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Food Insecurity: Sanitation and Hygiene Conditions of Two Municipal Markets in Accra, Ghana

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Abstract

Achieving food security has been one of the major challenges for the global community. The concept of food security had earlier been highlighted by Robert Malthus in his book “An Essay on the Principle of Population” in the late 18th century. The concept of food security was given a global limelight in the 1970s by the World Food Programme (WFP) and the Food and Agriculture Organization (FAO). With the consideration of food security by the WFP and FAO, much emphasis is placed on the four pillars of food security which are accessibility, affordability, stability and utility without considering the sanitation and hygiene conditions under which such foods get to the final consumer. This study was carried out in two major markets in the Ga East and Ga West Municipalities of Accra. The objectives of the study were, to investigate the sanitation and hygiene conditions of the two major markets in these two municipalities, to investigate the effects of the hygiene and sanitation conditions of these two markets on food security and finally to examine if consumers and buyers consider the sanitation and hygiene conditions of foodstuffs before purchasing them from these two markets. The study was conducted through qualitative research methodology involving focus group discussions, interviews and observations. Purposive and convenient sampling were used to collect data from sellers and buyers of foodstuffs from these two markets. The study found that the sanitation and hygiene conditions of the two markets promote flies, germs, viruses, bacteria and pathogens to thrive which negatively affect the food security of foodstuffs in these markets, especially fruits and vegetables. Poverty on the part of certain consumers made them to purchase rotten foodstuffs without considering the security of these foodstuffs which leads to diseases such as cholera, dysentery and diarrhea. The researcher recommended education to be given to consumers of foodstuffs, implementation of sanitation and hygiene laws, investment in the two markets by the government, individuals and municipal authorities to enhance the hygiene and sanitation conditions of the two markets.

Keywords: Food Security, Foodstuffs, Hygiene, Markets, Sanitation

Introduction

Food security has been one major priority to global, regional and sub-regional organizations as well as many nations, communities and societies. The United Nations Organization with its specialized agency the World Food Programme, OECD countries and many other developing and underdeveloped countries have made food security a priority in most of their discussions to ensure accessibility, affordability, utility and the stability (FAO 1996) of food to the global community. Global Agendas and priority documents such as the Millennium Development Goals which were to be achieved in the year 2015 (UN, 2012)[1] and the Sustainable Development Goals which are also to be achieved by 2030(UN, 2015)[12] both placed

much emphasis on promoting food security for people around the globe. With the exacerbation of climate change in countries with less resistance and mitigation capacities coupled with wars such as the Russia-Ukraine war and conflict zones, access to food around the globe has become a major challenge (FAO, 2022)[7]. Countries facing the dire challenge of food security due to climate change, conflicts and wars are found in the global south (Africa, parts of Asia and Southern America). Global South countries face relative difficulties with dire consequences for many inhabitants or citizens in terms of food security (Devereux and Edwards 2004)[4] especially in sub-Saharan Africa (Fischer et al. 2005)[8]. The non-availability and scarcity of food in contemporary times as once argued by Boserup in 1965[1], that with available technology



such as tractors, fertilizer and in contemporary times scientific innovations (Genetically Modified Food), the ever-increasing population globally can be fed. In spite of Boserup's argument sometimes many millions of people around the globe do not have access to food or go to bed on empty stomachs. Where people even have access to food, the nutritional quality and content of such foods need much to be desired making many children malnourished hence affecting the health of such children and many young adults. The poor access to food coupled with its low nutritional components affect the mental and physiological development of children and young adults. The poor quality of food and its inaccessibility to certain people around the globe also have direct and dire consequences on the health of such less privileged ones in terms of the food supply chain.

Food security is a major component of the concept of Human security that is directly linked to health security as the quality of food that people consume also provides their bodies with vitamins, proteins and many essential nutrients as well as antioxidants. These essential nutrients from the food people consume also boost the capacity of the individual's immune system to fight against certain diseases thereby reducing the stress that would have been pushed to medical facilities such as clinics, health posts and hospitals. In terms of food security, globally there has been more emphasis on the accessibility, affordability, utilization and stability of the food people consume without placing equal or similar emphasis on the sanitation and hygienic conditions under which such foods are sold to consumers, especially in the global south.

In advanced countries and emerging economies, market conditions under which foods are sold are highly regulated and sanctioned by national institutions and authorities. These institutions and authorities ensure standardization and regulate sanitation and hygiene conditions specified and sanctioned by the laws of the state under which markets must operate. In the specified sanitation and hygiene conditions, the authorities designate also ensure that such conditions of sanitation and hygiene are strictly enforced. In most developing countries where food security is under threat, the conditions under which foods are sold or marketed most of the time flout sanitation and hygiene conditions hence affecting the quality of food the citizenry consume. Where there are specified hygiene and sanitation breaches, authorities who are to enforce the rules also take bribes and kickbacks from food marketers and vendors and turn blind eyes on the illegal and unapproved practices in the market.

History and the conception of food security

The concept of food security in literature is first seen to be considered by nations and bodies in the 1940s in Europe. According to literature, the concept of food security emerged in Europe during the Second World War when many industries, farms and human lives were destroyed coupled with a great recession in the post second world war period. During this period, most existing industries and human efforts were all channeled into producing ammunition and labour was also rather highly concentrated in the area of military recruitment of the young and energetic ones who could serve or work in the agricultural sector. During this era, since most companies were diversified into producing security, military and defense equipment in Europe, agricultural produce in the colonies and outside Europe were also not well exported to cosmopolitan Europe for processing. This resulted in most of such farm produce being destroyed contributing to post-harvest losses outside Europe and thereby leading to food insecurity in the colonies and cosmopolitan Europe.

The inability of European companies to process and preserve most farm produce from the colonies during the Second World War led to food shortages and rising food costs. The rising food cost and food shortage affected the lives of the people of the colonies as after processing and preservation, a percentage of such foods were exported back to the colonies from cosmopolitan Europe. For instance, in the Gold Coast, shortage of essential commodities such as sugar,

sardines, Milo and many other food products were cited as part of the reasons for radical nationalist activities. The concept of food security gained momentum in the post second world war era.

There was proliferation of literature on food security in the 1970s after a conference by the World Food Programme. Food security is described as the "availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption", which first appeared at the 1974 World Food Summit, but it has since evolved. In 1996, the Food and Agriculture Organization's (FAO)[6] declaration on world food security during the world food summit in Rome further defined food security as "a state when 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". Moreover, the FAO defines sustainable food systems "as the set of farms and enterprises and the successive coordinated value adding activities that produce particular agricultural raw materials and process them into particular food products that are sold to final consumers and disposed of after use, in a way that is profitable across the board, has broad benefits for society and does not deplete natural resources permanently.

To the researcher, the conception and history of food security did not start in the Second World War era and gained currency in the 1970s (20th century) but rather the concept of food security was loosely used in the late 18th century. The concept of food security to the researcher was first sublimely used by Reverend Father Robert Malthus in his book entitled "**An Essay on the Principle of Population Growth**". In this classical book on demography in 1798[9], Malthus did not only discuss issues of population growth but rather related population to the available resources by also citing the availability of food to feed the ever-increasing population of England in the midst of the Industrial Revolution. In this same academic work by Malthus, he also related how rural-urban migration by the youth of England in his days to cities such as Manchester, Liverpool, London, Bristol, Sheffield, Clyde etcetera coupled with the available farming methods were affecting food production in rural England to feed the increasing urban population.

Objectives of the Study

The World Food Programme and the Food and Agricultural Organization are leading global organizations at the forefront of promoting food production and food security. These two organizations mentioned were instrumental in establishing the pillars of global food security (Accessibility, Affordability, Stability and Utility). In spite of these four pillars put forward by these two global bodies and their other subsidiaries to ensure hunger and starvation are reduced or removed from the face of the globe, there exist many threats to global food security. These threats to global food security discussed in literature include urbanization, poor farming practices, high population growth, post-harvest losses, high cost of transporting food and etcetera.

The objectives of the researcher are as follows;

- To investigate the sanitation and hygiene conditions of the two major markets in the Ga East and Ga West municipalities of Accra Ghana.
- To investigate the effects of the hygiene and sanitation conditions of these two markets on food security.
- Finally, to examine if consumers and buyers of these two municipal markets consider the sanitation and hygiene conditions of foodstuffs before purchasing them.

The research locations

The research locations are within the Ga East and Ga West municipalities which are within the Greater Accra Region. These two local government areas were formerly districts which have been upgraded to municipal status. The two municipalities almost have

the same level of development with Ga East slightly above Ga West Municipalities in terms of infrastructure development. Both Ga East and West share boundaries with Municipalities in the Eastern Region. Ga West shares a boundary with the Nsawam Adoagyiri Municipality in the Southern part of the Eastern Region and the Ga East Municipality shares boundary with Akuapem South District which is also located in the South Eastern part of the Eastern region. The Ga East Municipality covers an area of 85.7 square kilometers while the Ga West Municipality covers an area a little more than 200 square kilometers. The suburbs of the Ga East municipality include Kwabenya, Ashongman, Musuku, Taifa, Dome-sampaman, Haatso, Aborkobi etcetera with Aborkobi as the Municipal capital. The Ga West Municipality also has the following Suburbs Amasaman, Adjen Kotoku, Sapeiman, Pobiman, Medie, Dome, Satelite, Pobiman, Pa-paase, Kwashiekuma and others with Amasaman as the Municipal capital.

Both municipalities have basic schools which are both government and private owned as well as second-cycle schools which are both private and government-owned. For instance, within the Ga East municipality, there exist the Kwabenya community Day secondary school as well as private secondary schools in Haatso, and Dome Pillar Two. In the Ga West Municipality, there is the Amasaman secondary school owned by the government as well as a private secondary technical school. There is also a government secondary school in Adjen Kotoku as well as a private secondary and technical school. There are also tertiary institutions such as the Wisconsin University and the University for Nuclear and Allied Sciences which is part of the University of Ghana in the Ga East Municipality. The Ghana Atomic Energy Commission is also located in the Ga East Municipality. The Ga West municipality is also home to the Ghana Christian Heritage University. Both the Ga East and Ga West Municipalities can boast of Major health facilities such as the Ghana Atomic Energy Commission Hospital, the Ashongman Community Hospital, and the Kwabenya Hospital etcetera in Ga East as well as the Amasaman Hospital, the M&D hospital, the Kototu health facility and etcetera in the Ga West Municipality. The Ga East Municipality also has most of its roads tarred with most areas connected to pipeborne water when compared to the Ga West Municipality and these differences may be accounted for in terms of the sizes of the municipalities. The Ga West municipality is more than twice bigger than the Ga East municipality.

The selection criteria for the two markets

The two municipalities have markets within all the suburbs including all the names of the suburbs which have been mentioned already. These markets are mostly into the selling and buying of foodstuffs including fruits, cereals, fish, meat, vegetables as well as other dietary components. In all the suburbs of the two municipalities, the researcher settled on the Dome market within the Ga East Municipality as well as the Amasaman market for the Ga West Municipality. These two markets were chosen for this study based on observations the researcher personally made and a survey conducted. In these observations and survey, the researcher considered the following, the size of the markets, the attendants of the markets, the quantity and types of items sold on the markets and finally the locations of the two markets.

Description of the two markets

Markets are places where buying and selling is carried out. Most markets in Ghana usually originate spontaneously with marketers mostly referred to as market women erecting their own temporal structures. The erection of temporal structures later develop into permanent structures until the government intervenes to erect proper market structure equipping such structure with all the infrastructure and amenities a modern market may deserve. Examples of modern and structured markets in Ghana include Kaneshie, Makola, Okaishie, Kejetia, Oda etcetera. Usually, structured markets have

places well demarcated and allocated for selling and buying of different commodities, goods and services. For instance, structured markets usually have well demarcated areas where fish, foodstuffs, clothes, fruits etcetera are sold and at the sametime include car parks, places of convenience and even sometimes emergency health facilities.

The Dome market is located within the Dome community closer to St. John's, Achimota, Dome pillar 2, Dome CFC, Alogoshie, Tantra Hills and Taifa. This market initially started in two places which are the current market place and the then train station at Dome. At a point, the railway authority compelled the market women to relocate or move out of the rail station hence moving to the other market which is the current Dome market. The market started on private land owned by an individual hence sellers erected their own structures, kiosks and sheds at the very early stage. Due to the spontaneous beginning of the Dome market, the environment was unplanned with dust coupled with poor drains and congestion of the entire place. In recent times, a private developer in collaboration with government have built stalls, stores and paved certain portions of the market but a larger portion where food items are sold still has challenges of poor sanitation, filth, unhygienic conditions, stagnant pools and muddy soil when it rains. The market is also located by the roadside of the main road connecting St. John's to Kwabenya, Haatso and Madina. The Dome market is a one-stop market where all sorts of items are sold spanning from food to clothing with some financial institutions including microfinance outlets as well as banks.

The Amasaman Market is located within the Amasaman community spreading from the original demarcated place which is closer to the former Amasaman train station. At the original demarcated area for the market, there exist temporal structures including kiosks, sheds, tables and makeshift materials used to provide shelter and shed for goods and services sold in this market. In recent times there have been government structures to house the sellers but the entire place is not paved hence having a lot of dust, poor drains and poor sanitation in the market. Due to the non-operational nature of the rail transport, most sellers have now moved out of the demarcated marketplace to sell by the roadsides of the Amasaman lorry station which is also by the main Kumasi-Accra Road. At both sides of the lorry station sellers sometimes sell directly under the sunrays and in the dust. Others also sell under umbrella sheds, on tables and sometimes even on the floor with makeshift materials providing floor covering for goods sold on this market, especially foodstuffs, vegetables and fruits. The Amasaman market proves to be a mainly foodstuff market hence it does not provide a one-stop market or shopping centre like the Dome market.

Method of data collection

This study was undertaken through the use of qualitative methodology. The qualitative research method involved interviews, focus group discussions and observations (Dudwick et al., 2006; Gopaldas, 2016)[5, 8] in the markets. Interviews involving buyers from the two markets were organized spontaneously while interviews involving sellers of foodstuffs and key informants in the markets such as the market Queens and other leaders were pre-arranged. The sampling method involved convenient sampling for buyers of the markets and purposive sampling for key informants in the markets. A total of 50 interviews were conducted in the two markets. Four focus group discussions were also organized in the two markets for sellers and buyers of food stuffs. Qualitative research methodology was used in this data collection as the researcher needed information from the research participants based on their lived experiences. Information based on the lived experience of the participants were crucial to the findings of this research. The data collection was natural since the data collection was done through conversations and conversations are also natural as they involve talking (Denzin et, al, 2000, Walia, 2015)[3, 13]

The responses from the research participants to the research questions and focus group discussions assisted the researcher in inter-

preting the results of the findings in a non-biased manner. These research participants and focus group discussant helped the researcher in the co-production of knowledge. The data collection was done using an interview guide. This interview guide was unstructured with open-ended questions (Cibangu, 2012)[2]. The use of the open-ended unstructured questions was to ensure that sellers and buyers were free to provide information, experiences, perceptions and thoughts about the sanitation and hygiene conditions in the two markets that affect the quality of food they sell and buy.

Discussions of Findings

The first findings will be discussed under the hygiene and sanitation conditions of the two principal markets of the two municipalities. In the first place, most food sellers in these two markets do not sell under properly constructed sheds but sometimes under umbrellas, makeshift sheds, kiosks, on top of a table or sometimes on a bare floor. This act exposes foodstuffs to environmental conditions that put food in a short span of the preservation processes. Foods are directly exposed to unhygienic conditions such as dirt and dust as some foodstuffs and fruits such as cassava, yam, cocoyam, plantain, banana, watermelon, oranges, pineapple, pea etcetera are put on a bare floor or on makeshift polythene during sales. Due to the poor and unhygienic nature of such foodstuffs sold, sometimes these foodstuffs become so susceptible to flies, bacteria and other insects which aid and hasten the spoilage of foodstuffs promoting food poisoning.

This poor handling and sheltering of foodstuff in these two markets usually leads to food losses in the supply chain value at the side of traders and marketers hence making most foodstuffs in the hands of these market women to go waste due to poor handling and exposure to poor sanitation and hygiene conditions. For instance, foodstuff, fruits and vegetables like ripped plantain, banana, peas, tomatoes etcetera mostly rot in the hands of the sellers due to poor handling that exposes them to poor hygiene and sanitation conditions. Once these foods are rotten on the market, sellers still sell them to food buyers or certain consumers whose income are less or low in order to offset their losses. Such consumers who purchase such rotten foods when consumed fall sick putting stress on health facilities. For instance, the unhygienic and poor sanitation conditions of these two markets lead consumers of certain foodstuffs to contracting cholera, typhoid dysentery diarrhea and other food poisoned related ailments.

The unhygienic and poor sanitation conditions which expose foodstuffs to hygiene and sanitation hazards causes food prices to increase. This stems from the fact that when food sellers experience losses due to food spoilage and poor preservation methods on the market, they lose their profit, hence food marketers either decide to sell rotten and bad foodstuffs to consumers or decide to hike the prices of fresh foodstuffs to offset their losses. In doing this, consumers with low income are still forced to buy rotten foodstuffs such as plantain, tomatoes, peas, banana, pineapple etcetera since they will get a larger quantity at cheaper price(s).

The non-existence of social amenities such as water and places of convenience also sometimes affects the quality of foodstuffs purchased on the open market. According to the food sellers, sometimes they wish they could get clean and fresh water to wash certain fruits and vegetables such as fresh tomatoes, oranges, bananas, carrots, onions, green pepper and others. This stem from the fact that sometimes foodstuffs usually vegetables and fruits arrive from farms dirty but due to the poor nature of the markets, there exist no water facility to wash such foodstuffs. This makes food sellers sometimes sell such foodstuffs, vegetables and fruits in their dirty nature to consumers who also have no other option.

In the data collection process, sellers responded that they also consume some of the foodstuffs they sell so is not their intention to sell certain foodstuffs on the floor to consumers but the nature of the markets are such that they do not have any shelves hence their only option is to put some of these foodstuffs on the bare floor or on a

makeshift polythene in order to make their sales. Foodstuffs which are sold on the floor are exposed to environmental conditions and micro-organisms which do not help to promote food safety and food security but they are left with no other option than this.

It was also found that the two municipal markets selected for this study do not have potable and well-maintained places of convenience. Where it even exists like the Dome market, the conditions there do not support food safety and security as flies from such places of convenience(toilets) maraud foodstuffs sold on the market since such foodstuffs including fruits and vegetables are at the mercies of exposure to the open environment without proper coverings. For instance, in both the Dome and Amasaman markets, fish sold are at the mercies of house flies as sellers hardly cover them.

The absence of proper places of convenience sometimes forces both sellers and buyers to urinate in open spaces and floors in the markets. Sometimes children of both sellers and buyers who happen to look for places of convenience in the markets to ease themselves do so in polythene bags which are not properly disposed hence exposing foodstuffs to flies and human excreta. The presence of flies and human excreta negatively affect the quality and security of foodstuffs such as vegetables and fruits sold on these markets.

The second findings are also discussed in relation to the effects of the hygiene and the sanitation conditions of the two markets on food security;

In the course of the data collection, the researcher realized from the sellers on the market that with the emergence of the Achimota mall at St John's junction, these days some of their old rich and middle-class educated customers do not buy from them in the market again. This means the middle class and educated elites who are conscious of the food they consume have stopped patronizing certain commodities which are directly affected by the hygiene and sanitation conditions of the two markets. Middle-class customers who purchase fruits and vegetables from the Dome and Amasaman markets these days purchase fruits and vegetables such as bananas, lettuce, cabbage, carrot, watermelon, and fresh tomatoes from supermarkets and malls such as Melcom and Shoprite closer to where they live in, Achimota Haatso, Amasaman and Chinese mall at Shikpontele within the two municipalities. The stoppage in the patronage of foods in the two markets leads to food spoilage hence affecting the food supply chain and causing scarcity in these two local markets. In an interview with one vegetable and fruit seller, she said "now the market in Dome is for the ordinary people. Our rich customers do not buy fruits and vegetables from us any longer; they all go to the malls and buy. Look at this market, there is so much dust, the floors are not tarred, and there is so much congestion leading to bad sanitation and hygiene conditions. We do not have proper shelter to prevent the sun rays from reaching our stuffs so they spoil easily due to heat. Fruits and vegetables are very perishable hence we do not have the facilities in this market to preserve our stuff in this market".

The poor sanitation and hygiene conditions of the two principal markets in the two municipalities also negatively affect food security, irrespective of their abundance. The hygiene and sanitation conditions make consumers who purchase foods, especially vegetables and tubers such as tomatoes, garden eggs, cabbage, yam, cassava, plantain, cocoyam, etc., overcook such foods, hence losing some of the essential nutrients and vitamins which the body needs in the right quantity or amount.

The sanitation and hygiene conditions of the markets also affect food security as sometimes viruses and bacteria swam the markets due to poor hygiene and sanitation conditions hence leading to food poisoning. When foods especially fruits, vegetables, meat and fish products are exposed to the conditions in the Dome and Amasaman markets, these foodstuffs are poisoned by pathogens, bacteria and viruses hence causing consumers to contract dysentery, diarrhea, cholera as well as typhoid.

In two focus group discussions organized for market women in both the Dome and Amasaman Municipal markets, the discussant said

that sometimes, consumers and buyers who are conscious of their health come to the markets to complain about health reactions they experienced after purchasing especially meat, fish, vegetables and fruits from them. Sometimes, the consumers even bring along medical reports to the markets to complain about bad foodstuffs which are poisoned on the markets but still sold to them.

According to foodstuffs sellers in the markets, anytime poisoned foods from the markets unknowingly go out to consumers, the effect is that sometimes for almost two weeks there will not be any sales. This happens because at the health facilities where food poisoned victims are treated or diagnosed, the medical personnel and lab technicians collect data about where the sick people buy their foods. When it happens that, it is from the two markets, health practitioners come out to warn people not to buy certain foodstuffs from the markets. This usually happens in times of national pandemics such as cholera and diarrhea outbreaks. As soon as there are public announcements warning people not to patronize foodstuffs, from these markets their foodstuffs go waste as consumers are always afraid to buy. Sellers of foodstuffs in the two municipal markets confirmed that this has happened to them on many occasions leading to huge losses in terms of profit and their capital used for business.

The final discussion of findings is done with respect to the third objective which is; to examine if consumers and buyers consider the sanitation and hygiene conditions of foodstuffs before purchasing them in these two markets.

In relation to the final objective of this study, these were the findings made;

According to the sellers of these two markets, some of the hygiene and sanitation blunders are caused by the preferences of consumers, as most of the foodstuff consumers who come to these two markets want cheap things. Due to the low income of some of these consumers, sometimes leftover foodstuffs from other bigger markets in Accra such as CMB, Agbogbloshie and others are brought to sellers of these two markets to be sold to consumers. Due to the low income of some of these consumers, they usually look out for quantity in terms of foodstuffs, vegetables and fruits like plantain (ripped), banana, pineapple, oranges, peas, cabbage, carrot, lettuce, tomatoes, yam etcetera than the quality of such foodstuffs. Once the principal objective of the consumer(s) is quantity not quality, sometimes they overlook the hygiene and sanitation conditions of the market but those who are interested in quality not quantity, usually consider the hygiene and sanitation conditions of the markets as paramount in their selections of foods such as plantain, vegetable, fruits, meat and fish.

In a focus group discussion at the Dome market, one foodstuff seller said that "our customers usually will plead for reduction in prices before they are able to buy foodstuffs for themselves and their families. When it happens like this, they do not consider the sanitation and hygiene conditions of the market. All they want is the quantity that can satisfy their families. If they choose to consider hygiene and sanitation, then they have to go to the supermarkets and malls, which they cannot afford".

In terms of information from consumers and buyers, there were certain mixed reports. Some consumers said, "to them the sanitation and hygiene conditions of these two markets are less considered when shopping for foodstuffs. This is because most of the vegetables and foodstuffs they purchase will be boiled or cooked before consumption. Once these foodstuffs and vegetables are boiled the germs, pathogens, viruses and bacteria will all die hence the hygiene and sanitation conditions of the markets are less of a factor to consider when purchasing foodstuffs but what they want is the quantity to satisfy themselves and their families".

Other consumers who purchase foodstuffs from these markets also came out that, they usually consider the hygiene and sanitation conditions of the two markets but sometimes all the hygiene and sanitation conditions of these two markets are just like other alternative markets within the two municipalities so they are left with no choice. Also, other alternative markets do not provide varieties of

foodstuffs and even where they do, such foodstuffs are very expensive with less quantity to satisfy their households.

This is what one foodstuff shopper said: "there are no alternatives in terms of sanitation and hygiene conditions of foodstuff markets in Accra, where they even exist the foodstuffs are so expensive that we cannot buy them, but for these two markets we can manage and get something home for our families no matter how small the money we bring to these two markets to purchase foodstuffs".

Summary

In summary, food security has been an important consideration by the global community in trying to alleviate the plight of humanity against global hunger and starvation. Per the relevance of achieving food security, global, regional and national institutions have been tasked to ensure that, the four pillars of food security, which are accessibility, affordability, stability and utility, are achieved. Sustainable Development Goal 2 is basically about achieving a hunger-free world, which also enmeshes and entails food security.

Although the Central Agenda of the Sustainable Development Goals is "Leaving no one behind" (United Nations (U.N.O), 2015)[11], building on the foundation of "The Future We Want" laid by the Rio+20 Earth Summit (United Nations (UNO), 2012)[10], there is still much to be desired in considering the four pillars of food security. Considering what it entails, food security is very paramount as the sanitation and hygiene conditions under which foods are sold remain critical components of food security in markets such as Dome and Amasaman in Accra, Ghana.

Elites and middle-class individuals who are conscious of the security of the foodstuffs they consume are these days neglecting the Dome and Amasaman markets. These elites and middle-class members are shopping from supermarkets and malls such as Melcom, Shoprite, Palace Mall, Chinese Mall and other mini-marts within their immediate places of domicile in the Ga East and Ga west municipalities. Sellers or marketers who are within the markets of Dome and Amasaman are faced with fierce competition from supermarkets and malls for their elite and middle-class consumers or customers of vegetables, Fish, meat and fruits. These malls and supermarkets are seen to provide the best sanitation and hygiene conditions which guarantee the security of the food products they sell to their consumers.

Conclusions

In conclusion, global regional and national institutions should ensure that other factors or conditions such as sanitation and hygiene and the environments under which foodstuffs are sold are taken seriously and put under better consideration as food security should not only be considered or construed on availability, accessibility, stability and utility. When these four pillars are achieved with foodstuffs infested with flies, germs, pathogens, viruses and bacteria which make consumers to suffer from cholera, diarrhea and dysentery, the essence of the four pillars of food security would be defeated.

Recommendations

The researcher makes the following recommendations to promote food security in the face of poor sanitation and hygiene conditions in the Amasaman and Dome markets of the Ga East and West municipalities in Accra, Ghana.

Firstly, citizens have to be given education on food security to understand that food security is directly connected to health security and that people should not consider the quantities of foodstuffs they purchase on the market at the expense of the hygiene and sanitation conditions under which these foodstuffs are sold or bought.

The definitions and explanation of food security should also be expanded to include certain criteria of public health matters which may lead to the outbreak of diseases such as dysentery, cholera and diarrhea based on the sanitation and hygiene conditions under which foodstuffs are sold and purchased.

Public health authorities should be made to ensure that the sani-

tation and hygiene conditions of markets are routinely checked so that the best standards of sanitation and hygiene conditions can be maintained, enforced and ensured in markets. Once sanitation and hygiene conditions are strictly implemented to be adhered to the concept of food security which hinges on accessibility, affordability, stability and utility could also be enhanced.

Finally, the government, individuals and the Ga East and Ga West Municipal Assemblies must also ensure that proper structures are put in place in all markets to ensure the best sanitation and hygiene conditions are facilitated for consumers and sellers of food-stuffs. Markets must be properly paved, with proper floors as well as places of convenience constructed. Markets should be provided with proper sheds to prevent the sun rays, flies, germs, pathogens, viruses and bacteria from attacking foodstuffs especially vegetables and fruits which are sometimes consumed in their raw state.

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