Nigeria, 2017). The state was selected because it has the highest prevalence of child stunting (27%), a major indicator of child malnutrition, and the highest percentage of undernourished women (13.5%) in the south-western region of Nigeria (National Population Commission of Nigeria and ICF International, 2014).

The participating households were selected from two sub-ethnic groups – Ibarapa and Oke-Ogun because they are predominantly farmers with the latter considered the *food basket* of the state. Both areas engage in farming as their main occupation, however the most predominant food crop in Ibarapa is cassava while yam is the most predominant food crop in Oke-Ogun (O. Oyesola, personal communication, February 8, 2018), hence a difference in food-related

behaviors was anticipated. Ago-Amodu and Elepo villages were selected from the Oke-Ogun and Ibarapa sub-ethnic group respectively.

2.11 Chapter Summary

This chapter included the research questions and purpose of the study. It also provided a review of literature on the current state of global food security including the link between malnutrition and food insecurity as well as the three main drivers of food insecurity among vulnerable populations, economic factors, climate change and cultural factors. Additionally, the chapter highlighted the sociocultural context of food security by reviewing the literature on the effect of culture on food availability, access, stability and utilization, which are the four dimensions of food security.

The conceptual framework for this study was adapted from FAO's (2009) Food Insecurity and Vulnerability Information and Mapping Systems, which identified various factors that drive food security at micro and macro levels. The conceptual framework suggests that the nutritional status of farm households depends on economic and cultural factors that drive food production, consumption and distribution within these households. Phenomenology (Husserl, 1970; Giorgi, 2009) was presented as the theoretical perspective that informed the study. The aim of phenomenology is to describe the essence of human experience in its purest form in the absence of the researcher's assumptions and past knowledge. Collectively, the conceptual and theoretical frameworks for this study chapter suggest that culture as well as the lived experiences of farm households pertaining to food may play a key role in understanding the paradoxical nature of food and nutrition security outcomes. The need for the study was determined by identifying the gaps in research and practice concerning food security particularly among farm households in low-income countries like Nigeria. Finally, the chapter presented the rationale for

selecting farm households in Nigeria as the study population by exploring vulnerability to food insecurity and the regional context of the study.

CHAPTER 3. METHODOLOGY

3.1 Introduction

This chapter describes the research methods and procedures used during the implementation of this study. The chapter will also explain why methods and procedures were considered the most suitable for answering the research questions. In addition, a description of how the phenomenological method was employed in data collection and analysis as well as a definition of key constructs used in the study is provided. The chapter concludes by explaining the measures adopted to ensure the trustworthiness of the study and the researcher's role.

3.2 Purpose of the Study

The purpose of this study was to explore food production, consumption and distribution among farm households in two rural communities in Oyo state, Nigeria. Further, the study examined the role of sociocultural factors in shaping these food-related behaviors and the nutritional status of the farm households.

3.3 Research Questions

RQ1. What are the demographic characteristics of farm households in Ago-Amodu and Elepo Villages of Oyo state, Nigeria?

RQ2. What foods are eaten in each household and do they differ by village?

RQ3. What socio-cultural factors drive the food production behaviors of farm households?

RQ4. What socio-cultural factors drive food consumption and distribution within farm households of each village?

RQ5. How socio-cultural factors influence food security in each village?

RQ6. Are there common socio-cultural factors that influence food security between villages?

3.4 Phenomenology

A phenomenological research design was considered the most appropriate for this research. Phenomenology is an empirical procedure that explains a phenomenon by examining the experiences and intentionality of individuals (Tible, Mendez, & von Gunten, 2018). Individuals assign sense and meaning to a phenomenon during daily interactions through their subjective consciousness therefore the description of a phenomenon is based on an individual's lived experiences of that phenomenon (Eberle, 2013). The aim of the phenomenological method is to describe, understand and interpret how humans make meanings of their experiences (Bloor & Wood, 2006, p.128). The essence of a phenomenon is thus explained by linguistic descriptions of the phenomenon by several participants as well as the observations and subjective experience of the researcher (Crotty, 1996; Eberle, 2013; Giorgi, 2009).

The phenomenon of interest for this study was food-related behaviors. Food-related behavior is the way in which individuals or groups of individuals, in response to social and cultural pressures, select, consume, and utilize portions of available food supply (Axelson, 1986, p. 346). Food is symbolic as it signifies economic, social, political, religious, ethnic, and aesthetic meanings within a society. As culture gets transmitted from one generation to the next, members of a group (family, community, or society) learn the norms, values and beliefs about food that are acceptable in the group they belong to (Axelson, 1986; Montanari, 2006).

The essence of a phenomenon is derived from the experiences of several individuals who have all experienced the same phenomenon (Creswell, 2013). Therefore, the goal of using a phenomenological approach was to as closely as possible capture the essence of food-related behaviors within *Ago-Amodu* and *Elepo* villages by exploring the socio-cultural experiences of farm households concerning food production, consumption and distribution.

3.4.1 Qualitative Methodology

Qualitative methodology is a situated activity that locates the observer in the world (Denzin & Lincoln, 2011, p.3). It is an inquiry into people's experiences in their natural setting with the aim of understanding the meanings assigned to these experiences (Creswell, 2013). One of the major features of qualitative research is that it provides an opportunity to capture the voices of participants, providing a detailed and contextualized understanding of their perspectives (Creswell, 2015). Social phenomena such as food insecurity is complex and quantifying it can be simplistic (Jerven, 2013). Conversely, a qualitative inquiry into food-related behaviors of farm households provides a rich description of the intricate network of factors that drive food insecurity within the social context of these households.

Qualitative methodology is well suited for this study because no studies were found that explored the relationship between socio-cultural factors and food-related behaviors of farm households in Oyo state, Nigeria. Historically, measurement of food security has been flawed and therefore underrepresents the multiple interrelated factors that influence household food security. For example, past studies usually employ 24-hour recall measures to determine the nutritional status of individuals and households (FAO, 2011). These measures account for temporary nutritional status, which limits the holistic understanding of food insecurity as a

dynamic phenomenon since the nutritional status of individuals and households can fluctuate over time (Capaldo et al., 2010; WFP, 2009). A qualitative inquiry, on the other hand, can explore the food habits and behaviors of farm households in a more in-depth manner, especially intra-household dynamics of food distribution and decision-making that surveys may not necessarily capture. In addition, a combination of qualitative data collection methods can help highlight the socio-cultural factors that drive food-related behaviors within a particular context. Further, qualitative research emphasizes the individual experiences and ascribed meanings to a phenomenon within a natural setting with little or no manipulation (Creswell, 2013; Patton, 2015). Qualitative research on food insecurity is therefore important for highlighting the food-related experiences of food insecure groups, who have been found to conceptualize food insecurity and hunger differently than development practitioners (Davidson, 2016; Johnson, 2017).

3.5 The Descriptive Phenomenological Method

The phenomenological method has been concisely operationalized as a "descriptive phenomenological method" by Amedeo Giorgi (2009). This method includes three foundational phases of research. These include: 1) eliciting lived experiences from participants who are experiencing or have experience the phenomena of interest for the research study, 2) the phenomenological reduction – which refers to a process in which the researcher takes an objective stance called the epoché, and 3) the search for invariant psychological meaning across participants. Each of these overarching phases are incorporated into the specific detailed operationalization of the methods as described below. The researcher also employed Clark Moustakas' phenomenological research procedure (1994) as a guide during data collection and analysis.

3.5.1 Eliciting Lived Experiences from Participants

This is the first stage of the phenomenological research process and involves obtaining a description of lived experiences pertaining to a phenomenon from ordinary persons within their natural attitude (Giorgi, 2009, p. 96). Phenomenological research typically adopt in-depth interview as the method of data collection because of the assumption that the essence of a phenomenon is best understood through the reflection of several people about their subjective experience of that phenomenon (Bloor & Wood, 2006; Creswell, 2013; Eberle, 2013; Giorgi, 2009; Moustakas, 1994). Therefore, the primary data collection method for this study was in-depth interviews. Data was also collected using observations mainly because the participants' description of their experiences can be reductionist, hence, the essence of a phenomenon can be fully explained by participants' narration of their experiences as well as the researcher's observations and subjective experience (Eberle, 2013). The observational data obtained during the first few weeks spent in each village were used to design the guide for the in-depth phenomenological interviews conducted during the last two weeks spent in the village by the researcher (Appendix A). Combining observations and in-depth interviews also allows for triangulation, which is one of the distinctive and important features of qualitative research. It involves the collection of data using multiple methods to allow for the systematic comparison of findings on a particular research topic (Bloor & Wood, 2006).

The goal of phenomenological interviewing is for participants to give comprehensive verbal descriptions of experiences within a research topic based upon their subjective reflections (Seidman, 2013). The adoption of a phenomenological approach allowed the researcher to explore the food-related experiences of farm households as well as how they are making sense of these experiences within the sociocultural context in which they live. The end goal is to have an

in-depth understanding of the essence of food-related behaviors and the factors that drive them in the study sites. Open-ended questions serve as a means of understanding human behavior without preconceived categorizations and are commonly utilized in phenomenological interviews (Fontana & Frey, 2003). Questions may however be developed in advance, but the researcher must be flexible to modifying, varying, or removing questions during the interview while creating an informal and interactive encounter for the participants (Moustakas, 1994).

For this study, interviews were semi-structured covering pre-selected topics about household food behaviors using both open-ended and close-ended questions as considered appropriate in answering the research questions. Responses about household characteristics and diet diversity were elicited using close-ended questions, while food-related experiences were explored using open-ended questions. The researcher also modified the questions and the order in which they were asked depending on the atmosphere of the conversation with each participant. To create a relaxed and trusting atmosphere, participants were asked to choose the location for their interviews and all of them preferred to be interviewed in the front or back yard of their homes. The researcher also encouraged participants to continue whatever activities they were engaged in and participated in some of such activities during the interview. Further, all participants including those fluent in English were interviewed in the local language, Yoruba, except two participants who were interviewed in Pidgin English. This is because the use of participants' local language in interviews allows for cultural manifestations and preservation of meaning as there are different ways of saying things in different languages (Fontana & Frey, 2003).

A phenomenological interview usually starts with an icebreaker or social conversation after which the participant is asked to describe their experience with the research topic from their

point of view (Moustakas, 1994). Each interview lasted for about an hour and started with the researcher introducing herself and describing her experience staying in the study sites in order to break the ice. After a brief casual conversation, the researcher reads the consent form to the participant highlighting the purpose of the research, confidentiality, incentive and participants' rights (See Appendix B). An oral informed consent was obtained from the participants because a signed consent would have been culturally inappropriate at the study sites.

Upon getting a verbal consent, the researcher asked participants questions about their experience as farm households who engage in food production, consumption and distribution. This allowed participants to reconstruct the details of their experiences as households who produce, consume and distribute food (Seidman, 2013). The next series of questions explored the factors considered in food production, consumption and distribution by farm households within their cultural context. This afforded participants the opportunity to focus and reflect on their food-related experiences within the context in which they occur (Moustakas, 1994). The interview protocol can be found in Appendix A. Each interview was audio-recorded and were transcribed by a third-party service and the researcher. The researcher also took notes of nonverbal cues that could not be captured by the audio recorder.

3.5.2 Phenomenological reduction

A phenomenological researcher assumes a reduction attitude referred to as epoché, which involves setting aside biases, assumptions, and previous knowledge of the phenomenon to avoid clouding the participants' description of their lived experiences (Giorgi, 2009; Moustakas, 1994). The researcher who engages in epoché is genuinely looking, noticing and becoming aware of experiences without imposing judgement on what is seen, said or read (Moustakas, 1994). The

phenomenological researcher therefore does not claim that the phenomenon happened in the manner it was described, rather, the description highlights the participants' experience of the phenomenon (Giorgi, 2009). Since humans do not engage in epoché every day, the process can be challenging as biases and assumptions come to the mind subconsciously. To reduce this effect, phenomenological researchers engage in *bracketing* that is the labelling and writing out preconceived notions as they enter the mind (Giorgi, 2009; Moustakas, 1994). Hence, phenomenological reduction is a repetitive process that requires the researcher to look and describe over and over again (Giorgi, 2009; Moustakas, 1994).

The researcher engaged in epoché mostly during the data analysis phase of the study, although, biases and assumptions about the study areas were written down before starting data collection. The interview transcripts were read over and over again, and during each iteration, any bias, assumption and previous knowledge about food that came to the researcher's mind were written in a memo. The researcher assumed that everything in the transcripts represented experiences with food as perceived by study participants and does not claim that events actually happened exactly as they were described (Giorgi, 2009). Epoché is rarely perfectly achieved so the researcher does not claim total phenomenological reduction for this study, however, the multiple readings of the transcript while engaging in bracketing significantly reduced the influence of the researcher's biases, preconceived notions and assumptions on the textual description of participants' experiences (Moustakas, 1994). This aligns with Giorgi's assertion that epoché does not mean a complete erasure of the researcher's past experiences with the phenomenon. It rather requires a shift in attitude such that the researcher is fully attentive to the data being analyzed to such an extent that the present becomes more heightened than past experiences with the phenomenon (2009).

3.5.3 Search for Invariant Psychological Meaning

In the descriptive phenomenological method, participants narrate their experiences with a phenomenon in their natural attitude, data analysis however takes place in the consciousness of the researcher who assumes phenomenological reduction to produce an unbiased textual description of the structure of the phenomenon (Giorgi, 2009). The goal of phenomenological data analysis is to arrive at the structure of the participants' lived experiences. The researcher uses imagination and various frames of reference to draw unique meanings from individual experiences, all of which are analyzed to extract the common meaning, which forms the structure of the phenomenon (Giorgi, 2009; Moustakas, 1994). However, in the absence of a general structure of the phenomenon, a description of the structure is provided for each participant (Giorgi, 2009). Finally, descriptive phenomenological analysis does not attempt going beyond the data given by respondents because the point is to understand the experience of the phenomenon solely based on what is given (Giorgi, 2009).

Giorgi's (2009) analysis of description steps and Moustakas (1994) phenomenological data analysis informed the data analysis for this study. Giorgi (2009) identified three steps to follow when analyzing descriptions of lived experiences, which are: 1) reading for sense of the whole; 2) determining meaningful units; and 3) Transforming participants' natural attitude expressions into phenomenological psychologically sensitive expressions (p. 128). Moustakas (1994) on the other hand identified seven steps in phenomenological data analysis; 1) Listing and preliminary grouping, 2) reduction and elimination, 3) clustering and thematizing invariant constituents, 4) final identification of invariant meanings and themes, 5) constructing individual

textual description using relevant validated invariant constituents and themes, 6) constructing individual structural description of the experience from the individual textural description 7) constructing individual and group textural-structural description (p. 120). The researcher's adaptation of these steps is described below.

A third-party service and the researcher transcribed the interviews then they were imported into QDA Miner for data management and analysis. Using the software allowed the assignment of texts in interview transcripts to codes, which were labelled in different colors aiding visualization and revision of codes. The software also enabled the organization of invariant meanings (similar to codes in qualitative research) into themes and the separation of the data based on variables such as villages, marital status ,and type of marriage in order to compare the food behaviors of farm households in the study. The transcripts were analyzed in the local language to preserve the essence of the phenomenon as much as possible and to avoid misunderstandings from biases and interpretations that may be introduced during translation to English, which may detract from the essence of the phenomenon (Fontana & Frey, 2003; Giorgi, 2009).

The researcher assumed a phenomenological attitude and read through all thirty interview transcripts to get a general sense of the food-related behaviors of participants. The researcher created a memo detailing her biases, assumptions and beliefs about food-related behaviors in the study area during the entire process of data analysis. The researcher also created a memo listing phrases and quotes that struck the researcher as significant to the participant's food-related experiences during this first analytical step of reading all interview transcripts. The researcher read through the transcripts again, reducing and eliminating constituents to determine the meaning units of the descriptions. This stage is similar to open coding in qualitative research as it

allowed the researcher to inductively identify key meanings in the raw data (Corbin & Strauss, 2015). The data was broken into several meaningful units using a significant shift in meaning as cut-off points and each meaningful unit was identified based on whether it contained a moment relevant and sufficient enough to understanding the experience (Giorgi, 2009; Moustakas, 1994).

Finally, the researcher read through the data again to transform participants' natural narratives to phenomenologically psychologically meaningful descriptions that accurately depict the general structure of food-related behavior among study participants (Giorgi, 2009; Giorgi, 2012). To achieve this transformation, meaningful units were carefully described to create a memo that included a detailed description as well as an exemplar of each meaningful unit. Meaning units were labelled using actual phrases and terms used by participants such as *yam is king, a man is lord of his castle*, *pounded yam is food*, and *nothing on the farm, nothing at home*. This is referred to as in-vivo coding method in qualitative researcher and helps to amplify participants' voices for better understanding of their cultural context (Saldaña, 2013). The next step in the transformation process was the clustering of related meaningful units into themes after which an investigation was conducted to determine if these themes were expressed explicitly in the transcripts or compatible with participants' responses. The last step of data analysis was constructing the structure of the socio-cultural dynamics of food (in)security among farm households in the study area through the identification of relevant themes of food-related descriptions that can be generalized to all participants.

3.5.4 Definition of Constructs

In general, the phenomenon of interest for this study is food-related behavior. Food-related behavior is the way in which individuals or groups of individuals, in response to social

and cultural pressures, select, consume, and utilize portions of available food supply (Axelson, 1986, p. 346). This simply means the way people act with regards to food, and these actions reflect their culture. Social/cultural beliefs and practices influence food choice, preparation, consumption, and distribution. Food is symbolic, it signifies economic, social, political, religious, ethnic, and aesthetic meanings within a society. As culture gets transmitted from one generation to the next, members of a group (family, community, or society) learn the norms, values and beliefs about food that are acceptable in the group they belong to (Axelson, 1986; Montanari, 2006). For this study, the researcher is particularly interested in exploring the food behaviors and the sociocultural context in which they exist. Participants were interviewed using a protocol that included household characteristics, food production, consumption and distribution patterns as well as the cultural, economic and religious meanings driving these patterns among households. The interview protocol also included questions concerning household diet diversity. The interview protocol can be found in Appendix A.

3.5.4.1 Household Characteristics

Land size, household size, sources of food procurement, ownership of home garden, animal ownership, income, sources of income and income allocation are the household characteristics measured for this study.

3.5.4.2 Food Production

Participants were asked to name all the crops they cultivate on their farms in order to determine what type of farming system they operate. Questions about food production decisions concerning what, when and how to plant as well as the source of labor for farming activities were also included.

3.5.4.3 Food Consumption

Food consumption was measured using a modified scale adapted from Akakpo, Randriamamonjy, & Ulimwengu (2014). Participants were asked to mention all the foods consumed in their households and how often they consume such foods on a weekly basis. This section also covered questions about taboos, dietary restrictions and decision-making with regards to food within participants' households.

3.5.4.4 Diet Diversity

A household's diet diversity is the number of different foods or food groups consumed over a given reference period (Ruel, 2003). The FAO's (2011) household dietary diversity scale was modified to determine the diet diversity of each farming household. Each participant was asked to recall the meals and snacks consumed by them and members of their household the day before the interview. The scale requires that participants be asked to exclude foods purchased or eaten outside the home, however, these foods were included in this study based on the observations made during the first few weeks spent in each village. The observations revealed that it was quite common for households to eat meals prepared in their homes, however, meals were also bought from local food vendors and received from neighbors during special occasions such as a wedding or child naming ceremonies. The participants' responses were categorized into any of the thirteen food groups identified by FAO (2011) they fit into, all the food groups mentioned by the participant were summed up to determine the household's dietary diversity score. Appendix B gives a detailed description of the food groups.

3.5.4.5 Intra-household Food Distribution

The Inter-Agency Standing Committee's question about intra-household food distribution was modified to determine how food is shared among members of a farming household. Participants were asked to describe how food is distributed within their households and prompted to state who is served first and last during meals. They were also asked to state how they would respond in two scenarios about distributing insufficient food and meat.

3.5.4.6 Cultural Factors

Cultural factors were defined as the norms, values and beliefs associated with food and food behaviors by the farm households. Social norms are unwritten and informal standards of behavior expected from members of a group (Young, 2015). For this study, cultural norms were defined as acceptable and customary behavioral patterns associated with food production, consumption and distribution within farm households and the community they live. Food values and beliefs were operationalized based on an adaptation of definitions from Little et al. (2012). Food values were defined as foods as well as food behaviors that are considered good and important by the farm households while food beliefs are convictions about food and food behaviors that participants hold to be true (adapted from. Cultural factors were examined by allowing the participants reflect on the meaning of the food behaviors especially why they follow the specific patterns within their households.

3.6 Trustworthiness of the Study

A qualitative researcher builds credibility by developing early familiarity with the culture of study participants, which creates a relationship of trust between the researcher and participants

(Shenton, 2004). The researcher spent about four weeks in each village, the first two weeks were spent conducting observations in order to become familiar with study sites and build rapport with farm households as well as recruit potential participants. During this period, unstructured informal interviews were also conducted to elicit information on food-related behaviors in the village. It should be noted that the weeks were not spent concurrently, the researcher spent two weeks in Ago-Amodu before leaving for four weeks to conduct observations and interviews at Elepo, after which the researcher returned to Ago-Amodu for two weeks. The researcher visited Elepo from a neighboring town on a daily basis for four weeks because no accommodation was available in the village. This strategy of returning to a place after one says they will is one key way of gaining trust.

The researcher was a participating observer throughout the duration of the study, which implies participating in and recording some aspects of lives within the farming communities (Bernard, 2004). The researcher participated in some of the daily activities of farm households such as farm visits, food processing, cooking, fetching water and babysitting. Cryptic jottings, detailed descriptions, analytic notes, and subjective reflections are the key elements in creating detailed field notes when making field observations (Berg, 2004, p. 174). The researcher jotted brief statements including odd or unusual phrases (cryptic jottings) to help trigger observations when writing field notes with detailed descriptions of people's appearance, conversations, and actions. The researcher also kept a memo of ideas that occurred to the researcher when writing field notes and subjective reflections on the observations on a daily basis. The researcher kept a food diary to keep track of the food consumption pattern of the host family.

The study's rigor was established using Lincoln and Guba's (1986) four criteria for trustworthiness – credibility, transferability, dependability and confirmability. Strategies such as

prolonged engagement, persistent observation, peer debriefing, member checks, negative case analysis, and triangulation can be used to ensure credibility. The researcher spent about four weeks in each study site to allow for prolonged contact with participants and development of familiarity with the cultural context in which they live. Triangulation was another technique used in establishing credibility, as described above, the data analyzed were collected using observations and interviews.

Shenton (2004) stated frequent debriefing sessions as one of the strategies for establishing credibility in qualitative inquiry. The researcher met with her advisor regularly to discuss the study and a report of preliminary observation and interview findings in each village as well as the interview protocol were sent to two of the four research committee members before phenomenological interviews were conducted. The researcher also engaged in peer debriefing by testing emerging themes with peers during data analysis, the feedback from this exercise helped in refining some of the themes. Transferability is fulfilled through thick description of data so that others can decide how applicable the data is to other contexts (Lincoln & Guba, 1986; Merriam, 1998). It is difficult to generalize the findings of qualitative inquiries due to the small number of participants being studied in specific contexts, however, a researcher must provide sufficient information about the context and phenomenon of their study and it is the reader's responsibility to determine if it can be transferred to the context they want (Shenton, 2004). To enable readers to make informed judgements on the application of the study's findings to another context, the researcher provided a thick description of the experiences of farm households concerning food production, consumption and distribution, the sociocultural factors that shaped these experiences and the sociocultural context in which these experiences occurred.

Dependability deals with the repeatability of the study therefore the researcher reported in details the study's methodology including research design, data collection and analysis procedures, research settings and participants so that future researchers can replicate the study (Shenton, 2004). This also allowed readers to know if and how proper research practices were followed during the course of the study. Confirmability was achieved through triangulation, detailed methodological description and the admission of personal biases and beliefs by the researcher. This was done to ensure that the findings depict participants' experiences rather than the researcher's preferences and to allow readers trail the course of the research process step-by-step using the procedures described (Shenton, 2004, p.72).

3.7 Role of Researcher

In qualitative inquiry, the researcher and what is being studied are closely knitted since the researcher serves as the channel through which information is gathered and filtered (Denzin & Lincoln, 2003; Lichtman, 2011). A phenomenological researcher specifically interprets observations and understands participants' experiences by assuming a phenomenological attitude of reduction and their own subjective experience of a phenomenon (Eberle, 2013; Giorgi, 2009). This implies that the researcher-participant relationship is interactive and influenced by the gender, ethnicity, social class and personal experiences of both the researcher and participant among other things (Denzin & Lincoln, 2003). It is therefore imperative that qualitative researchers reflect on how their biases and background may shape their interpretation of findings (Creswell, 2013; Denzin & Lincoln, 2003). Against this background, the researcher's interest in studying the food security has been influenced by her personal, academic and professional background experiences. These experiences were particularly instrumental in the researcher's decision to explore the relationship between food behaviors and culture in southwestern Nigeria.

As a Nigerian who grew up in the southwestern region of the country, the researcher was aware of the stereotypes attached to developing countries like hers, especially concerning poverty and hunger. The basic assumption is that most citizens of developing countries are poor and/or hungry and the best way to solve poverty and hunger is through increased income. The academic experiences of the researcher have exposed her to the paradoxical nature of poverty and hunger, given that food insecurity is still highly prevalent in Nigeria and the world in general in spite of the huge amounts of resources that have been committed to alleviating the issue. It is also paradoxical that farm households who produce a majority of the food supply are among the most vulnerable population to hunger. The researcher has conducted research in rural communities where the primary occupation is agriculture, which has led to the realization that hunger and poverty are complex issues with income being just one contributing factor out of a myriad of others. With the persistent of these issues in countries like Nigeria, it has become imperative to consider the issue of food security in a holistic manner by examining the sociocultural context in which hunger exists and persists.

Additionally, the researcher belongs to the same ethnic group as the participants therefore speaks the same language (Yoruba). She is also familiar with the foods consumed in the communities as well as the common beliefs, values and practices attached to food. This made the researcher an insider and helped to develop quick rapport and trust with the participants, however, it may have introduced some biases to the study since familiarity may have led to some food behaviors going unnoticed which may have been unlikely if an outsider had conducted the research. No researcher is fully an insider because no culture is homogenous therefore the assumption that the researcher develop instantaneous intimacy and affinity on the field is naïve (Narayan, 1993). Although the researcher belongs to the same tribe as majority of the

participants, she was also an outsider since the researcher did not grow up in a farming household or a rural community. The researcher has also never been to either villages before the study so had no prior knowledge of any of the participants, which meant building rapport and earning the trust of participants was a gradual process. One of the key means through which the researcher earned participants' trust was by emphasizing the age difference between both parties. By presenting herself as a young student from the city who wanted to learn about farming and food-related issues in the villages, the researcher was able to get the participants, especially older ones, to willingly share their experiences and offer their tutelage. Collectively, the researcher's personal experiences, cultural background and education shaped her decisions concerning research questions and design, study area, data collection, analysis and interpretation.

CHAPTER 4. RESULTS

4.1 Introduction

This chapter will present the findings of this descriptive phenomenological study. The chapter starts with a description of the study sites and demographics of study participants, which answers the first research question (RQ1) about the demographic characteristics of farm households in *Ago-Amodu* and *Elepo* villages. To understand the sociocultural dynamics of food (in)security among farm households in *Ago-Amodu* and *Elepo,* Oyo State, findings are presented under four thematic headings as answers to questions two through six. Overall, four major themes emerged from the study: 1) *The Mouth – An Unaccountable Consumer*, 2) *Why We Farm*, 3) *A man is Lord in His Castle*, and 4) *Nothing on the farm, Nothing at home*.

The first theme, *The Mouth – An Unaccountable Consumer*, describes food production behaviors using a seasonal calendar of crop farming activities as well as food consumption behaviors of farm households in *Ago-Amodu* and *Elepo* villages. The second theme, *Why We Farm*, will describe the sociocultural factors that drive food production behaviors of farm households. The third theme, *A man is Lord in His Castle*, highlights intrahousehold distribution and consumption patterns as well as the sociocultural factors that influence them. Lastly, the fourth theme, *Nothing on the farm, Nothing at home*, will illustrate common sociocultural factors that shape food security in both villages as well as expound on the important role sociocultural factors play in food security.

4.2 Research Questions

RQ1. What are the demographic characteristics of farm households in *Ago-Amodu* and *Elepo* Villages of Oyo state, Nigeria?

RQ2. What foods do farm households produce and consume, and do they differ by village?

RQ3. What socio-cultural factors drive the food production behaviors of farm households?

RQ4. What socio-cultural factors drive food consumption and distribution within farm households of each village?

RQ5. How do socio-cultural factors influence food security in each village?

RQ6. Are there common socio-cultural factors that influence food security between villages?

4.3 Description of Study Sites

4.3.1 Ago-Amodu, Oke-Ogun Area

About 120 miles northeast of the state's capital, *Ago-Amodu* village is home to the headquarters of Saki East Local Government Area. There are twelve major clans in the village, only a few clans practice the traditional Yoruba religion, the majority of the villagers are either Muslims or Christians. The major site of cultural significance is the *Adu River*. It is believed that the river must receive visitors on a daily basis to avoid arousing her anger. These visitors must enter *Adu* barefooted, with a plastic (not metal) container and must not harvest her fish because the fish remain raw no matter how long they are cooked. Villagers also believe the water has healing powers and tastes sweeter than any other water. Another culturally significant site is a

piece of forbidden land, the cultural belief regarding the land is that it must not be cultivated because whoever cultivates it will die.

The demographic data of the village was inaccessible to the researcher, the last national census was conducted in 2006 and villagers stated those numbers do not accurately depict the current demographics of the village. All efforts to get the demographics of farm households in the village from the Director of Agriculture for the local government proved futile. Although most of the participants claimed to know every indigene of the village, they could not give a number of how many people there are in the village. This is further complicated by the increasing number of foreigners who are coming to the village from other states and countries to work as hired laborers.

There are very few mud houses in *Ago-Amodu* village as the majority of the houses are bungalows made from cement. The kitchen is usually located at the back of the house as an extension of the building, it is a structure made from four wooden poles drilled into the ground and covered with an aluminum sheet roof. Most women use firewood and charcoal stoves for cooking household meals. The physical structure of basic infrastructures such as pipe-borne water and electricity are visible throughout the village, however, they are seldom functional. The village has electricity for a couple of hours once or twice a week, and there is no pipe-borne water in houses, women have to go fetch water from a communal borehole, which serves just a few households and is only accessible for two hours every evening.

Farmlands are on the outskirts of town with a few households having home gardens. The main road in the village is tarred and motorable unlike farm roads, which are narrow untarred paths that motor vehicles cannot easily ply so farmers ride motorcycles or walk to the farm daily.

There is a market every three days, where sellers display their goods in wooden kiosk or on plastic sheets on the ground along the main road. Farmers sell farm produce especially vegetables on market days and prefer to buy whatever they need in their households on such days because they are cheaper than buying from local retailers on other days.

4.3.2 *Elepo*, Ibarapa Area

Elepo is a rural village in Ibarapa East local government area of Oyo State. It is about 60 miles from the state capital and 15 miles from *Eruwa*, where the local government headquarters is located. There are 29 houses in the village and two of these houses are dilapidated with no inhabitants. Six households do not belong to the Ibarapa ethnic group because they immigrated to the village either from other parts of the country or from Togo, a neighboring country. Villagers belonging to the Ibarapa ethnic group call *Eruwa*, *ile* (home) and *Elepo, oko* (farm) even though majority reside in the village all year round.

All the houses are made of mud except three bungalows that are made of cement. The rooms in the houses are constructed to face each other and are separated by a corridor so women cook on the corridor when they are not cooking with firewood in the open space in front of their houses. The village lacks basic infrastructure such as portable drinking water and electricity, the villagers have to walk about a mile to fetch water and go to neighboring communities to charge the cellphones at a fee.

Farmlands are on the outskirts of town, with the food crops grown closer to home and tree crops grown farther from the village. Farm roads are not motorable and since only a few villagers own motorcycles, most of the villagers walk to their farm daily. There is no market in

the village, so villagers have to travel five miles to the market in a neighboring community every five days to sell their farm produce and purchase household food items.

4.3.3 Demographic Characteristics of Participants

To answer RQ1, what are the demographic characteristics of farm households *Ago-Amodu* and *Elepo* Villages of Oyo state, Nigeria?, an overview of participants' demographic characteristics such as ethnicity, gender of household head, marital status, marriage type, religion, and household size is presented in this subsection. Table 4.1 shows the full results of the demographic results for all thirty participants of this study.

The majority of participants (73%) in both villages belong to the Yoruba ethnic group, one of the three main ethnic groups in Nigeria. Non-Yoruba participants were indigenes of communities in eastern and north central Nigeria or non-Nigerian citizens who hail from Togo, a neighboring country on the western part of Nigeria. In *Ago-Amodu*, males (80%) predominantly headed farm households and only 20% of the households were female-headed. The majority of participants were married (67%) while 13% were single, 13% were separated from their spouse, and 7% were widowed. Of the ten married participants, 33% were polygynous while 67% were engaged in a monogamous marriage. Participants were almost equally divided into religious beliefs, 53% of participating households in Ago-Amodu practiced Islam (53%) and 47% affiliated with the Christian faith. The average household size was 6.4. In *Elepo* village, 73% of participants lived in male-headed households and 27% of the households were female-headed. Most of the participants were married (67%), all of whom were in monogamous relationships. Fewer participants were widowed (20%), separated (7%), and single (7%). None of the farm households who participated in the study practiced Islam only, the majority of them (92%) were

Christians and only 7% had both Christians and Muslims living in the same household. The average household size in *Elepo* village was 5.7.

Table 4.1 Demographic Characteristics of Study Participants (N=30)

Characteristics	Ago-Amodu (n=15) *f* (%)	*Elepo* (n=15) *f* (%)
Ethnicity		
Yoruba	73.3	73.3
Non-Yoruba	26.7	26.7
Gender		
Male-headed	80.0	73.3
Female-headed	20.0	26.7
Marital Status		
Single	13.3	6.7
Married	66.7	66.7
Widowed	6.7	20.0
Separated	13.3	6.7
Type of Marriage		
Monogamy	60.0	100.0
Polygamy	40.0	0.0
Religion		
Christianity	46.7	93.3
Islam	53.3	
Both		6.7
Household size (M)	6.4	5.7

4.4 The Mouth – An Unaccountable Consumer

The findings presented under this theme answers the second research question (RQ2), "What foods do farm households produce and consume, and do they differ by village?" The food production and consumption patterns of farm households is key to understanding food-related experiences as well as food security within their specific sociocultural context. The theme title came from the response of many participants to questions about food consumption patterns in their households during the interviews – "*What the mouth consumes is not small, it cannot be accounted for.*" This statement is an irony that describes the inability of the mouth to perform its functions of feeding and speaking equally when it concerns food experiences. The mouth ensures that it feeds the stomach thereby satisfying the basic need of hunger, but the mouth seems incapable of simply articulating how it fulfils that need. The statement also highlights the predominant practice of multiple cropping in *Ago-Amodu* and *Elepo*. All the participants cultivated multiple crops on the same piece of land each growing season to maximize space and time so that a variety of foods are produced for household consumption and commercial purposes.

During the interview, the participants were asked to mention all the foods they consume in their household, the frequency with which these foods are consumed, and specifically recall what foods were consumed the day before the interview. The participants also described meals that are common in farm households in their villages as well as the rearing of farm animals. In addition, the participants walked the researcher through a typical agricultural cycle, which highlighted the activities farmers engage in throughout the year as well as staple crops planted in both villages. The participants' responses concerning the foods they produce and consume

demonstrated the diversity of their diet as well as the challenge of giving an exact description of household food consumption. Three invariant meanings (subthemes) emerged from the responses of farm households concerning food production and consumption as well as informal interviews with key informants: 1) *Food Production Practices*, 2) *Food Consumption Patterns*, and 3) *Diet Diversity*.

4.4.1 Food Production Practices

Farming is the major occupation in both villages with almost all households encountered identifying themselves as farmers and earned their livelihood mainly from agriculture although many had alternative non-agricultural sources of income such as trading, security, and carpentry. Agriculture is largely low mechanized in both villages, much more so in *Elepo,* where farmers rely on family labor and hired laborers for all farming activities unlike farmers in Ago-Amodu who rent tractors for land clearing while also relying on family labor and hired laborers for all other farming activities like planting, weeding, spraying and harvesting.

The seasonal calendar as depicted in Table 4.2 provides information on the agricultural activities in the study sites, which reveals the seasonality of farming and invariably hunger in the villages. The calendar reveals how farming is heavily dependent on rainfall in the study sites, the timing and amount of rainfall determines agricultural activities especially land preparation and planting times. Rainfall also dictates rest periods especially in *Elepo* because it often hinders farmers from going to their farmlands, which are located on the outskirts of the village. The study sites have two planting seasons in a year because there are two distinct peaks of rainfall volume and frequency annually. In Ago-Amodu, rainfall starts in April and reaches its peak volume and frequency in May. There is usually little or no rainfall in June, so planting is put on

hold until July when rainfall starts again. Rainfall in *Elepo* starts in January or February and reaches a peak in April after which it declines then reaches its second peak in July. In addition, farmers in *Elepo* cultivate a variety of tree crops like cocoa, cashew, and citrus for commercial purposes unlike in Ago-Amodu where the only tree crop cultivated commercially is cashew. These tree crops are perennials, so they are more reliable compared to food crops such as maize and cassava, which makes them a more stable source of annual income for farm households. However, the topography and soil characteristics in *Elepo* village does not favor the cultivation of cash crops like cocoa.

Further, the seasonal calendar revealed that farm households in both villages start each year with land preparation for the wet farming season. The activities engaged in during the first quarter of the year include land clearing, bush burning and planting for both villages as well as harvesting of tree crops by *Elepo* villagers specifically. The last few months of the year is the period of harvest when farm households have an abundant supply of food. However, in between the planting season at the beginning of the year and the harvest at the end of the year is the hunger season, which usually occurs from June to August. The food reserves of farm households in the study sites starts running low around the end of May so the hunger season starts in June and continues into August. This is the period when farm households are most vulnerable to hunger because they have almost exhausted the food preserved from the previous season and most food crops planted during the current season are not matured enough for harvest yet. The rest period also differs between the study sites with the farm households in *Elepo* doing less farm work during the rainy season in the middle of the year, while farmers in Ago-Amodu take their rest during the dry season at the end of the year.

Table 4.2

Seasonal Calendar of Agricultural Activities in Study Sites

	Activities	
	Ago-Amodu	*Elepo*
January	Land Clearing – removing tree stumps and plant debris, bush burning Planting – yam	Onset of rainfall Land clearing Planting – cashew, cocoa and citrus seedlings, maize, vegetables, yam, peppers Harvesting – cashew
February	Land preparation	Onset of rainfall Land clearing Planting – cashew, cocoa and citrus seedlings, maize, vegetables, yam, peppers Harvesting – cashew
March	Land preparation Spraying insecticide (previous year crop)	Little or no rainfall Bush burning Manual weeding (with hoe), Planting – cashew, cocoa and citrus seedlings, yam, melon, beans Harvesting – cashew
April	Onset of rainfall Planting – yam	Rainfall starts again Planting – maize, groundnut, yam, peppers, vegetable, melon, beans Manual weeding (with hoe) Transplanting cocoa Harvesting – cashew, maize, vegetables
May	Planting – maize, guinea corn, cassava	Unsteady rainfall Land clearing Planting – maize, vegetables, pepper, cassava, melon

		Spray weeds
June	No rainfall Weeding General care of the farm *Hunger season*	Steady rainfall Planting – maize, cassava Rest *Hunger season*
July	Land clearing for dry season crops Weeding *Hunger season*	Steady rainfall Spray tree crops with pesticide Weeding (with cutlass) Harvesting – melon Rest *Hunger season*
August	Harvesting – yam, maize, groundnut	Rainfall stops Land clearing for dry season crops Making ridges Planting – cassava, maize Harvesting – yam *Hunger season*
September	Harvesting – yam	Weeding Harvesting – vegetables, pepper, cassava, maize, yam
October	Harvesting – yam Planting – yam	Planting – melon, beans Harvesting – yam, vegetable, pepper, cocoa Sun drying – cassava, yam, cocoa
November	Planting – yam Rest	Clearing and burning debris (tree crops) Land clearing Harvest cassava, cocoa, maize
December	Planting – yam	Land clearing Making ridges Planting – yam

The theme, *Mouth – an unaccountable consumer*, describes food production and consumption in *Ago-Amodu and Elepo.* The theme's name is a testament from participants about the amount of household resources dedicated to satisfying the most basic of human needs, which is to eat. This invariant meaning, *food production practices in Ago-Amodu and Elepo*, reveal that farm households cultivate many crops for subsistence and commercial purposes, and affirms the participants' declaration that the mouth consumes numerous things.

4.4.2 Household Food Consumption Patterns

When asked to describe food consumption patterns within their households, study participants provided an extensive list of different types of food across all thirteen groups (see appendix B) identified by the Food and Agriculture Organization (FAO, 2011). It was apparent during interviews that participants perceived food as a basic human need that must be met multiple times a day; yet trying to account for household consumption as well as the money spent on food seemed like a hopeless endeavor. Participants expressed that they consume a lot of food in terms of the food they purchase and not necessarily the food they produce on their farms. When asked about her household food consumption patterns, Fatima, a middle-aged widow in *Elepo* shared:

> The mouth consumes a lot. How much can we really account for, is it feeding our children or our parents or our siblings? If we try to keep a record of what we eat, we will not finish writing it in a year. In fact, you will eventually give up after a year.

Mrs. Danladi, one of the three wives in a farming household in *Ago-Amodu,* described her experience with meeting the food needs of her household as follows:

> Food compared to other household needs requires a lot of money. Eating in the morning, afternoon and evening is money. Before I prepare the food, soups and stews, it requires a lot of money.

Arewa, a young married woman in *Elepo*, similarly stated:

> You know we cannot avoid eating every day. The mouth consumes a lot; in fact, one could almost argue that we spend more on food than we do on school fees for our three children who attend private schools. The mouth consumes a lot!

While food consumption is prioritized and takes a significant part of household income, the excessive allocation of resources on food was not culturally valued especially in *Elepo* village. Participants believed in living within one's means and valued investing in things that ascribe status to them within their villages including owning houses, paying children's school fees, and saving for rainy days. Akeju, a young single man in *Ago-Amodu*, used his consumption pattern from the previous day to explain how diverse his diet is but later mentioned that he lives within his means. He remarked:

> The foods I eat are many. Yesterday, I ate rice, bread and soda, *amala* [yam pudding], *ewedu* [jute soup] and meat stew, and that was just in the morning. In the afternoon, I ate *eba* [cassava granules pudding], ewedu and meat stew, and I also took cornmeal with vegetable soup, organ meat and fish. For dinner, I had *amala, ewedu,* and meat stew again. Eating is compulsory, you have to satisfy your hunger because you can die at any time…But my mouth is not bigger than my farm [meaning he produces enough to feed himself].

Rachel, an elderly widow in *Elepo* similarly stated:

> Ah! One cannot give an estimate of the amount of food consumed. If you write it down, all that is going to do is make you sad. You will ask yourself, "Is this what I spent on food [Laughter]?" It is incalculable. From the beginning of the year, are we not in the seventh month? Is it possible that a person would have anything left now, if they had kept 50,000 naira from the beginning of the year? If he/she woke up in the morning and cooked, then gave someone 2000 naira to help get some foodstuffs and repeats this every four to five days, for how long will the 50,000 naira last? One cannot calculate the amount of food consumed or the amount of money spent on food consumption. If you do, you will be sad thinking about it – Is this what I spent on food and I did not buy clothes or beads?

When the researcher asked if the clothes and beads were more valuable than food, Rachel elaborated saying:

> It is not about clothes [clothes and beads were used metaphorically]. You know that as humans we like to see tangible things, we want to know how we spent our resources. However, spending your money on this *atenuje* is an issue [literally, *atenuje* means eating from the mouth but metaphorically connotes being ruled by one's stomach that is a careless desire for eating as well as greed and covetousness for material gains]. People including yourself, will question you and say, "Wow! You spent all this money on food? It is not good at all." Therefore, we cannot calculate the amount of money we spend on food.

According to FAO (2011), there is no established number of food groups to indicate adequate diet diversity, however, the findings of this study suggest that the diet of participants was diverse enough to supply the essential nutrients needed by the body. Additionally, females cook the meals in all farm households and men only cook when there are no females in their household. However, young single males usually live in close proximity to their parents and have their mothers or sisters do their cooking for them. Akeju, a single male participant in *Ago-Amodu* shared:

> I do not cook all the time, so I often go to my parents' house to eat. Sometimes, I ask my mother to send meals to me through my younger siblings…I made *amala* [yam pudding] yesterday, but I sent a message to my mother and she brought the soup and stew I ate with it.

On the other hand, older single male participants complained about having to prepare their own meals because they do not have wives to cook their meals or process farm produce. Omoga, a single elderly man in *Elepo* whose wife lives in another state shared the challenge of living without a wife in the village using oil palm processing as an example. He stated:

> We make palm oil here, in fact, that is why they call us *Elepo* [which means palm oil maker]. Each household makes palm oil. If I had a wife in the village, she would make palm oil too, enough for us to use in cooking for some months. We would not have to buy palm oil and even if we did, we would not spend a lot of money because we would have made enough palm oil to last us for months. I am a bachelor. I cook my own food because my wife is in another state and I do not have anyone else to prepare my meals.

Households sometimes rely on food vendors in their neighborhood to meet their dietary needs when women do not cook for one reason or the other. Single men bought meals from vendors more often than members of one-parent or two-parent households did. Gbolahan, who is a young single farmer in *Ago-Amodu,* shared how he often depends on food vendors for breakfast. While describing his dietary patterns, Gbolahan stated:

> I bought bread and soda last night for dinner. My mom cooks once daily in the afternoon so I usually buy food in the morning especially when I am too busy to cook my own food.

Similarly, Omoga expressed:

> I buy raw meat from the vendor who sells from village to village, but I also buy meat when I go eat at local restaurants. I ate a snake at the local restaurant yesterday and it was so big. When I go to home to Eruwa [neighboring city], I buy fresh fish because we do not have it here…when I do not have a wife here to cook for me, my only option is to buy cooked food.

The food consumption patterns of farm households in *Ago-Amodu and Elepo* revealed that the households consume food from more groups than they can cultivate therefore a significant proportion of household income was spent on food. This reinforces the participants' assertion that measuring food consumption is an arduous task since hunger has to be satisfied several times daily.

4.4.3 Diet Diversity

In addition to food production and consumption practices, a third sub-theme emerging under the category "*the mouth- an unaccountable consumer*" is the pattern of diet diversity. The first two sub-themes addressed the variety of foods that are available to farm households in *Ago-Amodu and Elepo* villages, this subtheme, *diet diversity*, specifically describes the daily diet of households as a way of measuring their nutritional status.

Participants' responses from the 24-hour recall of foods consumed in the household showed that participants consumed food from at least seven groups the day before the interview. All participants consumed foods from these five groups daily; tubers (yam, cassava), vegetables (amaranth, jute (*Corchorus spp.)*, spinach, red sweet pepper, tomatoes, onions, melon seeds), meat/fish (beef, game, fresh or dried fish), spices (salt, locust bean), and red palm oil. This is because the staple meal in both villages is comprised of a pudding made from tubers called *amala* or *oka,* jute soup, tomato stew and fish/meat. *Ago-Amodu* and *Elepo* villages were very similar in food consumption patterns and the major difference was in the choice of tuber and jute used in the main meals by farm households in each village. In *Elepo*, farm households use cassava to make pudding (see figure 4.1) while farm households in Ago-Amodu make theirs from yam (see figure 4.2). Both puddings are made from either dried cassava or yam slices that are grounded into powder form and mixed with hot water to create a consistent solid. The species of jute leaves consumed in both villages also differs. Participants in Ago-Amodu eat *ewedu* while those in *Elepo* eat *morogbo*. Tomatoes, red peppers, onions, red palm oil and meat or fish are the ingredients used in preparing the tomato stew. This staple meal is mostly consumed during lunch or dinner, but it is not atypical to have it for breakfast, especially when it is left over

from the previous night. For breakfast, the participants also consumed either cereals (rice, maize or wheat), or legumes (beans) or a combination of cereals and legumes with tomato stew cooked with vegetable oil. The consumption of milk, fruit and sweets was uncommon among participants, however, eggs and cheese served as cheaper alternatives to meat/fish for a few of the participants.

In summary, the three invariant meanings presented in *The Mouth – An Accountable Consumer* provided a comprehensive description of how farm households in *Ago-Amodu* and *Elepo* produce and consume food. While food production and consumption behaviors are very similar in both villages, there are important differences in the amount and types of crops participants cultivated as well as how they utilized certain staple crops. Collectively, these meanings reveal a diverse diet in both villages during the duration of this study, which includes a variety of foods produced or purchased by farm households.

Figure 4.1 Cassava Pudding Meal (*Elepo*)

Figure 4.2 Yam pudding meal (*Ago-Amodu*)

4.5 Why We Farm

The third research question (RQ3) of this study addressed the sociocultural factors that drive the food production and consumption behaviors of farm households in *Ago-Amodu* and *Elepo*, as described above. The findings of this study suggest that the main underlying reason for food production behaviors among participants is the same reason why households engage in farming in the first place – hunger. The title of the theme was derived from the overarching need of study participants to feed their households through either crop cultivation or purchase. While hunger is a universal need, it is satisfied in various ways across several cultures. The previous theme expressed how participants satisfy their hunger through food production and consumption, however, it is important to understand why they decide to meet those needs in the manner in which they do. During the interviews, participants discussed how they make decisions on crops to cultivate and foods to eat within their households. Participants' responses suggest that the factors that drive food-related behaviors among famers in *Ago-Amodu* and *Elepo* are mainly cultural, economic and environmental, which will be explored using yam as a lens since food-related experiences are negotiated through yam cultivation and consumption in both villages. Three invariant meanings the emerged from participants' narratives describe how socio-cultural factors drive food production and consumption; 1) *Yam is King*, 2) *Pounded Yam is Food*, and 3) *To Eat and Sell... If Rainfall So Pleases*.

4.5.1 Yam is King

The first subtheme, *yam is king*, is associated with the socio-cultural factors that drive food production in *Ago-Amodu* and *Elepo*. Participants were asked to mention the crops they cultivate and explain why they chose those particular crops in an effort to understand the

sociocultural factors that influence food production behaviors. The responses suggested that participants engage in farming primarily for sustenance (feeding their households) rather than for commercial purposes. Participants' responses also revealed that the factors guiding production decisions differ based on the crop. All participants cultivated cassava and maize, while the majority cultivated yam, however, responses suggest that participants place a significant cultural value on yam. Food production behaviors were described in terms of yam cultivation, it appears that the narration of these behaviors can be divided based on when yam is available or scarce as well as who does or does not cultivate yam. Chinwe, an elderly married woman in *Elepo* shared:

> If there is yam in the village, urban dwellers will rejoice too. You know the village is home to farm households who feed the whole society with different types of food, bananas, groundnut, yam, tomatoes and everything. From October through January, everyone will be saying, "the new year is coming" because yam will be abundant. In fact, everyone will be rushing to get money to buy yams or keep the yams they produce in their homes because it will be so cheap.

Oloye, an indigene of *Ago-Amodu* and a middle-aged man with two wives proudly shared about how the need to consume yam pudding daily, his large household size as well as the cultural norm of sharing with others influenced the amount of productive resources, he allocated to cultivating yam. He said:

> I dedicate about 4 acres (approximately 1.6 hectares) of my land to yam solely for household consumption. I have many mouths to feed, two wives, eight children, five younger siblings and their children. I also share with others in the village…A day cannot

> pass by without me eating yam pudding except during yam season when I add *iyan* (meal made from fresh yams) to my diet.

Additionally, *Ago-Amodu* and *Elepo* differ in the extent to which they value yam cultivation. While yam is a culturally valuable in *Elepo*, its cultivation is a cultural norm and value with social consequences in *Ago-Amodu*. Yam cultivation is good and desirable in *Elepo,* however, not every participant in the village cultivated yam and there are no social repercussions for not doing so. Omoga said:

> I cultivate yam but not every farmer does. In fact, many farmers do not have a stable and sufficient supply of yam to prepare quick meals especially when you have a visitor…yam is abundant during the dry season, we make pounded yam and that is why yams are useful. However, cassava serves as a stable source of food all year round and that is why all farmers in *Ibarapa* region cultivate cassava.

On the other hand, a stable supply of yam and/or yam products is quite common among farm households in *Ago-Amodu* regardless of land size because yam cultivation is prioritized during allocation of resources like land within households. For example, Mrs. James is a Togolese woman whose husband works as a farm laborer, which means that her household cannot own land but can rent a few hectares of land at a price. Mrs. James described the challenge her household faces as foreigners who have limited access to land:

> Sometimes we have an opportunity to rent enough land to plant every crop we want, but sometimes we do not. If we have more land, we would plant more. Last year, we would

> have planted more beans but last year we could only cultivate an acre (0.4 hectares) of beans.

Her household, however, had a yearlong supply of yam and yam products due to the utilization of a traditional storage method. She explained the method here:

> My household and I just finished eating pounded yam in July [yam was supposed to be scarce]. Once we dig up holes in the soil and bury yam pieces in them, we eat pounded yam all year round…They do not spoil, rather, it would sprout a new tuber. This method is better than storing it at home where the tubers rot or are eaten by rodents. Yams stored using this method can last up to a year, they would not spoil. In fact, the new tubers that sprout taste so good and are absorb so much water [which means you can get more cooked food from lesser quantities of yam tubers].

Yam cultivation in *Ago-Amodu* also ascribed a social status of being a "real" farmer to people. All participants who cultivate yam in this village stated that it was a necessity and it appears to be the key determinant of their identity as farmers such that people who cultivate other crops but do not cultivate yam are not recognized as farmers. Even when people cultivate yam, they are distinguished as real or fake based on the type of species they cultivate. Akeju made this distinction clear:

> People who plant other crops like maize or cassava but do not cultivate yam are fake farmers. I am a real farmer, I just started cultivating my own land last year after working with my dad on his farm all these years and I have hectares of yam already. By the way,

> not just any yam but the original yam (see Figure 4.3), but fake farmers cultivate *ewura* [water yam] (see Figure 4.4).

Rather than land size and cultural identity, yam cultivation in *Elepo* and *Ago-Amodu* was influenced by gender or a combination of gender and marital status. Madam Folashade, a widow and the head of a non-indigenous household in *Elepo* expressed her inability to cultivate yam because it is so labor intensive given her status as a widow, she lamented:

> I buy yams now. We used to plant yams before but now, you know, I do not have the power to continue. Yam cultivation is not a suitable work for females. I do not plant yam again, I used to before, but I stopped since my husband died. Yam cultivation is not for females, you have to weed thrice in a year to get a good yield. I cannot do the work again but once the yam season starts, we go to the market to buy yams to make pounded yam.

Further, crop cultivation seems divided along gender lines since certain crops like yam are considered a male domain while planting tomatoes and peppers are considered a female's perogative. Cassava and maize are gender-neutral crops cultivated by both men and women. Participants' responses imply that cultural norms and beliefs have led to the assignment of crops based on gender. Ireti, a middle-aged married woman in *Elepo* who operates her own farm shared:

> I have never planted yam; we always buy yam. When my father was alive, he planted yams every year. I can go harvest some for myself whenever I want to. A wife cannot harvest yams from her husband's farm, but his children can harvest the yams, so I had to harvest yams for my mother from his farm. I do not understand the reason for it, but they

> said it is a taboo. If my mother cultivates her own yams then she is free to harvest them, that is how it. I buy my yams. I do not plant yams.

Similarly, women in *Ago-Amodu* do not plant yam but mostly cultivate peppers, tomatoes and melon. These three crops are some of the main ingredients in local dishes especially soups and sauces. Mrs. Eniafe, a young married woman in *Ago-Amodu* said:

> I help my husband on his farm with harvesting, but I have my own small farm, which is less than one acre. This year, I planted peppers, tomatoes and beans. My husband does not cultivate pepper or tomatoes, I am the one who plants them. I planted peppers and tomatoes because you never know they may scarce later but if plant them now, I can dry and store for later use. In case it becomes scarce when I do not have a lot of money, I can quickly use the dried peppers and tomatoes to prepare a meal for us to eat.

This cultivation of tomatoes and peppers by women in *Ago-Amodu* was explained later by responses from participants about household food supply. Mrs. Owolabi, who is in a monogamous marriage, does not cultivate crops but helps her husband on his farm. She described how responsibilities on the farm as well as those concerning food supply are divided based on gender in her household. She stated, “I follow my husband to his farm but not always. I help him harvest maize and pepper.” When talking about household food consumption, she later stated:

> We eat from my husband’s farm produce since he plants a variety of crops - yam, cassava, beans, maize and peppers. My husband also buys the rice, meat and vegetable oils but I have to buy the condiments and ingredients for soups or sauces such tomatoes,

> onions, salt, locust beans and seasonings. Sometimes, I have to buy fish or cheese to complement the meat he [husband] bought especially when the supply is running low and I still have to serve him as well as the two oldest household members with two pieces of meat or fish. Just imagine, I am a tailor who used to work in the city and make good money but ever since I moved to the village, I have not been making a lot of money. People cannot afford and do not pay for my services here. But it is compulsory that I supply the condiments for cooking thrice daily to feed ten people so I just hustle to get little money here and there.

All married participants in *Ago-Amodu* alluded to having the exact same sharing formula in their households. When asked why farm households in *Ago-Amodu* adopt this formula, the participants stated that it was an aged tradition in the village for men to provide raw food and for women to supply the soups. Mr. Owolabi explained:

> In the olden days, it is the man's responsibility to provide raw food and meat for his family and it was the wife's duty to turn the raw food into a meal. So men supply the food items (yam, cassava, maize, rice, beans) and women have to supply anything extra to make the food a complete meal such as tomatoes, pepper, seasonings, salt and locust beans. That is the tradition that is still obtainable until date.

Similarly, Oloye's first wife stated:

> My husband is responsible for the food items. Either he brings produce from his farm or he gives me money to buy them. He also gives us a monthly allowance, which I use to buy ingredients like oil, tomatoes, onions and peppers for soups and sauces. I am

> however responsible for the vegetables and condiments including salt, seasonings and locust beans. In fact, it is a taboo in our village for a woman to ask her husband for money used in buying these condiments. A woman should not ask her husband for that kind of money, and I do not ask my husband for money that I will use in buying condiments. It is my responsibility within the household, and to ensure that my children are blessed and have good fortunes, demanding money from my husband to buy locust beans, salt and seasonings is not good.

The subtheme, *yam is king*, focused on the influence of cultural values on food production to explain the sociocultural factors that drive food production in *Ago-Amodu and Elepo.* Yam is the most important crop in both villages, not because of its economic value but the high cultural significance attached to it by farm households. This high cultural significance attached to yam shaped food production behaviors such that yam cultivation is a major determinant of social status as well as farm households' behaviors were described in terms of yam availability.

Figure 4.3 The *Original* Yam – *Dioscorea spp.* (News Agency of Nigeria, 2017)

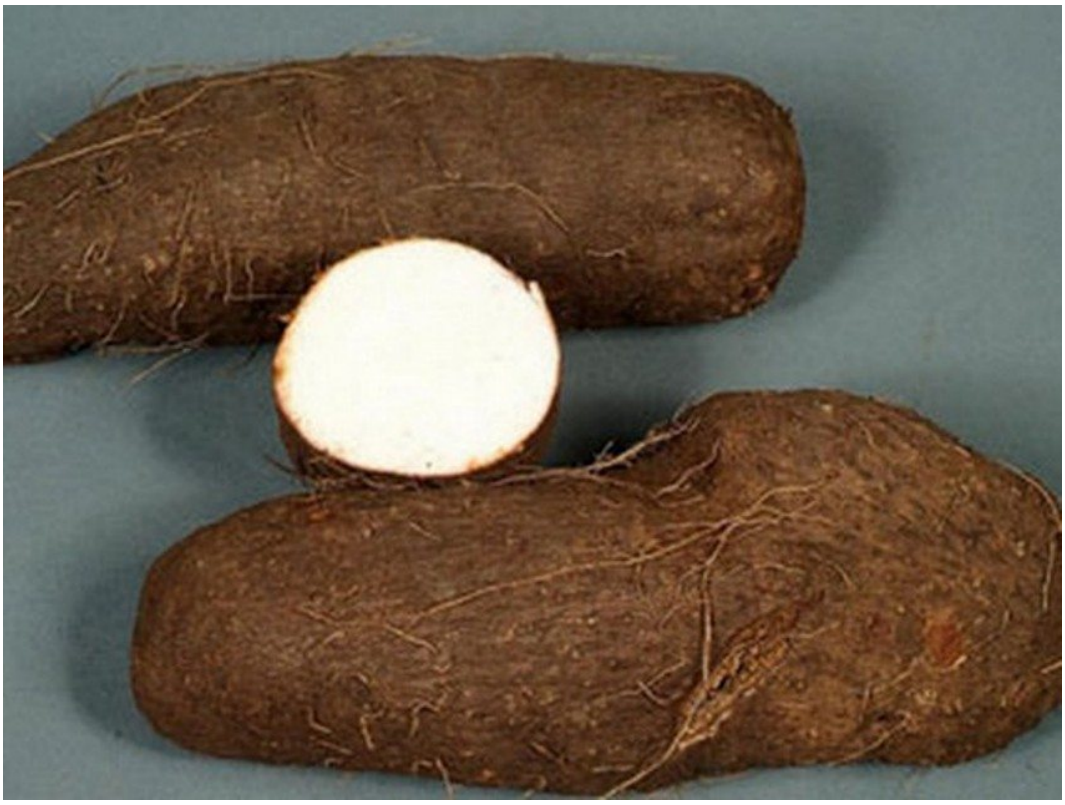

Figure 4.4 The *fake* Yam – *Dioscorea alata* (Okoh, 2018)

Figure 4.5 Cassava tubers – *Manihot esculenta* (Ibirogba, 2018).

4.5.2 Pounded Yam is Food

A second subtheme relating to how socio-cultural factors drive the food consumption behaviors of farm households includes the sub-theme "pounded yam is food". As mentioned earlier, farm households have to purchase some of the food crops they consume because they cannot cultivate all the crops required to maintain a diverse diet. Therefore, the sociocultural factors that drive food consumption behaviors were slightly different from those that influenced food production.

> *Iyan* (*pounded yam) is food. Oka* (yam or cassava pudding) *is the medicine. Lack makes us eat cornmeal. To prevent the mouth from being idle, eat guguru (popcorn).*

This common Yoruba saying, that was repeated by several participants, crowns pounded yam as the king of food and reveals the hierarchy of meals consumed within farm households,

hence the title of the theme. Responses indicated that there are several socio-cultural factors driving food consumption within farm households and meals prepared from the same crop do not necessarily have equal cultural significance. Participants eulogized pounded yam as the best of all foods, so good that they abandon other meals once the yam season starts. For example, Mrs Owolabi said:

> When that time of the year comes, that time when yam is so abundant, first, we abandon *amala* [yam pudding]. We start pounding yam and consuming pounded yam meals. We continue to do so until the yam season is over then we resume *amala* [yam pudding] consumption.

Chinwe recounted a similar narrative about the eating habits of farm households in *Elepo*:

> Yam is our food. Once yam harvest begins, we cannot eat anything else. We would start eating pounded yam and boiled yams. *Amala* [cassava pudding] is an important part of our diet, we eat it especially now that we have not harvested our yams.

Although all participants spoke fondly about the yam season, not everyone abandoned pudding meals for pounded yam during yam season. When describing his experience with village life during the yam season, Omoga shared:

> We like pounded yam a lot, in fact, pounded yam belongs to villagers. If you had come during yam season, you would have been hearing the sounds of pounding all over the village. Morning or night, we eat pounded yam everyday...The yam season starts as early as August and ends in December but sometimes we continue to eat pounded yam until the fourth month of the next year (April).

Later, while expounding on dietary patterns during yam season, Omoga stated:

> There is a place for pounded yam. There is also a place for cassava pudding. You can eat pounded yam for lunch if that is what you want and decide to eat cassava pudding for dinner. Even if you choose to eat pounded yam twice daily, you can. No one is going to question your choice.

Omoladun, a divorced mother of two in *Ago-Amodu* described how she chose to incorporate pounded yam into her household's diet during the yam season. She disclosed:

> We do not eat pounded yam every day. Rather, we alternate pudding meals made from yam (*amala*), corn or wheat with pounded yam during yam season so we eat pounded yam occasionally and not every time. We may eat pounded yam just three times in a month because preparing pounded yam is a very difficult task, pounding yam is not easy...So in a typical week [when yam is abundant], we eat yam pudding twice, wheat pudding twice and pounded yam once

Further, none of the participants in *Elepo* mentioned consuming pounded yam outside of the yam season. However, a few participants in *Ago-Amodu* eat pounded yam all year round since they have ways of making their harvest during yam season last for several months after the yam season and sometimes throughout the year. These households also did not totally abandon yam pudding for pounded yam, they added pounded yam into their diet instead. Oloye who stated earlier (see section 4.5.1) that a day cannot pass by without him eating yam pudding, disclosed that his dietary patterns could relatively stay the same throughout the year. He expressed:

> Although, the yam season usually starts in August and ends in April, sometimes, we have a sufficient supply of yams from the previous year's harvest to last all year round. I may even have to abandon my old reserve of yams for newly harvested yam tubers during the new yam season. There have been years when this was the case, where we ate pounded yam all year round. Nevertheless, we continue to eat yam pudding, as well...in fact, eating yam daily is compulsory for me.

The theme, *pounded yam is food*, described the sociocultural factors that influenced food consumption in *Ago-Amodu* and *Elepo*. Yam was the most important food consumed in both villages, however, while farm households in *Ago*-Amodu eat yam meals all year round, participants in *Elepo* eat yam only during yam season. Cultural norms and values were also used to create a hierarchy of the main meals consumed by farm households, which showed that meals made from the same crops do not have equal cultural significance. Other sociocultural factors that determined food consumption within farm households include personal preference and the amount of energy required for meal preparation.

4.5.3 To Eat and Sell… If Rainfall So Pleases

This theme, *to eat and sell…if rainfall so pleases*, describes how sociocultural factors drive food production decisions in a rain-fed agricultural system. Sociocultural factors are often within the control of farm households and ensure that the household's subsistence and commercial needs are met in culturally acceptable ways. However, the heavy reliance of agriculture on rainfall in *Ago-Amodu* and *Elepo* adds complexity to the production decisions of farm households who must produce enough for household consumption and market under sporadic environmental conditions.

The participants' primary motivation for engaging in agriculture is to feed themselves. Feeding in this context connotes meeting not just biological and nutritional needs but other material and non-material needs as well with the aim of fostering the overall wellbeing of the farming household. Food-related decisions are therefore centered on the primary goal of feeding oneself and/or one's household that is common to all participants of this study. The findings of this study revealed that husbands make food production decisions therefore a husband's selection of crops largely determines the food options available to farm households. Single, widowed and divorced participants made their own food production and consumption decisions.

A combination of economic and socio-cultural factors guided food production decisions among farmers regardless of marital status. Farm households selected crops based on edibility, marketability, or a combination of both factors. Edibility is determined socio-culturally while marketability is determined by economic factors like food prices to maximize profit. When explaining the rationale behind his crop selection, participants in both *Elepo* and *Ago-Amodu* often highlighted how the crops they cultivate suit cultural expectations and personal preference as well as serve as viable sources of income. Asiwaju, a young married man in *Ago-Amodu* shared about his crop choices:

> I cultivate three crops - yam, maize and cassava. I plant yam because I like it very much. Even Yoruba acknowledges that pounded yam is food and yam pudding is medicine. Therefore, I cultivate yam to feed my family as well as make money. I cultivate maize and cassava for the same reasons, eating and selling.

Similarly, in *Elepo*, all food crops cultivated for both sustenance and commercial purposes but primarily sustenance except cash crops like cocoa, cashew, and citrus, which were

majorly grown for commercial purposes. Tabitha, a married woman in *Elepo* who operates a small farm with her husband stated:

> We plant maize, melon, and cassava because we cannot do without eating them. We always eat cassava pudding and drink pap (made from maize) every day. These are our basic meals, we only sell the excess, and we cultivate them mainly for household consumption. We also have cocoa, orange and cashew trees, you know we will have to sell those but melon, cassava and maize, we only sell when we have to and that is if we have excesses.

Meanwhile, in *Ago-Amodu*, some participants had clear distinctions between crops that are for sale and those that are for household consumption. For example, Eniafe cultivates yam specifically for household consumption only, and plants cassava for commercial purposes only as well. He shared:

> I planted 300 heaps of yams this year and all that is for household consumption. We will eat all we can and whatever is left, we will process into yam flour.

Similarly, Lajire, a middle-aged married man,

> I dedicated three acre (1.3 hectares) of my land to yam cultivation only. The most consumed meals in my household is yam pudding or pounded yam, and you derive both meals from yam. Therefore, I do not sell yams because I am responsible for feeding many people including my wife and children as well as relatives residing in and outside *Ago-Amodu*. That is why I do not sell yams; I still have enough supply from last year's harvest in my house. I process the yam into yam flour so that whenever my relatives from far and

> near come to visit, they can take some food along with them when they leave. This is why I do not sell even a tuber from that three acre of yams.

Specific crop traits can make its cultivation desirable or undesirable to farm households. For example, in discussing why they chose certain crops, Asiwaju, also mentioned why refrained from cultivating crops like beans, he said, "I do not cultivate beans because harvesting is very hard. Too hard!"

Likewise, women often find crops like yam undesirable because of the high intensity of labor it requires to cultivate them (see section 4.5.1). Therefore, women tend to cultivate crops that are less labor intensive like maize, cassava and vegetables. Kemi, a married woman in *Elepo* shared how she determined what crops to cultivate on her farm, she stated:

> Maize and cassava, I do not cultivate any crop other than those two. I avoid any crop that requires too much trouble. For example, take cassava, if I start weeding the plot and realize that I do not have enough strength to finish, I hire farm laborers to do it. I also plan to cultivate jute during the dry season because it does not require a lot of weeding.

Multiple cropping was the common method of farming among all study participants, which some study participants described as a simple yet sophisticated method of efficiently maximizing scarce resources like capital and labor to yield profitable returns. For example, Lajire shared why he choose to cultivate just five food crops:

> I plant yam, maize, and groundnut as well as cashew trees. I cultivated five crops only because that is all I have time and energy to monitor every season. I just planted groundnut last month so when it is time to harvest it, no other farm activity will be

> conflicting for my time and energy. If I greedily plant peppers or tomatoes, it is very likely that I will not have time to take care of it because one has to harvest them every five days. For instance, since I took care of my maize and yam farms already, I do not need to do anything again, all I am waiting for is harvest. The cultivation and management of one crop does not hinder the other.

While farm households can evaluate crop traits as well as factors such as edibility and marketability, they have little or no control over environmental factors. The heavy dependence on rainfall by farm households in *Ago-Amodu* and *Elepo* makes them susceptible to effects of environmental risks such as crop loss and reduced yield. Rainfall is therefore the single most important environmental factor that drives food production behaviors of study participants because it is out of their control and they do not practice irrigated farming. Lajire shared how rainfall patterns have changed planting times for maize in *Ago-Amodu*:

> I have not started planting maize. I highly doubt that farmers who are currently planting theirs will have a good yield. It is very unlikely. This year's rainfall pattern is so sporadic, we have planted some crops a long time ago but we are yet to have any rainfall to make them grow. Therefore, the probability of anyone who plants maize now getting a good yield is very low because maize loves a lot of rainfall.

When discussing generational changes in dietary patterns in his household over time, Owolabi shared that changes in rainfall intensity and frequency in *Ago-Amodu* has brought the inclusion of foods that are not culturally valued into his household's diet. He expressed:

> During all of my father's farming years, we never ate cassava meals. In fact, before I started farming four years ago, I had never tasted cassava pudding. We used to donate cassava to people as gifts because it was so surplus then. Therefore, we usually start eating pounded yam in July but that is no longer the case. We still have not eaten pounded yam in August because there are no fresh yams due to lack of rainfall. There has also been a decline in yam yields so that is why we added cassava to our diet.

In *Elepo*, participants' responses indicated that crops yield had been impacted by less frequent rainfall. When describing the economic advantages of engaging in multiple cropping, Omoga stated:

> I cannot lie and offend God, I did make a lot of money last year from selling food crops like cassava and maize and cash crops like cocoa, cashew, and citrus. But, we are begging God that this year will be as good as last year because we have been experiencing drought and that scares a lot of us [farmers]. Rainfall frequency and amount have declined compared to last year when the rains started very early and did not stop until October. But, rainfall did not start early this year and it has stopped now [in July]. Even if it starts again, it has already destroyed many crops or maybe God can bless us with enough rain to recover what we lost if it starts again. However, that is the reality of choosing to farm as a source of livelihood, if it kicks you down this year, it can raise you up next year. May God have mercy on us.

Ejire, on the other hand, gave up on the generational tradition of cultivating beans in *Elepo* due to another environmental factor – pests. He described his experience:

> We used to plant beans but I stopped three years ago because the yield was next to nothing due to insect infestation. Beans cultivation is not what it used to be, not as viable as it was when our fathers planted beans. There was a time when farmers do not spray beans and they would still get a good yield. Nowadays, if you do not spray over and over and over again, it will yield nothing. That is why I abandon beans cultivation.

In closing, this theme, *Why We Farm*, describes the factors that influenced food production behaviors among farm households in *Ago-Amodu* and *Elepo*. As demonstrated through the participants' responses, food production behaviors revolve culturally around yam production in *Ago-Amodu* and *Elepo.* Additionally, crop cultivation depends on several cultural, economic and environmental factors, which the farm households may or may not have control over. Hence, the food production behaviors involve a constant negotiation of simultaneous and diverse influences by farm households to achieve the overarching goal of feeding themselves, biologically, materially and culturally.

4.6 A Man is Lord in His Castle

The theme, *A Man is Lord in His Castle*, answers the fourth research question concerning the sociocultural factors that drive food consumption and distribution within farm households in *Ago-Amodu* and *Elepo*. The findings of this study identified wives as primary decision makers when it concerns food consumption and distribution within farm households. However, husbands directly or indirectly influenced meal choice and distribution among household members. This is due to certain cultural beliefs about marriage and family that set standards rules for interaction between different household members, evident in the use of words such as *lord, head and crown* to describe husbands, which symbolize the hierarchical relationship between a man and his wife.

During the interviews, participants were asked to describe how food was shared within their households. Hypothetical scenarios about food were also presented to the participants who were required to reflect on them and discuss what they would do in those situations. For example, participants were asked to imagine if there were only a few pieces of meat left and describe how they would share the meat. The findings revealed that although women were in charge of cooking and preparing meals in the household, men get priority during food distribution within farm households as dictated by cultural norms and values. The responses also revealed that age was another important factor that influenced intrahousehold food distribution within farm households in *Ago-Amodu* and *Elepo*. Finally, the findings of this study also highlighted three major actors whose roles within the farming household define food consumption and distribution behaviors in *Ago-Amodu* and Elepo.

Adapted from participants' descriptions, the title, "A Man is Lord in His Castle" equates the household to a castle in which the husband is the lord to whom other household members defer. This title succinctly captures a cluster of three invariant meanings that describe how the key relationships between these household actors shaped food consumption and distribution behaviors: 1) *A Wife Cooks What Her Husband Likes, 2) The Husband, The Head, The Crown*, 3) *The Child is Father of the Man*.

4.6.1 A Wife Cooks What Her Husband Likes

The desire to make sure that the husband is satisfied with the food prepared in the household was a common thread in participants' description of food consumption behaviors. Wives usually consider their husband's preferences when making decisions on what meals to prepare. It appears that food preferences influenced the dietary patterns of farm households.

When asked to describe how meals are selected for household consumption, Mrs. Owolabi stated:

> I cook what we like. I do not cook any food that we do not like at all. I do not like cassava flakes (garri) so I only prepare that once in a while. I also ask my husband about his meal preference sometimes and he also he tells me to cook a certain meal but I make the decisions on what we eat most of the time.

Tabitha also discussed how personal preferences have shaped her household's diet:

> We do not eat okro or jute leaves at all because we do not like them. However, we like and eat all types of wild game except monkeys. We also rarely cook rice because our daddy [her husband] does not like it.

Similarly, Mrs. Eniafe shared how her husband's preference as well as having visitors inform her choice of meals. She shared:

> We usually eat yam pudding with vegetables and fish. However, meat, it has been more than four months since we tasted meat in this house. We just started eating meat again because we have a visitor staying with us for a while. We rarely eat meat because our daddy [her husband] does not like it and the soup that the lord of the house does not eat, the wife must not cook here in *Ago-Amodu*.

4.6.2 The Husband, The Head, The Crown

Study participants agree that food consumption and distribution within the household should be the responsibility of the wife. In cases where there is no wife within the household,

these duties are performed by other women like mothers and are only taken up by men where there are no women in the household at all. Participants' responses show that preparing and distributing food within a household is centered on the cultural understanding that all household members are not equal. In *Elepo* and *Ago-Amodu*, households are hierarchical with the husband as the head over his wife and children, therefore, his needs and preferences are usually placed above everyone else's. Participants used words like *lord*, *head,* and *crown* to describe the husband's position in the household. The findings of this study revealed that this hierarchical structure of the household influenced the decisions women made concerning food consumption and distribution.

When asked to describe food distribution within her household, Mrs. Owolabi said:

> After I finish cooking, I serve my husband first because he is the head of the household. Then, I serve our older aunty [who is actually their tenant] and my oldest brother-in-law. Then I serve my husband's other younger siblings (five of them), and I serve myself last.

Later in the conversation, she shared:

> I cut the meat or fish into equal sizes but not everyone gets the same quantity. My husband, Aunty and my oldest brother-in-law always get two pieces of meat, and the rest of us get one piece each. They get more meat because they are the elders in the house.

Similarly, Mrs. James stated:

> Whenever I am done cooking, I serve my husband first, then myself before I serve the kids. I do it this way because the husband is the head of the household. A wife should serve her husband first because the husband is the head of the wife.

Kemi also shared how food is distributed in her household, even though her only daughter does the cooking, either of them can share the food when it is ready. She said:

> She [her daughter] serves everyone accordingly but sometimes her elder brothers will not let her serve the food in peace, so I take over from her. I serve our daddy [husband] first, because he is the head of the household, then grandma. I serve myself last or I tell my daughter to make sure everyone in the household has had enough food before she serves my meal. I just eat whatever is left especially when they are eating all these modern foods like noodles and spaghetti. They know I do not like that.

Mrs. Lajire also discussed how husbands should still be accorded respect as the head of the house even when they do not take care of the needs of their households. She explained:

> Anytime we cook in the house, we serve our father [husband] first because he is the head of the household. Even if he does not perform his duties as the breadwinner, I still have to serve him first. In doing so, a wife is attracting blessings to her children. It is the culturally appropriate thing to do and as a Muslim, I must not fail to do the right thing especially when I know it is the right thing to do. Serving him first is the right thing to do and that is how it should be.

Oloye's second wife also discussed how all wives must honor their husbands and put his needs above all else after cooking. She stated:

> First, I serve my husband's food and set it on the table for him to eat, and then I serve my kids before I serve myself. A woman must always serve her husband first, in fact, before any other person even if a visitor comes in, you serve your husband's food first. The husband is every wife's crown [meaning he is the most important man in her life] so she must serve the crown first. That is how it has always been done and that is how our mother treated our fathers.

When presented with a hypothetical scenario about meat shortage, the findings of this study show that women used cultural norms and values to make decisions about intra-household food distribution in *Ago-Amodu* and *Elepo* villages. Women's identities as wives and mothers were engaged in distributing food in a culturally and nutritionally appropriate manner but this was often at the expense of their identity as an individual. Therefore, women were less likely to prioritize themselves in intra-household food distribution. When asked to reflect and describe how they would share a piece of meat if that was the only meat available in the household, the sacrificial nature of women was highlighted since most female participants gave the meat to someone else. For example, Mrs. Owolabi said:

> I will divide the meat into two, one for my husband and one for our Aunty because they are the elders in the house. I can buy cheese for everyone else but the fish or meat goes to them [husband and Aunty].

Another married woman in *Elepo*, Olateju, also explained how she would share a piece of meat among the seven members of her household here:

> I will give the piece of meat to my husband because he is our father, who brought us all together as a household. If the father pleases, he can cut the meat into bits and give the children. Men rarely eat lunch at home, the wife and children often do so they may have consumed some meat then. Therefore, the last piece of meat goes to the man and if the man is not shameless he would share at least some of the meat with his children.

Unmarried women also put themselves last while attending to the needs of other household members, particularly children. Omoladun, a divorced mother of three stated:

> I would share the meat among the children because they are children. I will go without rather than not give them any meat. I also do not want them to fight so I will divide the meat equally and give each of them.

Similarly, Gbolahan, a single man living with his mother expressed:

> If we had one meat left, my mom would insist that I eat it. Rather than share, she would give the meat to me, because I am her son not her husband and she knows if there is no meat in my food, I may not eat it. If I were her husband, she would not tell me that there is only one meat left, rather, she would eat it and tell me there is no more meat. But, the right thing to do is to give her husband the last piece of meat.

Contrarily, Mrs. Eniafe stated:

> I will eat the last piece of meat because my husband does not like meat, but, if we had one piece of fish left, I will divide it into two equal parts, one for my husband and one for me. The fish will be big anyways because I hate cutting meat or fish into tiny pieces,

> except for my children. Any woman that says she would give the last piece of meat to her husband is lying, unless that woman dislikes meat or fish. Some women would cover the fish with yam pudding to hide it from their husband but I do not do that. I will not allow anyone to insult me since no one helps me make money. I do not care if my husband sees me eating the last piece of fish or not.

Kemi also agrees with Mrs. Eniafe that the wife should eat the last meat. She said:

> If there is one piece of meat left, I will eat it because sharing it will lead to conflict. I will not give my husband neither will share it among the children. I will eat it because if I give my husband then I am partial to our mother who lives with us. I usually eat the last piece of meat and no one can fight me for it.

The first two subthemes describing sociocultural factors influencing food consumption and distribution within farm households, 1) *A Wife Cooks What Her Husband Likes,* and *2) The Husband, The Head, The Crown*, demonstrated how culturally constructed meanings about marriage and familial structure led to gender discriminatory behaviors. In addition, it shows that women are the custodians of traditions that place them at a disadvantaged position compared to other household members during food consumption and distribution.

4.6.3 The Child is Father of The Man

The last subtheme under the theme, *A Man is Lord in His Castle*, describes the effect of sociocultural factors on food consumption and distribution within farm households specifically based on the age of household members. As the first agent of socialization, parents and families are expected to teach their children the culturally acceptable standards of behavior. The

subtheme, *The Child is Father of The Man*, addresses how socializing children into the society through lessons on desirable food habits and cultural values may foster generational disparities in food distribution. These disparities are particularly obvious when distributing animal protein and ensure that adults are often prioritized over children within farm households in *Ago-Amodu* and *Elepo.* When participants were asked to explain why food distribution within their household is generational, a few participants cited the cultural value of raising content children as well as fear of criticism from others as key reasons for giving children smaller portions of meat or fish. For example, Mrs Eniafe shared how the fear of criticism influences meat consumption in her household:

> My kids are young, if I give them big pieces of meat and visitors see them eating it when they come over, they will start gossiping about how I give my children big pieces of meat. In fact, they will complain as soon as they see the children eating it, saying, "Is this meat not too much or is the meat not bigger than the kids [meaning the meat is too big relative to their age]? People believe that if children see the meat on their plate, they will not eat their food. Since we do not know what the future holds, one should be careful to check the food habits we are teaching them because those habits will stay with throughout their lives. This is the reason why I give them small pieces of meat/fish to avoid criticism from visitors and neighbors.

Ireti's description of her interaction with her grandson while sharing a meal may explain why parents who give their children big pieces of meat may be criticized. Recounting her experience with food distribution during lunch, she illustrated:

> I gave him [her son] a whole piece of meat for lunch today because I just felt like it. Meat is not food, it will not fill our stomach. I took two pieces of meat and I only ate one. Usually, we eat from the same plate but I do not share the meat equally. Why should I? He is my son so he cannot get the same amount of meat as me. Is he not a child? Why should a child eat the same amount of meat with an adult? We cannot be eating an equal amount of meat. That is impossible and I do not subscribe to that idea.

There is also a generational difference in food choices because many mothers consider their children's food preferences when making food consumption decisions. Participants consider yam pudding as their main meal, however, children in *Ago-Amodu* and *Elepo* prefer rice which explains why the most consumed food was after yam in *Ago-Amodu* and cassava and yam in *Elepo*, was rice. For example, Ireti discusses why rice consumption is predominant within her household. She expressed:

> Anything my child and I agree on what to eat then that is what I will cook. But, I love cassava pudding and do not mind eating it every day for a month because I do not like spending my money on food. I have to buy rice [unlike cassava flour], however, if my child asks for rice for breakfast I prepare rice for us to eat, as long as I can afford it. If I cannot then we eat cassava pudding.

Similarly, Omoladun said:

> We eat rice because of the children. Children love rice, in fact, if they are allowed, they can eat rice for breakfast, lunch and dinner for a month. If you cook rice all day, every day, kids will not complain.

In summary, the three invariant meanings, 1) *A Wife Cooks What Her Husband Likes, 2) The Husband, The Head, The Crown*, 3) *The Child is Father of the Man*, describe the sociocultural factors that influenced food consumption and distribution patterns within farm households in *Ago-Amodu* and *Elepo*. This theme, *A Man is Lord of His Castle*, also demonstrated that gender, age and familial roles were the primary influences on how food was distributed within the household of married participants. For unmarried participants, age and familial roles were the primary drivers of food consumption and distribution within their households. Finally, this theme described how culturally situated interactions between different household members have created gendered and generational food-related behaviors in *Ago-Amodu* and *Elepo*.

4.7 Nothing on the Farm, Nothing at Home

The findings presented in this theme address the fifth (RQ5) and sixth (RQ6) research questions; How do socio-cultural factors influence food (in)security in each village, and are there common socio-cultural factors that influence food (in)security between villages? The study explored food production, food consumption and food distribution at the household level to understand the sociocultural factors that drive food (in)security among farm households in *Ago-Amodu and Elepo*. A cluster of four invariant meanings emerged in exploring the sociocultural factors that drive transitory food insecurity among farm households in *Ago-Amodu* and *Elepo*: 1) *Conceptualization of Hunger and Poverty*, 2) *Food Availability and Stability*, 3) *Food Utilization*, and 4) *Yam Eaters versus Cassava Eaters*. Participants' responses revealed that cultural values shaped the conceptualization of hunger and poverty by study participants. Participants' responses also revealed that farm households in *Elepo* and *Ago-Amodu* could be

vulnerable to short-term fluctuations in food availability and stability because of sociocultural and environmental factors. In addition, sociocultural factors affected food access disproportionately depending on the gender and age of household members. Finally, participants' descriptions revealed a major difference between farm households in *Ago-Amodu* and *Elepo* concerning food-related behaviors.

4.7.1 Conceptualization of Hunger and Poverty

Hunger may literally mean unavailability of food, but participants' responses suggested that the term hunger is often equated to the unavailability of specific food crops of high cultural or personal significance. The findings of this study revealed that when participants use the word hunger in interviews, they were usually not referring to the literal definition as none of the participants reported going without food because of shortages. Hunger was therefore used to describe a lack of abundance of food that farm households prefer. This culturally conceived ideas about hunger and poverty shaped participants' behaviors about their food security. For example, Chinwe explained how her household's diet changes due to the prevalence of hunger when yam is unavailable in *Elepo*. She stated:

> Yam is our food. We eat nothing but yam during yam season. We [farmers in *Elepo*] would not be harvesting yams until September because we planted late so food is scarce in the village now. We are so hungry right now. We are so hungry because there is no yam. We eat what is available not what we want.

Gbolahan also explained why yam cultivation is mandatory in *Ago-Amodu*. It appears that buying yam as a farmer is not culturally acceptable, however, he also equates yam to abundance,

which drives his need to cultivate yam every year for eating and to maintain his social status as a farmer. He said:

> No matter what occupation one engages in here [*Ago-Amodu*], yam cultivation is mandatory. It is inevitable especially for me because I cultivate yam to avert hunger. Even when I do not plant maize or cassava, I pay laborers to cultivate yam, so I do not have to pay to get yams [in the market].

Interestingly, some participants conceptualized poverty figuratively in terms of food availability. Simply put poverty is synonymous with hunger. Lajire discussed the responsibility of feeding his immediate and extended family as the only farmer in the family. He shared:

I cultivate about three acres (1.2 hectares) of cassava just for consumption, not for commercial purposes. I do not sell a single tuber, rather, everything goes towards feeding my wife, six children and my children's friends who arrive in the morning and leave until later in the night. I provide breakfast, lunch and dinner for them but doing this has given me the privilege to go anywhere I want to as well. If I consider quitting farm work, many people will suffer. My siblings also come visiting from the city, sometimes with their families and take sacks of food with them when they leave. But it is okay because once hunger is taken out of poverty, there is really very little left. Once there is no hunger in anything, then all is well. It is true that not having money is poverty but once your extract hunger from poverty, eliminating all other challenges associated with poverty becomes an easier task.

Similarly, Folashade expressed:

> My primary goal for farming is to ensure that food is available for my family. You know the elders say, "Once you take hunger out of poverty, poverty ends." Therefore, even if we do not have money, as long as we can go to the farm and come back with food, we are fine.

The subtheme, *conceptualization of hunger and poverty*, revealed the cultural definition of hunger to be when yam is unavailable, which implies that the cultural significance attached to yam is culturally defined therefore food insecurity may be culturally defined as well.

4.7.2 Food Availability and Stability

The findings of this study revealed that the food security status of study participants was threatened during the annual hunger season in *Ago-Amodu* and *Elepo*, which starts around May or June and ends in August. This period is characterized by depleting food reserves at home as well as low opportunities for income generation since there are no fresh farm produce yet. During this temporary period of food unavailability and instability, farm households become more vulnerable to food insecurity than any other time of the year. Omoga reflected on farm life during hunger season and highlighted the specific features that distinguish these few months from the rest of the year. He illustrated:

> We always have farm produce to sell except in June, July and August, when we have nothing to sell. That is what we call *nothing at home, nothing on the farm*. The markets will be empty, we will have nothing to sell, and everything will just be grim. Maize is usually the only crop this is readily available for sale and that may not be certain because we may get bad maize yields. Nevertheless, if yields are good, we can quickly harvest fresh maize for sale. During this period, farmers have no money. It is can be so

> depressing for many farmers and so bad that we may not even be afford food. That is what we refer to as *nothing at home, nothing on the farm*.

To a large extent, heavy dependence of agriculture on rainfall in *Ago-Amodu* and *Elepo* causes the hunger season. The findings of this study showed that farmers in *Ago-Amodu* and *Elepo* are already experiencing the effects of climate change. The change in rainfall patterns is the most evident climate change effect for farmers since they practice rain-fed agriculture (see section 4.5.3). However, most farmers assume rainfall pattern changes to be a spiritual problem so seek spiritual solutions. For example, Lajire said:

> I plant yam, cassava and maize. Maize requires a lot of rainfall to produce a good yield, so we pray to God about it and thank God I ended up getting a good yield from my maize farm with only a few bad crops.

Similarly, Omoga expressed:

> The frequency and amount of rainfall were lower compared to last year when the rainfall started very early and did not stop until October. But rainfall did not start early this year and it has stopped now [in July]. Even if it starts again, it has already destroyed many crops or maybe God can bless us with enough rain to recover what we lost if it starts again. However, that is the reality of choosing to farm as a source of livelihood, if it kicks you down this year, it can raise you up next year. I pray God has mercy on us.

Only one participant mentioned climate change when discussing the effects of environmental factors on his households' food production and consumption. Owolabi said:

> We used to eat pounded yam every day when the yam lasted for eight months. We had to add cassava pudding to our diet because yam cultivation has become more challenging due to low rainfall and the season has become shorter due to climate change. It is no longer easy to produce yam, it is very difficult compared to cassava, which has improved varieties.

Apart from climate change, participants' responses revealed that certain economic and cultural factors could result in different food and nutrition security status among farm households in *Ago-Amodu* and *Elepo*. The main reasons why farm households in both villages engage in crop cultivation is household consumption and profit generation. Farm households appear well adapted to their environment and can often overcome climate change effects to produce appreciable crop yields. However, this is only guaranteed to satisfy half of the farm households' need to farm because household food consumption is largely within the control of farm households. The need to meet essential material and non-material needs that are not tied to food by selling farm produce is subject to economic factors like local and global prices, which are factors out of the farm households' control. The findings of this study revealed that farm households in *Ago-Amodu* and *Elepo* often operate in a volatile market where crop prices often fluctuate drastically and have culturally adapted multiple cropping as a coping mechanism against market as well as environmental volatility. Omoga explained that mono-cropping is not economically or environmentally viable for smallholder farmers who practice rain-fed agriculture. He shared:

> We cannot practice mono-cropping. It is impossible to cultivate just one crop annually. For instance, let us assume a farmer has just three acres of land, he would be lying to

himself if he says he is going to use all three acres of land to cultivate maize only. He may be blessed, and all goes well such that he makes a huge profit that year. On the other hand, he may also suffer a devastating amount of crop loss that he would not dare venture into maize farming ever again. This is why we have to divide the land into several sections and plant a variety of crops like cassava, maize and vegetables. We must not cultivate just one crop because you do not know which crop will be affected by environmental and market volatility or those that will be profitable in any given year. Therefore, we practice multiple cropping so that when one crop fails and strikes us down on one end then the others can support us on their own ends.

The majority of study participants in *Ago-Amodu* engaged in the simultaneous cultivation of at least four food crops and a commercial tree crop within an agricultural cycle; while in *Elepo*, farm households usually cultivate at least three commercial tree crops and as many as eight food crops in an agricultural cycle. Some participants argue that the multiple cropping of about four crops is ideal for resource efficiency, profit maximization and stable food supply. Meanwhile, others stated that success is not necessarily determined by cultivating an appropriate number of crops but a function of a careful selection of crops that have different characteristics and ecological needs. When responding to a question about his production practices, Mr. Lajire shared his experiences concerning the multiple cropping system that has served in well commercially and on a subsistent level. He explained:

I have two acres of cashew trees, which I just extended to six acres this year. I also plant yam, maize, cassava, beans and groundnut. I do not plant anything else because that is all I have time to oversee and they each have different cycles. If I become covetous because

> I see other people coming home with huge quantities of different crops and decide to plant more crops, the produce will end up going to waste because I will not have enough time to manage everything efficiently. Every year, none of my farm produce goes to waste because the harvesting time for all the crops I cultivate differs and that makes me happy because I am always able to get money all year round. I also have a stable food supply and you know Yoruba people always say once you take out hunger from poverty, it becomes a minor issue… if someone is able to eat regularly, fulfilling all other needs will be easier.

Food also served as a vehicle for fostering and maintaining social relationships, therefore exchange of food as gifts increased food availability and stability by serving as an additional food source for farm households. It was common among participants in *Ago-Amodu* to give and receive foodstuff as gifts, and farm households are often recipients of crops that they did not cultivate during a particular growing season. The cultural norms governing gift exchange could also improve food security because it is culturally undesirable for farm households to become regular recipients of gifts - so farmers often end up cultivating crops that they receive as gifts in order to avoid being labeled lazy or shameless. For example, Mrs. Eniafe shared:

> I did not cultivate beans so people gave us beans last year. They gave us beans left and right [various people gave beans to them]. When we are not blind [insensitive or shameless], that was why we decided to cultivate beans this year. Last year they gave us beans, now it is our turn to plant beans and give to others.

The subtheme, *food availability and stability*, described the environmental, economic and cultural factors that drive two dimensions of food security, food availability and stability in *Ago-*

Amodu and *Elepo.* Further, culturally adapted cropping systems employed by farm households have unique traits that make them resilient to unpredictable environmental and economic risks, which then reduces their vulnerability to food insecurity especially during hunger season.

4.7.3 Food Utilization

This subtheme, *food utilization,* describes how sociocultural factors influenced the use of available foods and its implication for food security among farm households in *Ago-Amodu* and *Elepo.* To achieve food and nutrition security, food must be utilized adequately to meet nutritional and physiological needs, which can be complicated because cultural norms, values and beliefs dictate how households can or cannot use food. For example, farm households owned livestock for a variety of reasons, which depended on the situational context of the farm households. For Mrs. Owolabi, owning chickens and goats helped to supplement the animal protein in her household's diet when her husband cannot afford to buy beef or fish. She stated:

> We rear chickens so that whenever we do not have money, we can slaughter them for food. We never sell our livestock; we rear them for household consumption. When we have money, we buy meat or fish. When we do not money, we eat chicken. We have goats too, but they are reserved for special occasions like wedding or naming ceremonies.

Similarly, Chinwe rears chicken as a source of security during hard times but unlike Mrs. Owolabi, she would sell hers to cater to any pressing needs. She said:

> We raise more than thirty local chickens so that I can get money when I need it. When I do not have money, I sell two or three chickens and use the money to buy whatever I

> need. The children can pay us a sudden visit at a time when we do not have money so we can easily sell some chickens and cater to our children.

In a culture where visitors often drop by unannounced and hospitality is key in maintaining social relationships, some participants have found that rearing chickens can be useful during unexpected visits. When explaining why she rears chickens, Folashade stated:

> I rear chickens because you never know when someone will come visiting. We may have an unannounced visitor who catches us by surprise so I can tell the children to quickly slaughter the chicken and make a meal to entertain the visitors. The chickens also come in handy on days when we do not have meat, we can slaughter a chicken and eat it.

4.7.4 Yam Eaters versus Cassava Eaters

This subtheme focuses on the major difference between *Ago-Amodu* and *Elepo* to highlight the sociocultural factors that drive food security or insecurity in each village thereby answering the sixth research question (RQ6) about whether there are common sociocultural factors that influenced food security among farm households in a reversed manner.

One of the major differences between *Ago-Amodu* and *Elepo* villages is the type of pudding consumed. As mentioned earlier, yam pudding is the main meal in *Ago-Amodu* and cassava pudding is the main meal in *Elepo*. Participants' responses highlight personal preference, health issues, energy requirement, and cultural values as the major reasons for this difference. Despite cassava pudding not being a staple of the diet in *Ago-Amodu*, cassava cultivation remains an integral part of the household food economy since it serves as a source of income for all the participants sampled from the village. Participants will regularly consume cassava

granules (*garri*) as a snack, sometimes sell or process it to make cassava flour for commercial purpose, but they very rarely eat cassava pudding. For Asiwaju, cassava is more a commercial crop than a food crop, which became apparent during a description of his post-harvest cassava production practices:

> Upon harvesting cassava, we can either process the tubers into cassava granules or flour, or we sell the tubers. We do not eat cassava pudding; that is the food for foreigners. If you also go to *Ibarapa* region, they eat cassava pudding a lot. I do not eat it but my farm workers [usually immigrants from Togo] do so we prepare cassava pudding meals for them. No, I do not eat cassava pudding because here in Ago-Amodu, we believe that those who eat cassava pudding are either lazy people or immigrants who do not own farms.

To participants like Mrs. Asa, the consumption of cassava pudding was avoided mainly due to health reasons. She expressed her dislike for cassava pudding here:

> I do not eat cassava pudding. I do not like it. Whenever I eat it, I experience backache, severe stomachache and diarrhea. Anytime I attend a special occasion and discover cassava pudding is on the menu, I do not eat it because it gives me diarrhea.

Similarly, Akeju, who had also experienced some health complications due to cassava pudding consumption, praised yam pudding and condemned cassava pudding. He declared:

> You have never heard the phrase, "Yam pudding is medicine?" Yam pudding cures diseases in fact it is antiviral. I mean pudding made from *original* yam flour not from water yam or cassava flour. We do not like cassava pudding here [*Ago-Amodu*], I do not

> eat it. Most people, including me, experience stomachache when they eat cassava pudding.

The reasons why participants in *Ago-Amodu* do not consume cassava pudding were similar to those farm households in *Elepo* cited for refraining from the consumption of yam pudding. Some farm households avoid eating yam pudding for cultural and health reasons; however, a few households cited the low caloric content and seasonality of yams as additional reasons for their cassava pudding preference.

When asked to reflect on why cassava pudding is the most consumed meal in *Elepo*, Omoga explained how cassava pudding consumption is a part of a unique cultural heritage passed from one generation to the next not just in *Elepo* but the whole *Ibarapa* region. He said:

> Our ancestors were farmers, there were socialized into farming as an occupation from a young age. If you travel across this region, you will notice that the most common food is cassava pudding and the most common source of livelihood is farming. They made most of their money from cassava and yam because these crops were highly profitable, and they paid attention enough to know that cassava flour is nutritious. Hence, our fathers bequeathed this livelihood (farming) and food (cassava flour) to us. If you enter any house in this village, you will meet them preparing cassava pudding, it has become so common here compared to the city.

Apart from cultural values, health implications influenced abstinence from yam pudding in *Elepo*. Rachel stated:

Cassava pudding has always been our own food. That is our tradition, eating cassava pudding. Some people eat yam pudding, but cassava pudding is the most important food. Others are scared of eating yam pudding because it upsets their stomach when they do.

For Ejire, a young married man in *Elepo*, his preference for cassava pudding over yam pudding was mainly due to the cassava meal's high caloric content, which is an essential characteristic for a diet consumed by farmers who engage in largely non-mechanized rain-fed agriculture. He expressed:

> Cassava pudding is my favorite food. If it was possible to eat cassava pudding thrice daily, that would be great. I do not like yam pudding because it upsets my stomach. Yam pudding is also weak, it holds no weight in the stomach unlike cassava pudding that stands strong in one's stomach. Yam cassava holds no weight all, in fact, it makes me hungrier such that I would not be able to do tasks that require a lot of energy. This [yam pudding] would not have been fine if I had a city job but this type of occupation [farming], is very labor-intensive.

Florence, a Togolese married woman who resides in *Elepo* described the impact of the seasonality of yam on her household's diet:

> The most consumed food in my household is cassava pudding because yam is seasonal. The length of time between planting and harvesting is longer for yam compared to cassava, which makes yam seasonal, a season that will not start until August. Therefore, we eat cassava pudding every day when it is not yam season and in August, we start eating pounded yam more frequently.

In closing**,** the four invariant meanings 1) *Conceptualization of Hunger and Poverty*, 2) *Food Availability and Stability*, 3) *Food Utilization*, and 4) *Yam Eaters versus Cassava Eaters*, explain the socio-cultural factors that drive food security or insecurity among farm households in *Ago-Amodu* and *Elepo*. Participants' descriptions suggested that concepts like hunger and poverty were interpreted through the lens of cultural values and beliefs. Environmental and economic factors closely interacted to affect food availability and stability thereby making food insecurity transitory in both villages. Additionally, a culturally shaped tradition of cultivating multiple crops during the same season served as a coping mechanism for farm households to manage environmental and economic risks associated with farming sustainably in *Ago-Amodu* and *Elepo*. Cultural factors also influenced food-related decisions that resulted in unequal food and nutritional security outcomes depending on gender and age of farming household members as well. Finally, food utilization by farm households in each village was governed by different cultural meanings and experiences attached to certain foods, which set different boundaries on what food is, and who eats it in each village.

4.8 Summary of Findings

This section offers a synopsis of the findings presented in this chapter. The implications of the findings from this descriptive phenomenological study will be discussed in Chapter 5.

The findings of the study were presented in four thematic areas: 1) T*he Mouth – An Unaccountable Consumer*, 2) *Why We Farm*, 3) *A man is Lord in His Castle*, and 4) *Nothing on the farm, Nothing at home*. The themes addressed research questions two through six, research question one about the demographic characteristics of participants was another section of the chapter (section 4.3.3). The theme, *The Mouth – An Unaccountable Consumer*, focused on the

food production and consumption patterns of farm households in *Ago-Amodu* and *Elepo.* It was found that farm households in *Ago-Amodu* and *Elepo* produce and consume food from different food groups to maintain a relatively diverse diet. The foods produced and consumed in both villages are very similar, however, significant differences existed in food utilization due to contrasting cultural meanings and values attached to staple foods yam and cassava.

The theme, *Why We Farm*, described the sociocultural factors that drive food production behaviors among farm households, including gender roles, edibility, cultural meanings/values attached to certain crops, labor intensity of crop, marketability, and rainfall patterns. This theme also highlighted how food production experiences in *Ago-Amodu* and *Elepo* are navigated through yam cultivation by farm households with the primary aim of feeding themselves biologically, materially, and culturally. The theme, *A man is Lord in His Castle,* identified the socio-cultural drivers of food consumption and distribution within farm households such as familial structure, gender roles and age relations, and describes the gender and generational dynamics of food-related experiences that have emerged as a result of these factors. Finally, *Nothing on the farm, Nothing at home* described the manifestation of transitory food insecurity in *Ago-Amodu* and *Elepo* as well as common sociocultural factors such cultural norms and values, high reliance on rainfall, cropping practices, crop seasonality, personal preferences, health risks and energy requirement, that influenced the four dimensions of food security in both villages. The difference in food utilization in *Ago-Amodu* and *Elepo* due to culturally assigned meanings was also highlighted.

CHAPTER 5. CONCLUSIONS & DISCUSSION

5.1 Introduction

This chapter will present the findings of this descriptive phenomenological study. The purpose of this study was to explore food production, consumption and distribution among farm households in two rural communities in Oyo state, Nigeria. Further, the study examined the role of sociocultural factors in shaping these food-related behaviors and the nutritional status of the farm households. The following research questions guided the study: 1) What are the demographic characteristics of farm households in Ago-Amodu and Elepo Villages of Oyo state, Nigeria? 2) What foods are eaten in each household and do they differ by village? 3) What socio-cultural factors drive the food production behaviors of farm households? 4) What socio-cultural factors drive food consumption and food distribution within farm households of each village? 5) How do socio-cultural factors influence food security in each village? 6) Are there common socio-cultural factors that influence food security between villages? Overall, the findings of the study suggest that an intricate network of environmental, economic and sociocultural factors including sociocultural factors drive food (in)security among farm households in both villages. This chapter will discuss four major conclusions of the study and explain the implications for theory and practice. Finally, the chapter concludes with recommendations for future research.

5.2 Conclusions of the Study

5.2.1 Food Production in *Ago-Amodu* and *Elepo*

The findings from this study suggest that yam (*Dioscorea spp.)* is the most important crop in *Ago-Amodu* and *Elepo* because of the high cultural significance attached to its cultivation

and consumption by farm households. The results show that farm households cultivated yam primarily for consumption purposes unlike crops maize and cassava, which were planted for commercial and subsistence reasons. Agriculture is rain-fed and largely low mechanized, therefore, farming is seasonal as defined by rainfall patterns. The results also show that all farm households practice the cultivation of multiple crops simultaneously and all these crops had two important traits, they serve as food for consumption and produce for sale. However, the multiple cropping system in *Elepo* had more crops including three times more tree cash crops than *Ago-Amodu*. The results also show that the hunger season starts in June in both villages but lasts for three months in *Elepo* compared to two months in *Ago-Amodu*.

A key finding is the strong cultural meanings attached to yam such that the lives of farm households revolve around the yam season in both villages. The importance of yam cultivation is reiterated throughout the study with participants simply stating that yam is the best because it is their food. In Southwestern Nigeria, Korieh (2010) found that yam is a symbol of masculinity and cultural identity among the Igbo ethnic group. The findings of this study showed similar symbolic relationship between yam and the participants in which yam was deeply entrenched in their cultural identity. For example, some participants believe that only lazy people do not cultivate yam in their villages. Beliefs like these are indicative of how farming communities like *Ago-Amodu* and *Elepo* attach meanings to a particular crop and construct their identities through its production and consumption. This finding supports previous literature on food and cultural identity in African farming communities (Davidson, 2016; Piot, 1999; Shipton, 2010). In addition to cultural identities, farm households used yam availability to conceptualize hunger and although other foods were available for consumption, participants defined hunger by yam scarcity. This association of hunger with the absence of a particular crop or food supports various

research across different ethnic groups on the conceptualization of hunger as the lack of a specific culturally significant crop (Davidson, 2016; Johnson & Bakaaki, 2016; Johnson, 2017).

Another key finding is the gender differences in the type of crop cultivated. The results of this study revealed a difference in the crops cultivated by women and those planted predominantly by men. This difference was mainly due to labor intensity required, for example, most female participants regardless of their marital status do not cultivate yam because it is very labor intensive, therefore, women cultivate crops like cassava, maize, peppers and vegetables. Similarly, Korieh (2010) also found that Igbo women are abandoning yam to grow cassava. However, gender roles can also influence the type of crops women and men cultivate. In *Ago-Amodu*, gender roles concerning food are clearly defined between men and women, men provide the staple crops (tubers, cereals) and women provide the soups (vegetables and spices). This cultural norm may explain the gender differences in crop selection that sees men cultivating crops like yam, maize and cassava, and women planting tomatoes, peppers and vegetables. In *Elepo*, the responsibility of providing food within the household is culturally assigned to a man but women contribute towards feeding their family when men cannot fulfill this responsibility. Therefore, crop selection is less divided along gender lines, rather the labor intensity of cultivating the crop is the main factor considered.

The results of this study also showed that all the participants of this study practiced multiple cropping usually planting up to five crops simultaneously. Multiple cropping is a prevalent agricultural practice in sub-Saharan Africa because it is well suited for environmental and ecological characteristics that are unique to the region such as unpredictable rainfall and seasonal changes (McCann, 2005). The cultivation of more than one crop also facilitates diet diversity and increases farmers' resilience to shocks (Heywood, 2013). Participants have to

practice multiple cropping due to their high reliance on rainfall, which is beyond their control in order to build some resilience against unexpected crop loss that may result from sporadic rainfall patterns. The results of this study revealed that multiple cropping involves careful and strategic planning in the selection of crops so that the unique characteristics of each crop combine to become a stable source of livelihood for farmers who depend on volatile environmental conditions.

5.2.2 Diet Diversity of Farm households

Farm households were found to consume foods from six groups daily, and the main meal in *Ago-Amodu* and *Elepo* served as a source of the six major nutrients (carbohydrates, protein, vitamins, minerals, fats and water). This suggests that the traditional diets of *Ago-Amodu* and *Elepo* are relatively diverse since according to Swindale and Bilinsky (2005), household consumption of food from four different groups implies diversity in micro and macronutrients. This result is also similar to Ogundari (2013) who found that the majority of Nigerian households consume a maximum of six food groups daily and Ajani (2010) who found that households in six Nigerian states consumed foods from an average of six groups within 24 hours. Results also showed that the traditional diet in both villages has a high carbohydrate content although the sources of carbohydrates were different in both villages. In *Ago-Amodu,* farm households prepare the pudding in their main meal with yam while farm households in *Elepo* use cassava to prepare theirs. This aligns with Osseo-Asare's (2005) assertion that the West African diet is usually dense and contains a high amount of carbohydrate. Further, Ogundari (2013) identified the major food groups in Nigeria as staples (cereal and tubers), flesh food (meat and fish) vegetables and fruits, oils and fats, dairy products and sweeteners. A similar trend was

found in *Ago-Amodu* and *Elepo,* however, farm households rarely mentioned sweeteners and dairy products or fruits or eggs.

Research has shown that cultural norms, values and beliefs become deeply entrenched in groups so much so that they drive members' decisions on what, when and how to eat, as well as who eats what (Amone, 2014; Weingärtner, 2004; Fanzo, 2015). The impact of culture on food consumption was prevalent throughout the study. The results of this study revealed that foods made from yam are considered the most important and a common saying about food in *Ago-Amodu* and *Elepo* revealed that maize and yam (sometimes cassava) are culturally ranked. Farm households praised yam as food and medicine while cornmeal was referenced as a food one eats when they have no choice. Farm households also rank food products made from the same crop. For example, pounded fresh yams were ranked higher than yam flour and cassava flour was ranked higher than cassava granules in these villages. Okoye and Aiddo (2013) also found an inverse relationship between the frequency of consumption of pounded yam and cassava flour in Nigeria. The findings of this study revealed that this inverse relationship does not always exist based on personal preferences. Farm households in *Ago-Amodu* and *Elepo* usually eat yam and cassava flour respectively when fresh yam is not available. However, not all households abandon the cassava or yam flour for fresh yams when the yam season begins, some farm households eat yam or cassava flour all year round.

A key finding is that there was one striking difference in food consumption patterns between *Ago-Amodu* and *Elepo* village, which was shaped by the cultural beliefs surrounding cassava consumption. The main meal in *Elepo* is a pudding made out of cassava, it is the most frequently consumed and is ranked second after pounded yam. However, this pudding is not culturally accepted as food by the majority of participants in *Ago-Amodu* due to its historical use

as animal feed, in fact, some believe only lazy farmers and foreigners eat cassava pudding. On the other hand, farm households rejected yam pudding due to personal preference, caloric content and health risks. Since cultural norms dictate that wives avoid cooking meals that their husbands do not like, this could potentially affect household diet diversity, however, the few descriptions of such cases by participants did not affect diet diversity because wives were able to substitute the food for another in the same group.

Overall, the results of this study show that farm households in *Ago-Amodu* and *Elepo* have a diverse diet consisting of food groups that are similar to those found across Nigeria and supplying the main nutrients needed by the body. Additionally, cultural norms and values, personal preference, health implications and seasonality are some of the factors that drive food consumption in *Ago-Amodu* and *Elepo*. The findings of this study further suggest that even when food is available and accessible over a stable period, sociocultural factors can influence food utilization within farm households, which may adversely affect diet diversity since households may reject nutritious foods because they do not meet cultural standards.

5.2.3 Intrahousehold Food Distribution *in Ago-Amodu and Elepo*

Food distribution within farm households was gendered and generational because cultural norms and values create a hierarchical relationship between members of the same household. For married participants, a husband is the head of the household and is likened to a lord and king in *Ago-Amodu* and *Elepo*. Wives are expected to prioritize the needs of the husband above all other household members when distributing food. Therefore, wives usually serve their husbands first then the rest of the food is shared according to age and the wife gets served last. In female-headed households, the mother still eats last and children are served first according to their age.

Mothers are also expected to be sacrificial - so women often neglect their own needs for the sake of their household especially their children since the wellbeing of children is one of the criteria used to ascribe status to mothers. For example, one of the participants stated that she would rather give up her meat for her children because children are a reflection of their mother's wealth. Participants also believed that children do not need to consume a lot of meat because it tends to lead to covetousness when they become adults. It should be noted that some participants did not always prioritize their husbands' needs above theirs. For example, a participant shared that she would eat the only portion of food left in her household to avoid conflicts. This was an interesting response because the majority of the participants regardless of gender maintained that the man should get the last piece of meat.

The findings from this study suggest that food availability does not guarantee access and even when households have access to food, cultural factors hinder equitable distribution of food within farm households. Additionally, women and children are more likely to be food insecure and malnourished due to discriminatory cultural norms, values and beliefs. These findings support the numerous studies that have identified gender as a key determinant of nutritional status (Dodson et al., 2012; Dzanku, 2019; Maitra & Prasada Rao, 2018; Martin & Ferris, 2018; Monteiro, Moura et al., 2004; Tibesigwa & Visser, 2016). In Nigeria, women are more vulnerable to chronic and transitory food insecurity compared to men (Akerele et al., 2013; Amaza et al., 2006; Babatunde, et al., 2008; Fawehinmi & Adeniyi, 2014).

5.2.4 Sociocultural Drivers of Food (In)Security in *Ago-Amodu and Elepo*

The hunger season in *Ago-Amodu* and *Elepo* starts in July and usually last for 2-3 months leading up to harvest each year. The results of this study revealed that farm households would

have depleted their food reserves, and farm produce was not ready yet for harvest at this time. Therefore, farm households are temporarily vulnerable to food insecurity during the hunger season because food availability and supply are threatened. The dietary patterns of participants also changed during the hunger season especially in *Elepo* where some participants conceptualized hunger as the lack of yam or inability to eat yam that is characteristic of the season. This finding supports the notion that most of the food insecurity occurs during the hunger season (Vaitla et al., 2012) and diets become less diverse with low caloric content (Becquey et al., 2011; Hirvonen et al., 2015). Farm households in *Ago-Amodu* were less vulnerable to transitory food insecurity compared to those in *Elepo* due to a few reasons such as more efficient multiple cropping system, better food preservation and storage techniques, and higher livestock ownership.

A linkage of environmental, economic and cultural factors drove transitory food security in Ago-Amodu and Elepo. Studies have shown that farm households in Africa who practice rain-fed agriculture are already dealing with the adverse effects of climate change (FAO, 2018; OECD & FAO, 2016). Climate change effects like sporadic rainfall patterns and change in pest populations have affected food availability and stability in both villages by reducing crop yield. Since participants practice rain-fed agriculture, they engage in multiple cropping as a coping mechanism for environmental stress or sudden shocks. Some farm households also changed their dietary patterns as a way of coping with declining yields of culturally significant crops. This supports literature on the changing rainfall patterns and its negative impact on crop yields (FAO et al., 2018).

Livestock ownership served as a form of economic power in both *Ago-Amodu* and *Elepo*. Many farm households in *Ago-Amodu* own chickens and goats while those in *Elepo* rear

chickens only. Participants in *Ago-Amodu* rarely sell their chickens, women rear them for household consumption during hunger season or anytime they cannot afford to buy meat. Goats on the other hand are raised for market, especially since the majority of farm households in *Ago-Amodu* do not eat female goats. On the other hand, most participants in *Elepo* rear chickens for sale during financial emergencies. This suggests that livestock ownership should not be automatically equated to better nutritional outcomes because farming household rear livestock for various reasons.

The findings of this study also revealed that food is used as a vehicle to foster relationships in *Ago-Amodu,* for example, an exchange of food as a gift was quite common. This expands the farm households' sources of food beyond personal production and purchase, which makes them less vulnerable to food insecurity. The structure of the gift exchange also motivated farm households to cultivate their own crops during the next agricultural cycle so that they can give others the gift of food as well. Cultural factors also influenced farm households' utilization of food as the findings of this study shows that farm households are deeply committed to traditional diets. The findings of this study suggest that sociocultural factors that drive food insecurity are interrelated with environmental factors. Therefore, all of these factors must be examined to arrive at a holistic understanding of food insecurity among vulnerable populations like farm households.

5.3 Implications for Theory and Research

The findings from this study demonstrate that the descriptive phenomenological method remains a relevant approach in understanding human experiences. The method was employed in this study to explore the food-related experiences of farm households with the aim of

understanding the structure of sociocultural factors that influence food security. One of the major findings of this study is that an inextricable link exists between the cultural, economic, and environmental factors that drive food insecurity. Research on food security, particularly in Nigeria predominantly have examined the issue from an economic perspective (Abu & Soom, 2016; Akerele et al. 2013; Babatunde 2007), however, the findings of this study suggest that food-related experiences concerning production, consumption, and distribution within farm households are guided by interrelated sociocultural and environmental factors that cannot easily be isolated from each other.

Another key finding is that food security transcends food availability and stability because food served as a vehicle through which farm households expressed their identity as well as cultural norms, values, and beliefs. This suggests that the cultivation of many crops or livestock ownership should not be automatically equated to better nutritional status because cultural meanings attached to food define what food is and how food is used within farm households. The phenomenological interview involves a deep reflection of several people about how they experienced a phenomenon (Eberle, 2013; Giorgi, 2009, Moustakas), and was used in this study to explore food behaviors related to the four pillars of food security as experienced by one of the most vulnerable groups to hunger. The findings of this study therefore represent the structure of sociocultural factors that drive food security explained by farm households' linguistic descriptions of food production, consumption and distribution experiences. This suggests that qualitative data are essential for explaining the broader reality behind food security statistics as well as the apparent paradoxes concerning decisions farm households make in allocation and distribution of foods.

The findings in this study also indicate that intrahousehold food distribution depended mainly on biased gender and generational household dynamics that put women and children at a disadvantage. Further, female household heads compared to married women are likely to be more vulnerable to food insecurity due to limited access and control of productive resources like labor. This suggests that food security needs to be examined through a gender lens, however, gender should be disaggregated to capture how other identities like marital status and age interact with gender.

5.4 Implications for Practice

A key implication for practice revealed in this study is for development practitioners, particularly those who specialize in food security, to begin to pay increased attention to the culture of vulnerable populations. The findings of this study revealed that sociocultural factors drive relevant food production, consumption and distribution behaviors within farm households. Research shows that food security initiatives tend to overlook cultural factors as micro issues and this neglect is one of the major reasons why many of these projects have failed to make villages food secure but instead have left behind a trail of unintended negative consequences. Practitioners can no longer adopt a one-size-fits-all approach to food security initiatives, because the cultural factors that influence food security differs from one social context to another. It is therefore important for the development practitioners who design and implement these projects to think holistically and start taking cultural factors as seriously as they do economic factors and more recently environmental factors. This would aid the design and implementation of sustainable food security projects that are culturally relevant, economically viable, and environmentally efficient.

Another implication for practice involves increasing collaboration with vulnerable populations to design and implement effective food security projects. This study revealed that farm households defined key development concepts like hunger and poverty differently than development practitioners commonly define them. This finding supports existing literature that practitioners and beneficiaries often do not conceptualize issues in similar ways, which often leads to unrealistic expectations and frustration on the practitioners' end. Additionally, farm households defined poverty and hunger based on sociocultural factors to include material and non-material needs. This defies the traditional classification of people as poor or hungry based on economic factors like income or food availability alone, which can be reductionist because it accounts for economic well-being alone. Meanwhile, research has shown that the nutritional status of households does not automatically increase with income, which implies that practitioners need to consider the sociocultural definitions of hunger and poverty along with the standard economic definitions of these terms.

Finally, the findings of this study revealed food security as gendered and generational due to discriminatory cultural norms, values and beliefs that prioritizes the needs of husbands over wives and children within farm households. Further, these findings suggest that women may not have equal access to and control of productive resources within and outside the household. Research has shown that women are more likely to be food insecure than men while women in their reproductive years and children tend to be more malnourished than other household members are. The implication for practice is the need for policies and projects that address food security through a gender lens. This does not imply the exclusion of men but a targeted inclusion of men, women and elders as well as local opinion leaders who all act as custodians of these gender discriminatory values and beliefs in their culture. Additionally, the results of this study

indicate that food production and consumption within households depend on the cultural meanings and values attached to food.

5.5 Recommendations for Future Research

This study is one of the few studies that has focused on the interaction between economic, environmental, and cultural factors that drive food security or its absence among farm households in Nigeria. Further, the study adopted an unconventional approach to understanding food security by exploring the food-related experiences of farm households using a descriptive phenomenological lens. A few of the ample research opportunities that abound in this area are suggested in this section.

This cross-sectional study explored the food-related behaviors of farm households in *Ago-Amodu* and *Elepo* villages in Oyo state, Nigeria for a few weeks during the annual hunger season. A recommendation for future research would be to expand the timeframe for data collection across the entire agricultural cycle to capture household food security status during different seasons. The majority of farmers in Nigeria practice rain-fed agriculture, therefore, the agricultural cycle can be unpredictable depending on the timing and amount of rainfall in a year, which makes food security seasonal and unpredictable as well. Longitudinal studies will allow researchers to assess diet diversity and other food-related behaviors of farm households over time in a more comprehensive manner.

Additionally, the present study used the Food and Agriculture Organization's Household Dietary Diversity Scale to measure the nutritional status of households. This scale requires participants to recall all the foods consumed within the household during the previous day, which potentially under-represents that data due to the limitations of recall. Future studies should

combine self-reported and observational measures of nutritional status such as food diaries, anthropometry and observations with other food-related information to provide a holistic picture of food and nutrition security in farming communities.

Food security research needs to examine the sociocultural context of vulnerable populations since it is becoming increasingly evident that culture affects all dimensions of food security including food availability, access, stability and utilization. It is also recommended that future research should expand to other ethnic groups in and outside Nigeria, using a descriptive phenomenological method, to explore dietary patterns and food related behaviors. These studies could help explain why some populations are more vulnerable to food insecurity than others as well as the slow decline in progress towards a food secure world.

Additionally, future research should replicate this study, using the descriptive phenomenological method, to describe food-related experiences of vulnerable populations like farm households, women and children. It is further recommended that these demographic characteristics should not be treated as binary variables rather researchers should seek to provide disaggregated data by exploring how multiple identities interact to create variations within and between demographic groups.

Finally, it is recommended that future research should adopt a transdisciplinary approach in exploring the factors that drive food insecurity in any particular context. This could aid a comprehensive examination of food security with reduced risk of isolating any important factor. Future research should also consider collecting data from different sources using various methods. The triangulation of quantitative and qualitative data could foster a holistic

understanding of food security by providing valid, reliable and context-driven data that could be generalized to a larger population.

5.6 Limitations

Although this study made every effort to represent the sociocultural variables that would affect diet diversity across farm households in *Ago-Amodu* and *Elepo*, there were limitations in the study, which could inform future research design. First, the seasonality of agriculture affects food security as well meaning that dietary patterns change across the different growing seasons. Data was collected only once for this study, which may not capture the seasonality of food insecurity in regions like the study area where dietary patterns change due to unpredictable rainfall patterns. Furthermore, anthropometry, or the practice of measuring the size, proportions and composition of the human body (WHO, 1995), is the commonly accepted method of measuring nutritional status of individuals, however, it is very expensive and time-consuming, so no anthropometric data was collected during the study. Research has shown that nutritional status is strongly correlated to dietary diversity, which when compared to anthropometry is faster, more easily administered, and cost-effective (Food & Agriculture Organization [FAO], 2011). Therefore, The Food and Agriculture Organization's Household Dietary Diversity Scale was used to measure the nutritional status of households. This scale requires participants to recall all the foods consumed within the household during the previous day, which potentially under-represents that data due to the limitations of recall. To minimize this effect, the study used a one-day time period.

There were also some limitations to the findings of this study despite all active efforts made to ensure rigor and trustworthiness. The participants were purposively selected based on

ethnicity, marital status, and type of marriage to represent the food-related experiences of farm households in two rural communities in Oyo state, Nigeria. However, the findings may not necessarily cover the full range of variations among farm households in the communities due to inadvertent omissions in the variety of households chosen (Palinkas, et al., 2015). To minimize this effect, the researcher spent the first two weeks conducting observations and informal interviews with key informants in the two farming communities, the results of which influenced the selection of farm households to create a representative sample for the study. The generalizability of this sample may therefore be limited, and generalizing to non-participating households, other farm households in different areas of the state, and those households not engaged in agricultural production should be cautionary.

Finally, while the researcher worked to establish rapport and trust, participants' responses may still be biased due to the presence of the researcher. The researcher is a college graduate who has spent her whole life in urban areas and although all she worked to earn participants' trust; some participants were still suspicious of the researcher's motives for spending weeks in the villages. After spending a few in *Elepo*, one of the participants mentioned that the researcher was initially suspected of being a spy for the government or a terrorist group. This was mainly because participants were used to quantitative researchers and could not understand why the researcher chose to live in their community for weeks or why she did not have a survey instrument. This suspicion may have influenced how participants especially those interviewed during the early stages of the study responded to questions. Further, gender, age and class can act as filters of knowledge during interviews (Fontana & Frey, 2003; Seidman, 2013), the differences between the researcher and participants in terms of age, gender, education and socioeconomic status may have introduced some status bias during the interviews. To limit this

effect, the researcher presented herself as a young naive city girl who wanted to learn about farming and life in rural areas. There were also two participants who started the interview and stopped after a few minutes because they did not feel like answering any more questions despite being aware of the duration of the interview beforehand.

5.6 Summary

The chapter provided an overview of the key findings and conclusions for each of the research questions. It also presented the implications of the findings for theory and practice, and recommendations were made for future research.

The study showed that an inextricable link of cultural, economic, and environmental factors drives food security in *Ago-Amodu* and *Elepo* villages. Food security in the villages was transitory due to the heavy dependence of farm households on rainfall, therefore, farm households sought out culturally appropriate mechanisms in coping with adverse environmental effects on their crop yields. This challenges the predominant economic approach to food security and suggests the simultaneous examination of economic, environmental and social factors to provide a holistic understanding of food security within the social context of vulnerable populations.

In addition, this study demonstrated that access to food within and outside the household is governed by cultural norms and values that are discriminatory based on gender and age. Women of reproductive age and female household heads were more likely to be vulnerable to food insecurity than married women are due to unequal access to food and productive resources like labor. Hierarchical relationships within farm households also placed children at a

disadvantage during food distribution because food was used as a conduit for preserving cultural values like respect for elders and contentedness.

Finally, this study revealed that farm households conceptualized hunger and poverty differently than they are commonly defined. This is because food served biological and cultural functions in *Ago-Amodu* and *Elepo* where farm households eat not just to satisfy physical hunger but to express cultural identities and foster social relationships as well. Therefore, food availability does not guarantee better nutritional status since cultural norms and values set boundaries on what food is and how food is utilized among different groups of people.

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Appendix A

Interview Guide

Household Characteristics

a. How many people do you have in your household?
b. Do you rear animals? If yes, what type of animals and how many do you own?
c. Do you have a home garden?
d. What is the size of land cultivated by you and your household?
e. What is your highest educational attainment?
f. How do you obtain the foods consumed in your household?
g. Do you have other sources of income apart from agriculture? If yes, mention these sources
h. What is your household income?
i. What percentage of your income comes from agricultural activities?
j. What percentage of your household income is spent on food?

Detailed Experience with Food (Production, Consumption and Distribution)

1. Food Production
    a. What crops do you cultivate on your farm?
    b. Who makes the decision on what to grow?
2. Food Consumption
    a. What kinds of food do you consume in your household?
    b. What foods you do not consume in your household?
    c. Who decides on what foods to buy?

d. Are there foods you consume on a daily basis?

3. Intra-household Food Distribution
    a. How do you distribute food in your household?
        i. Who eats first?
        ii. Who eats last?
    b. If there were one meat left, how would you share it in your household?
    c. If you have X number of meat or fish; how would you distribute it among household members?
    d. If the food prepared is insufficient, how do you distribute it?
4. Please describe the foods (meals and snacks) that you and members of your household ate or drank yesterday during the day and night. Start with the first food or drink of the morning. (Diet Diversity)

Reflection on Meaning

5. Why did you choose to cultivate the crops you do?
6. Do you consider some foods more important than other foods? If yes, why?
7. You have described the food distribution pattern in your household, what factors drive this pattern?

Appendix B

Food Group	Examples	Yes (1) No (0)
1. Cereals	corn/maize, rice, wheat, sorghum, millet or other grains or foods made from these (e.g. bread, noodles, porridge or other grain products)	
2. White roots and tubers	White potatoes, white yam, white cassava or other foods made from roots	
3. Vegetables	Vitamin A rich vegetables and tubers – Pumpkin, carrot, orange-fleshed sweet potato, red sweet pepper Dark green leafy vegetable – Amaranth, cassava leaves, spinach, bitter leaf, water leaf Other vegetables – Tomato, onion, + other locally available vegetables	
4. Fruits	Vitamin A rich fruits – Ripe mango, cantaloupe, apricot (fresh or dried) ripe papaya and 100% fruit juice from these Other fruits – wild fruits and 100% fruit juice made from these	
5. Meat	Organ Meat – Liver, kidney, heart or other organ meats or blood-based foods Flesh meats – Beef, pork, lamb, goat, rabbit, game, chicken, duck, other birds, insects	
6. Eggs	Egg from chicken, duck, guinea fowl or any other egg	
7. Fish and seafood	Fresh or dried fish or shellfish	
8. Legumes, nuts and seeds	Dried beans, dried peas, lentils, nuts, seeds or foods made from these (e.g. peanut butter)	
9. Milk and milk products	Milk, cheese, yogurt, or other milk products	
10. Oils and fats	Oil, fats or butter added to food or used for cooking	
11. Sweets	Sugar, honey, sweetened soda or unsweetened juice drinks, sugary foods such as chocolates, candies, cookies and cakes	
12. Spices, condiments, beverages	Spices (black pepper, salt), condiments (soy sauce, hot sauce), coffee, tea, alcoholic beverages	
13. Red palm products	Red palm oil, palm nut or palm nut pulp sauce	