

# Attitudes of Traders towards Environmental Sanitation in Ghanaian Markets: Case study of Hohoe Main Market

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**Abstract** The article investigates the attitude of traders towards environmental sanitation in the Hohoe market of Ghana. The research objectives sought to describe the attitudes of traders towards environmental sanitation at the market and identify the factors that influence traders' attitudes towards waste management at the market. The research design was a qualitative case study in which unstructured in-depth interviews and observation were utilized for data collection. This "approach to research facilitates exploration of a phenomenon within its context using variety of data sources" ([1]: 544). Out of an accessible population of 270, a sample size of 27 respondents were purposively selected for interview. The study revealed that, even though majority of the market women were aware of the benefit on enhancing proper sanitation measures in keeping the market clean by paying their dues regularly, employees of the Municipal Assembly failed to clean the market environment due to lack of proper supervision. Although there has not been any outbreak of disease as a result of the dirt, it was recommended that, the market should be secured from intruders, lighting system must be improved while those who violate market regulations should be prosecuted to serve as deterrent to others.

**Keywords:** *environment, sanitation, waste management and waste collection*

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## 1. Introduction

According to Business Dictionary [2], a market is an actual or nominal place where forces of demand and supply operate, and where buyers and sellers interact (directly or through intermediaries) to trade goods, services, or contracts or instruments, for money or barter. Markets include mechanisms or means for: determining price of the traded item, communicating the price information, facilitating deals and transactions and effecting distribution. The market is one of the many varieties of systems, institutions, procedures, social relations and infrastructure whereby parties engage in exchange. While parties may exchange goods and services by barter, most markets rely on sellers offering their goods or services in exchange for money from buyers.

Markets vary in form, scale (volume and geographic reach), location, and types of participants, as well as the types of goods and services traded. Market centres are spread all over the country. Some of these markets are geographically large and well patronized by both sellers and buyers on daily basis; some examples of these markets are Agbogbloshie, Mallam Atta, Adabraka and Makola Number One, all in Accra and Kejetia and Adum in Kumasi. These are just a few of such markets found across the country. These markets are designed to include

stalls, shops of different sizes and in some cases offices for some public and private institutions such as financial and insurance institutions. It therefore means that one can transact his or her daily business by just visiting a market. Other types of big markets are those that are geographically small but very busy with commercial activities on periodic market days. Examples of such periodic markets in Ghana are; Agomanya, Asamankese and Nkrakan markets in the Eastern Region. In the Volta Region of Ghana, periodic markets include Logba, Kpeve and Hohoe (where the study took place). Unlike markets in the major cities which operate on daily basis, the periodic markets operate on specific days in the week and are well patronized with traders coming from various parts of the country including Accra and Kumasi to trade. However, they become dormant on non-market days especially that of Kpeve and Logba which have no shops and therefore become empty until the next market day. The other type of market may be described as small based on the geographical size and the extent to which traders patronize it. Unlike markets in other countries across the planet, Ghanaian markets are unique. Their uniqueness lies in the fact that one would hardly find a market that trades in one particular group of wares.

Markets are very important economic assets to the country but governments and local authorities generally have a poor appreciation of the importance of markets and a reluctance to invest in them. As a consequence, markets

are often congested, unhygienic and inefficient. They are also fire risks. Local authorities frequently see markets as revenue raising opportunities, not as institutions that necessitate investment. Although there have been significant developments with regard to supermarket development and the improvement of farm-to-agro processor linkages, the great bulk of food products are still distributed through more traditional channels using traditional market infrastructure. Trading and other economic activities had already advanced before the colonial masters took over administration of the Gold Coast in 1874 [3]. Like many African countries, the main method of trading was through the barter system; people used to exchange goods and services for commodities and services that were believed to measure up to what was being offered. As trade became more liberalized, people used to trade their goods and services for cowries. This system of trade continued until we started using currency (British Pound and now Ghana Cedi) to trade. As a developing country, majority of Ghanaians are used to trading in open or enclosed places called market instead of supermarkets, which are more or less foreign to the Ghanaian way of trade and also more expensive for the ordinary Ghanaian to patronize.

While cities in the developed countries have generally developed their markets into first class supermarkets taking into consideration spacious facilities, environmental sanitation and other safety measures, cities in developing countries such as Ghana are still grappling with overcrowding, poor safety measures and more seriously, poor sanitation in their markets. In an online news report titled *Markets in Central, Western Regions face sanitation challenges*: This is how it was reported by Ghana News Agency:

One key challenge facing many markets in Ghana is the improper disposal of refuse, particularly solid waste disposal, and there have been calls for urgent action to solve the problem. Major markets like the market circle in Takoradi and the Essaman market in the Central Region are two major markets battling with sanitation problems. Mr. James Cobbinah, Chairman of the Essaman Market Association said in a statement after a meeting with the leadership of the two markets that the stench emanating from the two markets was unbearable. [4]

Today, market centres in both urban and rural areas have come under sanitation pressure, questioning their ability to enhance environmental protection, health security and poverty reduction. Most markets in Ghanaian cities are characterized by unsanitary conditions, including poor water supply and poor drainage systems, unsanitary waste disposal and overcrowding, resulting in poor personal and environmental hygiene. The sanitation situation is so appalling that your stomach will begin to growl upon arrival at a market in an urban community in Ghana. It is no longer in doubt that our markets are inundated with the challenges of un-cleared solid waste. The deplorable state of environmental sanitation in some urban markets in Ghana is lamentable. In this connection, one questions the extent to which the goals of attaining environmental sustainability, good health and poverty reduction can be achieved if sanitation situations in our

markets continue to deteriorate. As reported by Naa Lamiley Bentil:

Traders at Agbogloboshie, one of the biggest markets in the Accra metropolis, have again turned the market and its surroundings into a filthy and disorderly spot, just nine months after the Accra Metropolitan Assembly (AMA) had spent an estimated ₵5 billion to clear and clean the market of all illegal structures and unsanitary conditions ([5]: 1).

The poor environmental sanitation problem can also be attributed to poor planning of our markets. Majority of Ghanaian markets are without toilet facilities, proper waste dump sites, and gutters and in some cases, narrow walkways which make pedestrian movement almost impossible. All these problems in the markets are recipe for the outbreak of cholera and diarrhoea among traders and customers over the years.

The study area is Hohoe, the Municipal capital of the Hohoe Municipality in the Volta Region. Hohoe became a district in 1979. The population of Hohoe Municipality is 167,016, comprising 79,969 (48%) men and 89,049 (52%) women (2010 National Population and Housing Census). Hohoe is located around the northern part of the Volta Region with population of about 56,202. Majority of the people in the Municipality (about 65%) are engaged in agricultural production (Hohoe Municipal Assembly Report, 2006). Hohoe Municipality is the hub of tourism in the Volta Region having the most impressive and highest waterfall (Agumatsa Falls) in Ghana.

Hohoe, which shares boundaries with the newly created Oti Region, is strategically situated at northern part of the Volta Region that it attracts people from every part of Ghana including citizens from other parts of West Africa to settle there and undertake commercial activities. There are also some public and private employees working in various sectors. The people of Hohoe are known as the Gbis and their indigenous dialect is Ewe, however, Twi is also widely spoken by some settlers in the town. Various traders including middlemen and women and producers themselves (especially farmers from Lolobi and Likpe in the Oti Region) come to the market to trade thereby swelling up the already overcrowding situation in the market. The economic activities of these traders, although very important, are accompanied with a lot of environmental problems including poor sanitation. This therefore raises serious concern because this is where we buy our foodstuffs and therefore run the risk of consuming contaminated food which may lead to the outbreak of an epidemic if the issue of poor sanitation is not tackled at the market.

## 1.1. Statement of the Problem

The problem under investigation in this study is the general feelings of traders towards poor environmental sanitation in Ghanaian markets. The problem of waste in urban city markets in Ghana can be better understood in the light of recent rapid urbanization the country is experiencing. Against this situation of mounting waste production in the markets, district and municipal assemblies in the country seem unable to organise adequate collection strategies. As a result, urban city

markets in the country are saddled with a worsening poor environmental sanitation situation which proves to be intractable and threatens public health. There is growing understanding among researchers that the useful lessons with wider policy implications on environmental sanitation, health security and poverty reduction can be drawn from the attitudes or behavioural patterns of people themselves [6]. Investigating the array of traders and other actors is thought to provide valuable insights for policy planning. However, knowledge on traders' attitudes towards environmental sanitation in Ghana to rising poor sanitation challenges is scanty. In particular, research work on environmental sanitation in market centres and the factors influencing traders' attitudes towards environmental sanitation is limited. There is no adequate information on the attitudes of traders towards environmental sanitation in Ghanaians market centres. This study was therefore undertaken in order to gain understanding of the attitudes of traders towards environmental sanitation at the Hohoe main market in the Volta Region.

## 1.2. Purpose of the Research

In spite of the various measures the Hohoe Municipal Assembly has put in place to ensure that the Market is always clean, the behaviours and attitudes of the traders have defeated these efforts by the Assembly. It was against this backdrop that the study set out to describe how traders feel about the poor environmental sanitation at the Hohoe market, one of the major markets in the Volta Region.

## 1.3. Research Questions

The study sought to answer the following research questions:

- What are the attitudes of traders towards environmental sanitation at the Hohoe market?
- Which factors influence traders' attitudes towards waste management at the Hohoe market?

## 1.4. Validity and Reliability

Validity of the instrument is crucial to every research study. To ensure that the instrument for data collection was valid, the researchers presented a draft to four experienced researchers in the Social Studies Education Department for critical examination and modification. Corrections, valuable comments and suggestions were made. The corrected version was returned to the expects for their approval. Pre-test was conducted in a small market in a suburb of Hohoe, and the results used to measure the final report.

## 2. Theoretical Framework

Since the 1950s, researchers have tried to understand and explain why people do what they do [7]. Although many possible theories could be drawn from social psychology for the study, Ajzen's Theory of Planned Behaviour (TPB) fits well within the study. Theory of

Planned Behaviour is a theory of attitude-behaviour relations whose main premise is that behavioural intention is the direct antecedent of behaviour [8]. According to the theory, behavioural intention indicates not only a desire to act (as attitude alone does), but also a commitment to act. The theory states that an individual's behavioural beliefs, normative beliefs and control beliefs respectively determine his or her attitude towards a given behaviour, subjective norm and perceived behavioural control, which collectively influence the behavioural intention and actual behaviour of the individual when participatory decisions in an action are voluntary and under an individual's control. According to Bern (1970) and Fishbein and Ajzen (1975: cited in Shore, Tashchian & Adams, [9]), attitude is based on evaluative beliefs and beliefs about a particular object. There is, therefore, the need to examine human orientations towards the environment.

Attitude formation is a result of learning, modeling others, and direct experiences with people and situations. Attitudes influence our decisions; guide our behaviour, and what we selectively remember. Attitudes come in different strengths and like most things that are learned or influenced through experience, they can be measured and they can be changed. The TPB states that intention strength is determined by three elements: Attitude toward the behaviour and its outcomes, Social norms about the behaviour and pressure to conform to those norms and Perceived control over the performance of the behavior. In many ways people's behaviour obviously relates to their opinion and attitudes and this has a significant effect on the environment. A central factor in the theory, according to Ajzen, [10] is the individual's intention to perform a given behaviour. The perceived behavioural control, together with behavioural intention, can be used directly to predict behavioural achievement.

The environment includes both abiotic and biotic factors that have influence on an organism. The components of the environment, which are also the resources that man depends on for survival, are air, water and land. These components influence the organisms that are found in that particular environment. Organisms respond to changes in their environment by evolutionary adaptations in form and behaviour. Disruption in such systems, which is as a result of cumulative indiscriminate degradation which takes place in localized environments such as villages, towns and cities, distort the delicate ecological balance and have dire consequences for mankind, and thus provide a compelling justification for the preservation of the environment.

Much has been written about sanitation problems yet the definition of the term sanitation is quite rare in scholarly literature on the topic. Definitions of 'sanitation' are rather commonly found in documents such as dictionaries, encyclopedias technical reports of governments and organizations. Daramola and Olowoporoku, (2016); Adimekwe, (2013) as cited by Sadiq et al., [11] also lends their support to this definition by stating that sanitation is the state of cleanliness of a place, community or people particularly relating to those aspects of human health including the quality of life determined by physical, biological, social and psychological factors in the environment.

## 2.1. Attitudes of Traders towards Environmental Sanitation at the Market

Attitude, according to Kasapoglu (2010: cited in Safo-Adu [12]) is a cognitive, affective, and behavioural response which is organized on the basis of experience and knowledge of the individual or event around the environment. Oskamp and Scshultz (2005: cited in Safo-Adu [12]) define attitude as a predisposition to respond in a favourable or unfavorable manner to a given situation or object. Also, attitudes are often associated with multiple, and even contradictory values [6]. Plug, Meyer, Louw and Gouws [13] define an attitude as a relatively stable, predominantly learnt disposition of an individual towards a specific object - for example, people, things or ideas.

Ajzen and Fishbein (1980: cited in Meena, Kumar, & Meena, [14]), believe that an attitude consists of and is influenced by three components, namely; the subject (a person with specific attitude), the object (at which the attitude is directed) and the situation (in which the subject and object interact with each other). A change in any of these components can cause the attitude to change. Secord and Backman ([15]: 167) define attitudes as certain regularities of an individual's feelings, thoughts and predispositions to act toward some aspect of his environment. Arnold *et al* (1965: cited in Vakola and Nikolaou, [16]) indicated that "attitudes reflect a person's tendency to feel, think or behave in a positive or negative manner towards the object of the attitude".

Human attitudes therefore are our disposition, feelings, behaviour, influenced by our thoughts to act towards some other people, objects and things around us. Adams, [17] supports this notion when he also define attitude as psychological tendencies that are expressed by evaluating a particular entity (for example the environment) with some degree of favour or disfavour.

An attitude only develops after a person has responded an evaluative manner to the attitude object and is then expressed or manifested in overt cognitive, affective or behavioural responses Willers, (1996, p.28: cited in Adams [17]). Attitude development is influenced by our cognitive, affective and behaviour responses to objects and things around us. The way we think, act and react to other people or things around us develop over time but are subject to control and modifications that is external. External influences can help individuals to develop positive or negative attitudes to things in our environment. Attitude towards environmental sanitation simply explains or feeling or disposition to environmental sanitation.

On the other hand, practice refers to the ways in which people demonstrate their knowledge and attitude through their actions Kallyaperumal, (2014: cited in Safo-Adu, [12]). According to Safo-Adu [12], there should be higher relationship between sanitation attitudes of people and their sanitation practices because both involve an individual to have knowledge or event around the environment. Our attitudes to environmental sanitation may be positive or negative and this is manifest when we practice what we know. This assertion corroborates the assertion that sanitation practices are heavily influenced by people's knowledge and attitudes towards the

environmental sanitation Mohd and Malik, (2017: cited in Safo-Adu, [12]).

## 2.2. The Concept Environmental Sanitation

The World Health Organization, [18] states that sanitation generally, refers to the provision of facilities and services for the safe disposal of human-urine and feces. Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities [19]. The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal [20]. Sanitation, according to Hakkim [21] is promoting health through the prevention of human contact with the hazards associated with the lack of healthy food, clean water and healthful housing, the control of vectors and a clean environment.

Drawing from the views expressed above, sanitation could be viewed as a concept explaining activities to ensure safe disposal of excreta, solid waste, and other liquid waste to prevent the sprawling and spread of disease vectors to ensure a hygienic environment. The definition of sanitation to be used in this study is proper disposal of liquid (waste water) and solid waste. It involves keeping the human environment free from disease causing vectors through the proper disposal of market wastes (solid and liquid). Environmental sanitation therefore, refers to activities aimed at improving or maintaining the standard of basic environmental conditions affecting the well-being of people.

Environmental sanitation aims at improving the quality of life of the individuals and contributing to social development. Water Supply and Sanitation Collaborative Council [22] has defined environmental sanitation as "Interventions to reduce people's exposure to disease by providing a clean environment in which to live, with measures to break the cycle of disease" This according to Schertenleib, Forster & Belevi ([23]: 2) usually includes disposal or hygienic management of liquid and solid human waste, control of disease vectors and provision of washing facilities for personal and domestic hygiene. WHO [18] sees environmental health as "the control of all those factors in man's physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival" Environmental sanitation essentially consists of two main parts; a change in behaviour and a change in facilities to form a hygienic environment.

## 2.3. Environmental Sanitation Awareness

In the past two decades, environment has attracted the attention of decision makers, scientists and even laymen in many parts of the world Sengupta, Das and Maji [24]. They are becoming increasingly conscious of issues such as famines, droughts, floods, scarcity of fuel, use of firewood and fodder and pollution of land, air and water. People are now aware of the need to protect the natural environmental resources of air, water, soil and plant life that constitute the natural capital on which man depends. Environmental awareness, according to Sengupta, Das and

Maji [24] does not only imply knowledge about environment but also attitude, values and necessary skills to solve environment related problems.

According to the United Nations Environmental Programme [25], environmental public awareness is shaped throughout the whole life of particular people living in a given local community and performing specific work and having definite personal characteristics which have a deciding effect on their sense of responsibility and ability to emotionally perceive the environment as having value in itself. Partanen-Hertell *et al* (1999: cited in Olgyaiova, Pongracz, Mikkola, Radoslav & Keiski [26]) also define environmental awareness as a combination of motivation, knowledge and skills. According to them, when the environmental awareness of an individual is combined with external stimulating physical and practical conditions, the result can be desired and will make environmentally friendly choices. Environmental awareness starts to develop when people notice that unfavorable, threatening changes in the surroundings emerge, and the effect of this cannot be corrected easily. The realization that environmental damages need a long time to recover stimulates the arising environmental awareness further Partanen-Hertell *et al*. (1999: cited in Olgyaiova *et al*. [26]). According to Olgyaiova, Pongracz, Mikkola, Radoslav & Keiski [26], Partanen-Hertell *et al* developed four stages of environmental awareness. They are as follows:

1) In the first stage, motivation for the level of knowledge and skills is usually based on growing concern over health threats. At this stage, people and organisations do not see themselves as active actors in the process of improving the environment even though they think it should be improved;

2) In the second stage, basic environmental legislation and administrative structures are functioning in the society and the foundations of environmental monitoring system have been created but the separate environmental protection measures do not support each other to have a positive synergy. The activities to raise environmental awareness, according to them, are targeted to the whole society, starting from the groups that influenced the state of the environment the most;

3) In the third stage, motivation, knowledge and skills are in a growing synergy when increasing environmental awareness. In this situation, environmental matters become part of professional and public awareness with the aim of integrating environmental awareness as an inseparable part of general awareness of an individual; and

4) In the fourth stage, environmental awareness becomes an integral part of professional skills and everyday life choices. Motivation, knowledge and skills build up an environmental awareness that has developed a holistic one where the environment is no longer perceived from a human-centric point of view but it is realized to have value as such.

## 2.4. Environmental Sanitation Awareness in Ghana

Since the mid-1990s, civil society engagement in environmental issues has grown considerably in Ghana [27]. This increase in activity has been seen at the community level in particular as important. Sustainable

environmental management is not possible without participation by people. Meaningful participation requires that people are informed about the environmental effects of their day-to-day activities. This, we believe the government of Ghana started when it adopted the Agenda 21. As a result, Ghana started taking steps to show her commitment to the implementation of Agenda 21 by putting in place adequate national policies, regulatory and institutional frameworks in place to tackle environmental issues in the country. The Environmental Protection Agency (EPA) was established under the *Environmental Protection Agency Act* (Act 490 of 1994) to enforce the environmental legislation of the country and an Environmental Sanitation Policy was formulated in 1999. The EPA is responsible for enforcing environmental policy and legislation, prescribing standards and guidelines, inspecting and regulating businesses and responding to emergency incidents (EPA Legal and Policy Framework-2.1, 2009). The EPA is responsible for issuing environmental permits and pollution abatement notices for controlling waste discharges, emissions, deposits or other source of pollutants.

## 2.5. Factors that Influence Traders' Attitude towards Waste Management

According to Onibokun and Kumuyi, [28]; Hardoy, Mitlin & Satterthwaite, [29]; Pacione, (2005: cited in Baabereyir, [30]), data is generally lacking in the waste sector of developing countries, available studies suggest that solid waste management is generally characterized by inefficient collection methods, inefficient coverage of the collection systems and improper disposal of municipal waste. Attitudes of people also contribute to poor sanitation in urban cities. In an investigation that was conducted in Kampala, Uganda by Namilyango College (2001, cited in Baabereyir, [30]), partly blamed the poor environmental conditions in the city on the unconcerned attitudes of the public and the failure of residents to hold the authorities accountable for the situation. Similarly, Solomon [31], also noted that even though most residents in poor country cities complain about poor environmental conditions in their settlements, they are most often not prepared to organise themselves in groups to mount pressure on the authorities to address their concerns. Freduah [32] conducted a study at Nima in Accra on the problems of solid waste management and says that people's apathetic and lackadaisical attitudes towards matters relating to personal hygiene and environmental cleanliness, of which waste management in general is a focal point that should not be overlooked.

Although weaknesses in waste management have been attributed to lack of logistics and financial management, people's attitudes towards waste management should not be ignored [33]. He outlined several factors, which have conspired to promote the massive build-up of urban garbage and waste. Nze noted that they resulted from inadequate and deficient infrastructure, inadequate structures for environmental administration, lopsided planning pastures and disregard for basic aesthetics, industrial and commercial growth, and other human factors.

Waste generation in the cities come in huge volumes that it creates problems during collection, transporting and disposal. According to Songsore (1992: cited in Freduah,

[32]), solid waste management has remained one of the intractable problems with the Accra Metropolitan Assembly (AMA). His argument supports the fact that waste producers generate large volumes of wastes but do not dispose of waste in an acceptable manner. This is important to the study because people's attitudes towards waste management are questionable.

Another factor is indiscriminate disposal of waste generated by households, individuals and companies. With the establishment of the Waste Management Department (WMD) of Metropolitan and Municipal Assemblies, the public tends to have the view that the departments should be solely responsible for managing wastes. He further observed that indiscriminate disposal of waste has resulted in the clogging of the few built drainage channels and natural watercourses with garbage and silt, which are not removed regularly. This argument is not peculiar to AMA alone, the problem reflects the situation in most urban areas. The city of Accra for instance has been engulfed in refuse, with drains and gutters mostly choked with rubbish.

Edmunson (1981, cited in Freduah, [32]), in his study on refuse management in Kumasi, pointed out that most sites used for refuse dumps are chosen without taking into consideration the distance to be covered by residents. Thus, he recommended that sanitary sites should be cited close to waste generators. Adelaide (1995: cited in Freduah, [32]) also observed that disposal sites in Accra are situated quite a distance away from inhabitants or sellers. Thus, one cannot dispute the fact that long distance disposal sites discourage inhabitants and sellers from making use of them. They therefore resort to littering their surroundings. He attributes these unacceptable habits of indiscriminately disposing of waste to the public's lack of waste disposal culture as well as inadequacy of waste disposal facilities. This testifies to the importance of attitude in waste management issues.

Agbola [34] also support this assertion when he said that cultural derivatives, beliefs, perceptions and attitudes are learned response sets. They can therefore be modified or changed through education. This points to the fact that peoples' unconcerned attitudes towards solid waste can be changed for the better through education. According to Pacey [35], formal education for women is a pre-requisite for change in sanitation behaviour.

## 2.6. The Concept of Waste Management

No single solution has been identified that completely answers the question of what to do with waste. The business of keeping our environment free from the contaminating effects of waste materials is generally termed waste management [30]. Gbekor ([36]: 18) refers to waste management as "the collection, transport, treatment and disposal of waste including after care of disposal sites". Similarly, Gilpin (1996: 201, cited in Baabereyir, [30]) defines waste management as "purposeful, systematic control of the generation, storage, collection, transportation, separation, processing, recycling, recovery and disposal of solid waste in a sanitary, aesthetically acceptable and economical manner". Schubeller *et al.* (1996: 7, cited in Baabereyir, [30]) focus on municipal solid waste management when they define

waste management as 'the collection, transfer, treatment, recycling, resource recovery and disposal of solid waste in urban areas. It can be deduced from these definitions that waste management is the practice of protecting the environment from the polluting effects of waste materials in order to protect public health and the natural environment. Thus, the priority of a waste management system must always be the provision of a cleansing service which helps to maintain the health and safety of citizens and their environment Cooper (1999, cited in Baabereyir, [30]).

## 2.7. Waste Management Practices

Every community or region has its own unique profile regarding waste of all forms. The attitudes of people in different regions of each country vary regarding waste management strategy. The diversity of communities and their waste is one reason why no single approach to waste management has been accepted as the "best method". Since there is no preferred approach, every community must create its own "best approach" to dealing with its waste. Decisions for alternative waste management strategies are often made locally: however, there are also regional drivers based on national regulatory and policy decisions [37].

## 2.8. Waste Collection

The waste we generate at our homes, workplaces, factory and farms must first be collected or gathered together at a central point before it is removed for disposal. Waste from our homes is generally collected by our local authorities through regular waste collection, or special collection for recycling. In Montego Bay in Jamaica, for example, waste is meant to be collected from all residential areas twice a week but the actual frequency of collection is said to vary from twice a week in formal sector residential areas to never in some of the largest informal settlements Ferguson (1996, cited in Baabereyir, [30]). **Waste transport;** After waste has been collected or gathered, it is usually transported to some final disposal point such as community waste dumps and incinerators. Some households and commercial places hire the services of waste management companies who regularly collect their waste for disposal. **Waste treatment** techniques seek to transform the waste into a form that is more manageable, reduce the volume or reduce the toxicity of the waste thus making it easier to dispose of. Treatment methods are selected based on the composition, quantity, and form of the waste material. Some treatment methods being used today include subjecting the waste to extremely high temperatures, dumping on land or land filling and use biological processes to treat the waste.

## 3. Research Methodology

### 3.1. Introduction

Research methods, as defined by Blaikie [38], are techniques in which data are collected, managed and analyzed to answer research questions.

### 3.2. Research Design

The research design is a qualitative case study and the methods used in data collection included unstructured in-depth interviews and observation. Qualitative case study research is “an approach to research that facilitates exploration of a phenomenon within its context using variety of data sources” ([1]: 544). Qualitative research is grounded in a broadly interpretivist philosophical position, in the sense that it is concerned with how the social world is interpreted, understood, experienced, and produced [39]. This, according to Robson, (1993) and Bryman (2004), cited in Baabereyir, ([30]: 105) can better be understood through people’s interpretive or meaning-endowing capacities rather than through our sensory observation and experience of the world. Hence, data for interpretivist research is obtained through the interpretations people give to situations and experiences of reality. The approach usually involves “in-depth investigation of phenomenon through such means as participant observation, interviewing, archival or other documentary analysis or ethnographic study” ([40]: 91). This approach was preferred by the researchers because it provides opportunity to gain insight into people’s attitudes, behaviours and value systems. It allowed for the conduct of research within the real-life context in order to describe the attitudes of traders towards environmental sanitation.

### 3.3. Population, Sample Selection and Distribution

Since all traders in the Hohoe market generate waste or require waste disposal services or are affected by waste disposal, the entire traders in the market were regarded as the study population for this research. The population of people in the Hohoe market was 1,500. With a target population of 570 and an accessible population of 270, a sample size of 27 respondents were purposively selected for interview. One important use of purposeful sampling is that it can be used to achieve representativeness of the settings, individuals, or activities selected. The sample comprised 25 traders and 1 official, each from the Environmental Health and Sanitation Department (EHSD) of the Hohoe Municipal Assembly and Zoomlion Ghana Limited. Out of the 25 traders selected, 17 of them were females and the rest 8 were males. The simple random sampling was used to select the respondents within the respective sample distribution of 25 for interview.

### 3.4. Research Instruments

The unstructured interview and non-participant observations were used to collect data for the study. Looking at the research questions, the nature of data needed for the analysis and the prevailing conditions on the field of research, the unstructured interview was designed for the study.

### 3.5. Administration of Instruments

The researchers used almost six weeks to interview the 25 traders; the minimum time used for a respondent was 50 minutes and the maximum time used was 75 minutes.

The researchers explained the purpose and objectives of the study to enhance their understanding and participation. After ensuring informed consent and confidentiality of the interviewees, they accepted our appointment. The period used for the collection of data took longer period than anticipated because of the periodic market days (Mondays and Fridays only), interferences from customers who were buying goods from the respondents and background noises from other traders and their customers. Data was collected successfully though. In addition to interviews was participant field observation as part of the data collection exercise. This involved direct observation of sanitation practices by traders in the market. It also gave insights into what the traders were actually doing. Waste disposal sites, urinal and toilet facilities were also observed to gather data on such things as standard of maintenance of these places and how often these facilities are patronized by traders each day. Photographs were taken and attached. See [Figure 1](#), [Figure 2](#) and [Figure 3](#) to show some of the heaped garbage, drains filled with solid waste and walkways without pavement blocks we observed at the market during our time of collecting data.

### 3.6. Data Analysis

Once data was collected through individual interviews, audiotapes were transcribed and transferred from spoken to written word to facilitate analysis. All interviews were transcribed from Ewe and Twi to English after listening to the tape several times. The transcription was time consuming as each interview took an average of seven hours to transcribe. The themes began to emerge with the initial reading of each transcript and the coding was done manually. While listening to the recorded interview, specific words and phrases were noted. Every single piece of data regardless of its importance and relevance to the subject was coded. Duplications and overlapping statements were removed from a list of coded items to ensure understanding. The purpose of coding was to acquire new understanding of a phenomenon of interest and also describe the phenomenon. Items were finally refined and reduced into categories by grouping them together into similar patterns, looking for dominant themes, common threads and contradictions.

## 4. Results/Findings

### 4.1. Attitudes of Traders towards Environmental Sanitation

All the respondents were very much aware of environmental sanitation problems in the Hohoe market. The traders acknowledged the amount of waste that they create in the market is increasing over the years due to the continuous increase in the number of traders and customers.

This was how one expressed herself:

The market was then small and only few traders were around, including my mother, and I was always asked to sweep where we were selling before and after the day’s trading activities. Anyway, the market was small and only few people were buying from here because

there were other smaller markets in the town where people were trading. The waste generated at that time was small, rubber bags were also not common and so the market was always clean.

The respondents were aware of the consequences of selling under poor sanitation conditions but they were compelled to sell under unhygienic conditions as a result of the Assembly not putting the right measures in place to keep the market clean. This is how one of them remarked: “although the Assembly has not been able to do what is expected of them, we, the traders, cannot be selling in filth and expect customers to buy. Because of that if someone does that he or she must be punished”.

Majority of respondents were dissatisfied with the sanitation in the market. This is consistent with Freduah [32] who conducted a study at Nima in Accra on the problems of solid waste management and says that people’s apathetic and lackadaisical attitudes towards matters relating to personal hygiene and environmental cleanliness, of which waste management in general is a focal point that should not be overlooked. Adelaide (1995: cited in Freduah, [32]) also observed that disposal sites in Accra are situated quite a distance away from inhabitants or sellers. The traders were not happy about the distance between them and the waste container. They felt the Assembly did not do much to keep the market clean but they look on unconcerned. This is how one of the respondents described it:

The amount of waste we produce in the market anytime we come to trade is too much. But we cannot be totally blamed because the place where they have placed the refuse container is too far from some of us; some of us have to leave our goods and walk a few metres to dispose of the waste we have created. It’s sometimes difficult to leave your goods while customers come to buy, you may not be able to make the daily sale or even end up losing your customers to other traders.

However, they believed that this has never led to the outbreak of any disease in the market.

Further analysis of respondents’ data revealed that since majority of the respondents were thinking that the Municipal Assembly was solely responsible for ensuring clean surroundings in the market, the traders supported clean up campaigns meant for making the surroundings clean. These were some of their comments:

“I’ll do it but which day will they set aside which will be okay for all of us because some of us sell in other towns on their market days”, it’s a good thing to do but some of us come here on market days only so it will be difficult for us to do” and I wish there was something like that so that the dirt in the market will reduce but I don’t think it can work”.

One of the elderly traders also supported this position when she said that they, the traders, have to know that there is the need to keep their surroundings clean because that is what they do in their various homes. This confirms the Theory of Planned Behaviour as a theory of attitude-behaviour relations whose main premise is that behavioural intention is the direct antecedent of behaviour [8]. The traders sweep their homes regularly but refused to keep their market environments clean because it was some other person’s responsibility. According to her,

We all clean our homes every morning before we do other things. Why won’t we clean where we sell? Assuming we are working in offices, are we saying we will not sweep before we start work? If the Assembly decides that we should not pay any money and clean the market ourselves, I can’t do it myself, I have to engage somebody and pay him or her so if the Assembly will collect money and do it, I will be happy. If we are asked to clean it ourselves, some of the traders will not... look at that (pointing at a heaped refuse). That is what you will see all over the market.

In whether they would be prepared to pay more money for the Assembly to effectively tackle the sanitation problem confronting traders in the market, a few of the traders answered in the affirmative giving reasons why they would be ready to pay more towards the improvement of sanitation in the market. One of them explained the reason why she would pay any amount towards the improvement of sanitation by saying:

It is an opportunity some of us have been looking for due to the manner in which they are cleaning the market for us. I know that the Assembly can’t do anything without money... If you go to the office of Zoomlion, all their tricycles have broken-down making their work ineffective... They have to employ more workers and pay them well so that they can do the work. They say ‘it is good thing that money buys’ so if we want the market to be clean, then we should also be ready to do what is expected of us by paying more.

On the contrary, majority of the traders were not in favour of any additional payment to the Assembly. According to them, the market has never seen any improvement in the past few years in spite of the daily toll that they have been paying.

Some of their comments were:

“after paying high tax and daily toll, you expect me to pay extra money for the cleaning of the market. How much profit am I making to be paying all this money to the Assembly for some people to chop?”, “...after which I sweep here myself? I will never support anything like that”, “unless the Assembly begins to show signs of improvement in their activities, I don’t think I will pay”.



**Figure 1.** Solid waste dumped in open storm drains (Source: (Fieldwork, February, 2020))



Although majority of the respondents seemed to express disappointment at the labourers of the Municipal Assembly's handling of sanitation in the market, all of them felt dumping of solid waste in storm drains was one of the worst behaviours traders would exhibit. According to them, the solid wastes block the waste water from flowing thereby making the water to become stagnant and smelly.

Six traders spoke about the fact that the Assembly's failure to provide litter bins at vantage points did not mean they (traders) should dump solid waste into drains. Comments from four of them included statements like: "it is a disgrace to trading activities in the market", "it is an eyesore", "it is a shame", "it drives away customers" and "offenders should be severely dealt with".

#### 4.2. Factors that Influence Traders' Attitudes towards Waste Management in the Market

Majority of respondents shared negative sentiments with regards to the strategies adopted to clean the Market. Almost all the respondents stated that the various strategies adopted by the Assembly were not helpful and the strategies were generally described as "ineffective". Thus, the priority of a waste management system must always be the provision of a cleansing service which helps to maintain the health and safety of citizens and their environment Cooper (1999, cited in [30]). According to them, the Assembly contracted Zoomlion to be cleaning the drains in the market and the labourers of the Assembly were sweeping the entire market and the lorry park. This was how some of them expressed their concerns:

Absence of litter bins at vantage positions is one major reason for the unhygienic conditions in the market. The failure on the part of the Assembly to provide these containers has resulted in customers and traders littering the market because it is their responsibility to provide these facilities so that traders and customers will put waste paper, rubber and rotten vegetables in them.

Attitudes of people also contribute to poor sanitation in urban cities. In an investigation that was conducted in Kampala, Uganda by Namilyango College (2001, cited in [30]), partly blamed the poor environmental conditions in the city on the unconcerned attitudes of the public and the failure of residents to hold the authorities accountable for the situation. According to the traders in the Hohoe market, the Assembly has not been able to live up to its responsibility as the institution responsible for sanitation in the entire Municipality and this includes the markets. The traders do not know what to do in order to hold the authorities accountable for their actions. One of the traders who did not mince words described the Assembly as "the most useless institution in the Hohoe Township". He noted, "They come to educate us on the consequences of poor sanitation, we fulfill our commitment by paying the toll they ask us to pay, yet they failed to clean the market for us as they made us to believe".

Again, the labourers sweeping the market are not living up to expectation resulting in both traders and customers complaining about poor sanitation in the study area. These labourers are supposed to clean the

market before trading activities begin each day yet they fail to be regular and efficient. This can be, to some extent, attributed to inadequate resources including logistics, personnel and funds to pay the workers good salaries.

One incident that a particular trader asserted, with certainty, was a point in time the labourers of the Assembly, responsible for cleaning the market, failed to sweep the market for almost two weeks creating heaps of rubbish at various places in the market. When asked what she did to keep her surroundings clean, she replied, "I engaged two boys to clean my surroundings for me before I started selling". She went on to say that on one occasion, she did the sweeping herself because the boys were engaged by other traders, however, they came to collect the rubbish and sent it to the dumpsite. Traders lack of commitment to keeping the market clean collaborates Jatau, [41] that in spite of various programmes to address issues of waste management, many Nigerians seem to possess low level of knowledge and negative waste management attitudes and practices. When I asked her why she did not send the rubbish to the dumpsite herself, this was what she said: "the distance from here to that place is far and you saw how I struggled to walk to and fro to arrange my wares. My knee is painning me".



**Figure 2.** Heaped garbage close to where foodstuffs are sold (Source: (Fieldwork, February, 2020))

Not a single walkway has been cemented or paved with blocks resulting in the ground becoming muddy and difficult to sweep during the rainy season. Solid waste that get stuck in the mud during the rainy season cannot be swept easily with broom unless they are picked with hands which most traders will not be ready to do. This finding lends itself to several findings in the literature which say that negative factors of attitude and culture have prevented in some cases the very important element of public participation [42,43,44]. The absence of cement or pavement blocks on the walkways makes the market a no-go area whenever it rains; it becomes so muddy that one finds it difficult to walk, majority of the traders do not have sheds and therefore sell in the open spaces that are muddy and dirty. Water becomes stagnant at portions of the market after heavy downpour, creating breeding grounds for mosquitoes, bacteria and other disease-causing pathogens which contaminate foods that are sold to the public. One of the fish sellers shared some of her experiences:

Look at where I'm selling. When it is raining, I have to cover the fish with a big polythene and ran to the shed over there (pointing at a shed) till the rain stops. If it rains beyond 3 pm, then I have to pack and go home after the rain has stopped, but if it stops early for us to continue our activities, I wouldn't be able to sell here because water occupies all this area so I have to relocate, which is not easy because the market is already choked with traders and my customers will also find it difficult to locate me. Even if the rain is not heavy, the surroundings become muddy and customers don't feel comfortable to come here and buy. I lose customers sometimes.

This was how one of them expressed her sentiments:

Take a look around the market and tell me if the Assembly has any future plans for us. I wish you were here after a heavy downpour to see how muddy the market will be, littered with plastic bags, paper and rotten vegetables. Those of us selling under umbrellas are the worse victims because we cannot sell when it is raining, especially, when it is windy. We have to hide under the sheds which are already fully occupied, and if the rain does not stop early then there wouldn't be any sales for us that day. I believe you have been to Makola Number One market in Accra? Do they walk in the sand or mud? Although they also have problem with waste, theirs is far better than ours here.



**Figure 3.** Walkways without pavement blocks (Source: (Fieldwork, February, 2020))

The inability of Municipal authority to enforce existing by-laws on sanitation results in general lack of respect for the law and 'throw-it-where-you-like' attitude towards waste disposal among those who patronize the market. According to the head of EHSD, the existing Hohoe Municipal Assembly Sanitation Bye-laws (2011) are not being enforced rigidly to make people conscious of the waste situations in their environment. Asked why they were not able to rigidly enforce the by-laws, his response was "in trying to enforce it people refer to us as being wicked and not showing sympathy on the traders...we are also understaffed making monitoring difficult for us because the market is large and the traders are many". According to him, most of the traders close at a time that their staff have closed and gone home and therefore it will be difficult to monitor those who will not sweep before

leaving for their various homes. He, however, said they do not spare the recalcitrant traders who consistently failed to clean their surroundings.

When the respondents were asked what support, they would need in order to improve sanitation in the market, they requested for the construction of concrete pavements in the market to reduce dust and mud during the dry and the rainy seasons respectively. Also included were the provision of litter bins at vantage positions in the market. This was how one of them expressed it: "if the Assembly had provided us with litter bins in the corners in the market and somebody refuses to put litter in it but puts it on the ground, they will be right to do whatever they want with the person". The market must be secured and security personnel must be employed to man the entrances. The lightning system must be improved. Finally, they recommended that the Municipal Assembly should enforce their by-laws so that those who are flouting them will be punished severely to serve as deterrent to others.

## 5. Summary, Conclusions and Recommendations

### 5.1. Summary

Issues of attitude appear to affect both traders and the authority regarding environmental sanitation in the market. The respondents indicated that issues such as traders' opinion on responsibilities for ensuring clean surroundings and disposal of waste had contributed to poor sanitation in the market. The traders supported clean up campaigns as a means of making the market surroundings clean as a way of supporting the Municipal Assembly. It was suggested that traders should adopt positive attitude to sanitation because they have never experienced the outbreak of any insanitary related disease in their lives.

The study also showed that the traders were willing to participate in regular clean-up exercises a move that indicates their sensitivity to the garbage around them, especially, dumping of solid waste in drain and the stench around the trading vicinity. However, the degree of motivation required to perform the behaviour (joining the clean-up exercise team) was not put into practice. As a result, their behaviour was at variance with their attitude. The people may have strong attitudes and be willing to keep the market clean but do not have the opportunity to actually do it.

According to the findings, the failure of the Assembly to secure the market and protect it from intruders, its refusal to provide litter bins at vantage positions and irregular cleaning of the market by the labourers could be attributed to the reasons for the negative attitudes of the traders towards sanitation. The traders felt disappointed when they realized the Assembly was not able to fulfil its part of the obligation of preventing people from defecating and throwing rubbish in the market at night and supervise their labourers regularly and punctually to clean the market. If the Assembly had placed litter bins at vantage positions in the market, traders and customers would not have discontinued littering the market. Besides there are no walkways, and the market is over-crowded with no effective lighting system.

Another fundamental problem for which the Assembly is not able to fulfil its oversight responsibility in the market is inadequate resources (financial and personnel). The limited funding does not make it possible for the Environmental Health Department to employ more labourers and sanitary inspectors. For this reason, the labourers do not do effective and efficient cleaning and the sanitary inspectors also do not enforce the bye-laws to compel the traders to comply with the sanitation laws by keeping the market clean.

The market is being used as thoroughfare, people take advantage and enter the market to dump waste that they generate in their various homes thereby adding to the already accumulated waste generated by traders. The waste is either wrapped in polythene bags and dumped in gutters and at open spaces or poured directly into the drains and open spaces. Others also defecate in the market expecting the traders to clean it before they start their daily businesses. This behaviour by unscrupulous people has influenced, to some extent, traders' attitudes towards environmental sanitation in the market. Dumping of refuse in the market by other individuals is discouraging the traders from keeping the market clean as expected because it seems that while they are doing the right things, these intruders are also frustrating their efforts.

There were indications that some of the officials were so free with the traders that they had sympathy on them whenever they committed an offence which merited punishment. It was therefore common to see traders and customers indiscriminately littering or dumping waste in open spaces and into gutters without regard for the law. Due to backlog of other cases which may be considered as 'more serious' cases which the Court usually has to dispose of, less premium is given to sanitation cases in the court. As a result of this delay, the officials are discouraged from arresting offenders and taking them to Court to be prosecuted. Moreover, the sanitary officers are not so free to be going to the court when the cases are always adjourned.

## 5.2. Conclusion

The traders in the Hohoe main market were aware of the poor sanitation situation in the market. They were aware of the accumulation of solid waste at open spaces in the market and in drains thereby preventing the free flow of waste water leading to breeding of mosquitoes and other disease-causing pathogens. The attitudes of traders towards general sanitation in the market, according to the study, were positive. It shows the clear mindset of the traders towards issues of sanitation in the market. Their attitudes could be more favourable if they had been provided with the support system through education. Most of the respondents were not satisfied with the management of waste in the market. The Municipal Assembly failed to provide the support systems which would have made it possible for the traders to comply with the bye-laws on sanitation. The Assembly also failed to secure the market and provide litter bins to be used by both traders and customers. Lastly, its labourers were not regular and punctual in cleaning the market before trading activities to begin on time.

## 5.3. Recommendations

The study revealed that those responsible for transporting the waste to its final destination should be doing that regularly instead of burning it. These are the Municipal Assembly and Zoomlion company. This, according to them, will reduce the stench and smoke that emanate from the communal dumping site. Waste bins should be placed at vantage positions in the market so that the attitude of "throw-it-where-you-like" will stop. This will help reduce the amount of waste at the market and put a stop to dumping of waste in the storm drains at the market. Zoomlion official suggested that the Assembly should cover the drains in the market so that traders and customers will stop dumping solid waste in them. Traders recommended the fencing and fixing of gates around the market in order to prevent intruders from dumping waste generated in their homes and using the market for other nefarious activities. The traders requested the Assembly to fix light in the market so that the labourers can sweep early before traders start setting up their wares. The walkways should be cemented or fixed with pavement blocks to prevent dusty or muddy environment during the dry or rainy season respectively. Some recommended that the Municipal Assembly should enforce their bye-laws so that those who are flouting them will be punished severely to serve as deterrent to others.

## 5.4. Limitations of the Study

There are some limitations to this study. The first limitation is the sample size. The study examined the attitudes of 25 traders at a large market in Hohoe in the Volta Region. Although the sample size was appropriate for the study, it is possible that it may not be a true reflection of the attitudes of majority of the traders towards poor sanitation at the market. While this number of in-depth interviews provides a generous data source, it did not permit generalization to the large population because it is a relatively small number. The respondents did not represent the diversity that is found in most markets. Having said this, our objective was to understand the attitudes of a specific group of traders towards poor sanitation at their business environment.

Although a complete transcript of all questions of the interviewer and all observations might be most useful for the study, there was limited time to go through all the detail information for analysis. The detailed case-by-case analysis of individual transcripts in a qualitative research takes a long time, and the aim of the study was to say something detail about the attitudes and behaviours of this particular group of traders. Transcribing of the data from Ewe and Twi to English was also very cumbersome and time consuming as some of the words were difficult to interpret.

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