

**SCHOOL OF GRADUATE STUDIES AND RESEARCH
GHANA INSTITUTE OF JOURNALISM**

**AN EXAMINATION OF THE STATE OF MINISTRY OF FOOD AND AGRICULTURE'S
(MoFA) PUBLIC RELATION UNIT HANDLING OF FALL ARMYWORM (FAW)
BREAKOUT IN GHANA.**

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DECLARATION

STUDENT'S DECLARATION

I hereby declare that this study on "**AN EXAMINATION OF THE STATE OF MINISTRY OF FOOD AND AGRICULTURE'S (MoFA) PUBLIC RELATION UNIT HANDLING OF FALL ARMYWORM (FAW) BREAKOUT IN GHANA**". is my original research, and all sources have been accordingly acknowledged.

Blessing J. Okam

DATE

SUPERVISOR'S DECLARATION

I hereby declare that the presentation of this long essay supervised by me is in accordance with the guidelines on supervision of dissertation laid down by the Ghana Institute of Journalism.

Dr. Ebenezer Malcalm

(SUPERVISOR)

DATE

DEDICATION

I dedicate this work to my family and friends who made my study at the Ghana Institute of Journalism a success.

ACKNOWLEDGEMENT

Glory be to the almighty God for His grace to carry out this study. I am sincerely grateful to my Supervisor, Dr. Ebenezer Malcalm. This study has been successful as a result of his time, patience and thorough guidance.

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TABLE OF CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
1.0 Background of the Study.....	1
1.1 Problem Statement	3
1.2 Objectives of the Study	4
1.3 Research Questions	5
1.4 Significance of the Study	5
1.5 Limitation of the Study	5
1.6 Scope of the Study.....	6
1.7 Organization of the Study	6
CHAPTER TWO	8
LITERATURE REVIEW	8
2.0 Overview	8
2.1 THEORETICAL FRAMEWORK	8
2.2.1. Situational Crisis Communication Theory	8
2.2.2 Role Theory in Public Relation	10
2.2.3 Excellence theory	11
2.2.4. System Theory.....	12
2.2 EMPIRICAL LITERATURE.....	14
CHAPTER THREE	18
RESEARCH METHODOLOGY.....	18
3.0 Introduction	18
3.1 Research Design.....	18
3.2 Research Approach	18
3.3 Population.....	19
3.4 Sample Size	19
3.5 Sampling Technique.....	20
3.6 Data Collection Instruments.....	20
3.7 Data Collection Procedures	21
3.8 Data handling and Analysis.....	21
3.9 Ethical Considerations.....	23
CHAPTER FOUR.....	24

CONCLUSION 24
REFERENCE 26

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

In 2016, the first report of Fall Armyworm (FAW) was announced in the Eastern region of Ghana although this larva dates to 1797 following destruction in Georgia (CABI, 2017). *Spodoptera frugiperda* (Fall Armyworm) is an insect native to the tropical and subtropical regions of the Americas (CABI, 2017). Fall armyworm (FAW) is the larvae life stage of fall armyworm moth known to cause significant damage to crop. In Ghana, FAW accounts for US\$ 64 million loss resulting from crop damage (Ansah-Amprofi, 2018). To reduce this damage, a few communications have been established and led in Ghana by the Ministry of Food and Agriculture's Public Relations Unit (Ansah-Amprofi, 2018).

Over the years, the Public Relations office has greatly grown and differs in size according to functions and activities. Several researches have gone into how a PR department should function and as result the profession has advanced from its traditional focus of producing messages, newspaper, mass media effect and campaigns to engaging the audience on a constant basis and for a longer period. It would become a profession and studied in schools following the publication of Edwards Bernays, *Crystallizing Public Opinion* in 1923, where he outlined and defined the field or Public Relations. He would teach the first course in public relations also in 1923 (Seitel, 2007). Seitel continues to claim that until today, while practitioners still elude a universally acceptable concept of publication relations, there is a better understanding of the field. One of the excellent definitions came from a report conducted by the Foundation for Public Relations Research and Education carried out in 1975. Sixty-five public relations experts participated in this report, which evaluated 472 meanings and gave the following 88-word term definition:

Public relations is a distinctive management function which helps establish and maintain mutual lines of communication, understanding, acceptance and cooperation between an organization and its publics; involves the management of problems or issues; helps management to keep informed on and responsive to public opinion; defines and emphasizes the responsibility of management to serve the public interest; helps management keep abreast of and effectively utilize change; serving as an early warning system to help anticipate trend; and uses research and ethical communication techniques as its principal tools. (Seitel, 2007). Additionally, Public relations is characterized as a management activity, according to Grunig and Hunt (1984), which identifies, constructs, and maintains and mutually benefits the relationship between an entity and its public. In Ghana, PR has gained a lot of attention in recent time although there are claims that the role of the PR unit has been in existence dating back to before the independence. Expatriates were said to use PR basically for public information in sync with the press agency model that took hold in the 1800s and was represented by Phineas Taylor Barnum (UKEssays, 2018). This era of PR had so many pitfalls which includes the lack of research, no ethical consideration and main objective was to manipulate human behaviour (Lattimore, et al., 2004). The role of the PR and its functions had to be filled following the independence and there was the need to bridge the communication. Press soirées and propaganda-style press releases were mainly used. In recent times, a wider knowledge of PR has emerged in Ghana although there exist few organizations with a confirmed Public Relations department or a Public Relations Officer. This is because the roles of a PR is often placed under another name or department, for example, Communications, Brand Management among others (Seitel, 2007). Ghanaian Ministry of Food and Agriculture equally has a Public Relations Office introduced in 2010 since the establishment of the latter in 1960 (MoFA, 2020). Often, the purpose of establishing and preserving a positive image drives both public and private companies to recruit Public relations officers to help create a friendly relationship referring to the definition birthed from the research mentioned. The PR unit of MoFA has undoubtedly greatly contributed

to the growth the Ministry's activities from ensuring two-way symmetrical communication to crisis management. One obvious case is the communication/crisis management during the FAW outbreak in Ghana for which this study will examine.

1.1 Problem Statement

Alien species, like the Fall armyworm (FAW), has the ability to do significant harm to crop output and when they arrive in new habitats, unique natural enemies are often missing. (Toepfer, Kuhlmann, Kansime, Onyango, Davis, Cameron, Day, 2019). Sometimes, the worst affected are farmers and their families.

In 2017 alone, Africa recorded close to US\$ 7m in maize losses (Toepfer, et al., 2019). In addition, Toepfer *et al.*, (2019) indicates that, in the absence of effective control mechanisms, FAW has the potential to cause losses of 8-20 million tonnes of maize per year, representing 21 to 53 percent of the total maize production (for 12 largest maize production regions in Africa).

Unfortunately, not much is known about the Fall armyworm in Africa. Cited in Toepfer *et al.*, (2019); Centre for Agriculture and Biosciences International (CABI, 2017) revealed that farmers on the continent find it difficult to distinguish between FAW and other caterpillar pests, such as African armyworm (*Spodoptera exempta*), Beet armyworm (*Spodoptera exigua*), African cotton leafworm (*Spodoptera littoralis*), *Helicoverpa* species, or stalk (stem) borers such as *Busseola* and *Chilo* species.

Going forward, Tambo *et al.* (2020) holds that information about FAW is an important step in its management. To mitigate the adverse impact likely to be caused by FAW, Toepfer *et al.*, (2019) posits that the “ dissemination of information on early warning and management practices to key stakeholders including farmers is essential.” Therefore, policy efforts, in this case, strategic public

relations undertakings, are needed as the first point of call, to raise awareness among farmers of the pest and effective management practices.

According to Abrahams, Bateman, Beale, Clotey, Coock, Colmenarez, Corniani, Day, Early, Godwin, Gomez, Moreno, Murphy, Oppong-Mensah, Phiri, Pratt, Richards, Silvestri, Witt, (2017), this is crucial knowing that, FAW management in Africa needs multiple stakeholders to take concerted action, working within an enabling structure established by national governments and regional or international institutions. This could take the form of communication campaigns, training programmes on FAW for concern stakeholders.

In the face of the evident claims, however, one should not take for granted the essence of an effective public relations strategy and how it could impact Ghana's effort at controlling FAW breakout. Thus, in essence, this research seeks to ascertain, by examination, the MoFA's public relations strategy which has been implemented or at different stages in handling of the Fall Armyworm (FAW) breakout in the country.

1.2 Objectives of the Study

At the core of this research is to explore the influence of the PR unit of MoFA during the FAW outbreak. Specifically, this research intends to:

1. To examine the impact of FAW on agriculture.
2. To better understand the roles played by the Public Relations Unit of MoFA in crisis management of the Fall armyworm breakout in Ghana.
3. To analyse the communication modus operandi used by MoFA's PR to sensitize the stakeholders in agriculture.

1.3 Research Questions

1. What is FAW's effect on agriculture?
2. What is the nature of the PR unit of MoFA in the crisis management of FAW breakout?
3. What communication modules are used by MoFA's PR to sensitize stakeholders in agriculture?

1.4 Significance of the Study

The primary objective of this research which is to examine the state of the Ministry of Food and Agriculture's (MoFA) Public Relation unit handling of Fall armyworm (FAW) breakout in Ghana, will serve as a point of reference for agricultural crisis communication. This done, the result of the study will guide organizations in the agricultural sector to minimize produce, reputational and financial loss.

One of the concerns in the face of crisis is managing the public which is an integral function of Public Relation. This study will thus highlight the importance, functions, and place of Public Relations in an organization.

Volumes have been written on crisis management and a focus on agricultural sector will serve as a source of literature for academic purposes and information for organization.

1.5 Limitation of the Study

The main drawback of the research is the coronavirus outbreak. Following the ban on gatherings and travels, one can only depend on telephone calls and information shared via internet. Also, people are generally laid back and not interested in anything that is not related to with the current trend which is COVID19 or anything associated with it. Times and lives have indeed changed. Furthermore, there are very few literatures on the subject being researched on. Nevertheless, this study serves as an additional to the few.

1.6 Scope of the Study

The study will be limited to the Ministry of Agriculture and Food of Ghana (MoFA). The study targets the Directorate of Plant Safety and Regulatory Services and the Public Relations Unit. The latter is the national institution mandated to regulate, implement, organize, and coordinate plant protection for a sustainable agricultural growth in the country. The study will also incorporate and reflect primary stakeholders affected by the Fall army worm who are farmers.

1.7 Organization of the Study

This research will be arranged into five chapters. The main introduction to the study will be covered in the first chapter and will contain the context, problem statement, research goals, research questions, study importance, meaning of key words, study scope, and study organization. The second section provides an overview of applicable related literature and theory that underpins the review. The third chapter will include the different methods used in the study's data collection. In the fourth chapter, which comes after the third, the analysis of the collected data is presented. The fifth chapter will end the research with a discussion, conclusions, and recommendations for further studies.

Definition of Key Terms

Crisis

The word crisis carries several meanings in itself. It can be defined as a disaster, calamity, or emergency. In PR, crisis is anything that threatens the reputation of an individual or an individual. For this study, the ideal definition of crisis is an unexpected occurrence.

Crisis Management

Aside the fact that crisis depicts several meanings in itself; even more interesting is the fact that managing each is unique. This is because the composition or make up of a crisis is not easily

agreed upon. However, lessons can be picked from each instance. Crisis management is described (Pearson & Clair , 1998) as a set of functions or processes that help to recognize, research and forecast crisis problems and derive concrete means that would allow organizations to avoid or cope with a crisis. It requires a systematic effort to avoid and/or resolve any organizational crises.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

The theoretical structure for the study and examination of relevant literature forms part of this chapter. It includes theoretical framework which seeks to look for theories that can be used to explain the study, and review of related studies which also looks into studies conducted on the topic, their outcome and how they are linked to this particular study.

2.1 THEORETICAL FRAMEWORK

Mass communication theories are the main provider of theories to support media researches such as the one embarked on by this researcher. A notable theory for this study is known as Situational Crisis Communication theory.

2.2.1. Situational Crisis Communication Theory

The Situational Crisis Communication Theory was propounded by Timothy Coombs in 1983. The theory suggests ways by which an organization can effectively tackle crises.

According to Jacques ([2009](#)), the many definitions of crisis communication can be categorized into two types: one is to define the crisis as an event (Coombs, [2007](#), [2015](#); Fearn-Banks, [2011](#); Sohn & Lariscy, [2014](#)); the other is to regard the crisis as part of a process (Pauchant & Mitroff, [1992](#); Roux-Dufort, [2007](#); Shrivastava, [1993](#)). For the sake of this study, Coombs's ([2015](#) p. 3) definition regarding the crisis as ‘an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes’ is adopted.

Crises involve the credibility of a company in ways that can lead the company to both financial and reputational problems. If not carefully handled by the organization in crisis, a sudden,

unforeseen crisis will harm or largely lose the credibility of the organization. Regardless of size, reputation or industry, every organization is always able to face every form of crisis. This research positions Situational Crisis Communication Theory (SCCT) as the research 's fundamental theory, particularly regarding linking the form of crisis and the application of Crisis Response Strategies (CRS). Briefly, SCCT indicates that the integrity of an institution is a valued resource endangered by crises. In addition, SCCT has the role of forecasting the reputational danger posed by a crisis and recommending CRS to protect reputational assets. In two phases, reputational threat can be predicted: (1) by evaluating the initial crisis liability attached to a crisis (that is the form of crisis) and then (2) by evaluating the other two intensifying reputational threat factors: crisis background and credibility of previous relationships.

The Ministry of Food and Agriculture can anticipate the reputational threat in the case of the Fall Armyworm breakout first by getting to know the sort of crisis it is. Thus, whether victim, preventable or accidental crisis. An effective knowledge of this will help the department to know the kind of strategy to adopt in the fight against the Fall Army worm breakout. The second factor seeks to measure the intensity of reputational threat that the crisis can bring to your organization. These crisis types, bolstered by crisis history and prior relationship reputation factors, allow the organisation in crisis to show the crisis responsibility that is posed upon it and thus predict the interpretation and reaction of its stakeholders to the crisis and the organisation itself. Responsibility requires transparency and the organisation must then answer for its actions. It is important that the organization in crisis responds quickly to its stakeholders (Coombs, W.T & Holladay S.J. 2004). This is where crisis responsibility connects with CRS.

CRS are what, after a crisis, an organization says and does. They impact how the organization and the crisis are viewed the stakeholders. Based on the stakeholders' perception, the organisation in crisis will decide which CRS is or are more suitable to protect its image. Useful CRS are therefore built in SCCT relative to the crisis types to restore the credibility, minimize negative effects, and

avoid negative behavioural intentions. As CRS becomes more accommodative and displays greater empathy for victims, previous studies confirm that stakeholders view the company as taking greater responsibility for the crisis. (Ahmad, A.2013). It is therefore rational for organizations to start planning and developing a good CRS, depending on the type of crisis, to reduce the harm and nature of crises that are or may be experienced (Coombs, W.T. 2007).

2.2.2 Role Theory in Public Relation

The function of PR activities was categorized as technical and managerial by (Dozier & Broom, 1995) in their report. The position of technician is based on the creative dimension of PR and involves activities such as writing, editing, message planning, media interviews, etc. The role of management focuses on disclosing problems and solutions. Research in this field has led to four unique roles being identified: the role of the technician and the role of the three communications managers. As communication technicians, most practitioners begin their careers (Tench & Yeomans, 2006). This role includes the implementation of communication strategies including press releases, employee newsletters, position papers, media placements, material on websites, speeches, blogs, and messaging on social media. Practitioners in the position typically do not participate in problem description and solution creation but focus their strategies on the technical skills of writing. The specialist prescriber is like the role that a doctor plays with a patient. He or she is an expert on a specific sector, topic or form of public relationship and is given the primary duty of other senior management to handle this role as a consultant with little feedback or involvement (Tench & Yeomans, 2006).

The position of communications facilitator is a border spanner that listens to and brokers information between the organization and its main audiences. According to (Cutlip, et al., 2000) the purpose of this is to provide the data they need to make decisions of shared interest between

management and the public. Problem solving facilitator collaborates with other managers to identify and solve problems. This position requires the professional to be a member of the organization's dominant coalition and have access to other senior managers. The problem-solving facilitator encourages other leaders to use a public relations approach to think about organizational issues. Research into these four roles showed that the role of the communications technician was different from the other three roles, and that the communication facilitator and the problem-solving facilitator were the latter three roles. They were merged into one role of communication manager to address the lack of reciprocal exclusiveness in the latter three positions (Tench & Yeomans, 2006).

2.2.3 Excellence theory

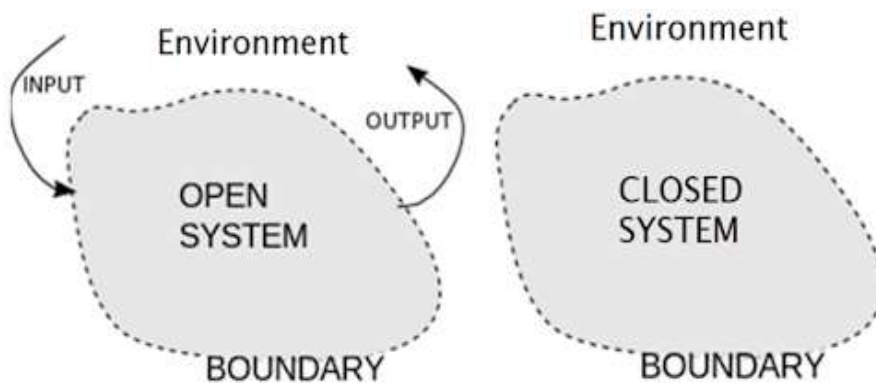
The first general theory of public relations is the excellence theory (Lindeborg, 1994). The theory was because of a 15-year study of best practices in communication management (Grunig, 2000) known as the excellence study. In public relations and communication management, the excellence theory is a principle of competence and efficacy. The theory explains how PR makes organizations more efficient, how it should be structured and handled to contribute to organizational performance, and how the monetary value of public relations should be calculated (Grunig & Dozier, 2002). First, the principle of excellence describes the importance of PR to an entity and the society it works in. This importance is focused on the consistency of an organization's partnerships with its public stakeholders (Grunig & Dozier, 2002). The theory argues that for PR to contribute to an organization it must be part of strategic management (Ni, 2006). According to the theory, for an organization to be effective it must solve the problem and fulfill the objectives of both the manager and stakeholders. Organizations must recognize their various publics who are influenced by the organization's choices or others who want the organization to address an issue of important to them. The organization must scan its environment to identify these publics. This is

PR's contribution to strategic management (Grunig & Grunig, 2011). The theory also implies that organizations must symmetrically interact with their audiences. This makes it easier to establish quality, long-term relationships with them. The organization is likely to set and reach objectives desired by both the organization and its public through symmetrical communication (Grunig & Grunig, 2011). A successful partnership is important and vital to the organization's survival. (Grunig & Grunig, 2011) clarified that this is because, in adverse situations such as litigation, regulation, legislation, and negative publicity, a successful partnership decreases costs. It also reduces the risk of making decisions that could have detrimental consequences on various stakeholders and increases the probability of the company delivering products or services that different stakeholders need and therefore profits. In addition to illustrating the importance of communication to an organization, four broad categories of characteristics of an outstanding PR function are given by the excellence theory , i.e. how the PR function should be structured to achieve maximum significance (Grunig & Grunig, 2011). These attributes are as a management element, tasks, templates, and the organization of the communication function in the broad areas of PR. There are several features in each category to be audited.

2.2.4. System Theory

In public relations, systems theory is valuable because it offers us a way to think about relationships. The theory of systems generally considers organizations to be composed of interrelated elements, adapting, and bringing about change in the political, economic, and social conditions in which they work (Lattimore, et al., 2004, p. 52). According to System Theory, PR is a subsystem in organizations adopted as a social system. A system can be assumed to be open or closed (Cutlip, et al., 2000).

Systems Theory Model Diagram



Source: Systems Theory Model Diagram (LessWrong, 2020)

According to Adjei, (2013) as cited by (Lattimore, et al., 2004) there are permeable boundaries in an open system which can be penetrated. This allows the sharing of data between the organization and its environment. Open systems respond to environmental changes and are considered to rely on their setting. System is open if it is exchanging material, energy or information with its environment and is called a closed system if such does not exist (Berkowitz,1980:241).

There are boundaries that are breached by a closed system. Impermeable boundaries do not allow information between the entity and its environment to be shared (Cutlip, et al., 2000). Closed-system organizations are viewed as independent of their environment. In a complex and turbulent world with closed borders, an organization will not prosper or develop. PR practitioners are boundary spanners in systems theory, "straddling the edge of an organization; looking both inside and outside of an organization" (Lattimore, et al., 2004, p. 1848). Therefore, PR professionals play the middleman in an open structure between the organization and the environment.

2.2 EMPIRICAL LITERATURE

A look at the Ministry of Food and Agriculture (MoFA) & the Knowledge Delivery

Framework for Agriculture in Ghana

The Ministry of Food and Agriculture (MoFA) is the lead agency and focal point of the Government of Ghana for the production and implementation of agricultural policies and strategies in the form of a concerted national socio-economic growth and development agenda, (MoFA, 2020).

MoFA has been responsible for the country's agriculture extension service since 1960s (Okorley, Gray and Reid, 2009). It heralded the sector's shift from the promotion of export crops policy to food production approach adopting the Ministry-based general extension approach in 1978. Donkor (1989) (cited in Okorley, Gray and Reid, 2009), the objective of the approach was to modernize conventional farming practices by transmitting improved agricultural technologies to develop rural farm life in general.

In a 2016 study, Osei *et al.*, (2016) found that the preferred source of agricultural information for urban Accra farmers is the radio. In fact, participants responded to using the radio for information regarding agrochemicals acquired in applying fertilizer, weedicides, and pest control.

Public relations is a part of human social relations that is natural, essential and persistent. This might take the form of a campaign to build a person or organization's goodwill. (Boateng and Hlaváčková, 2017). Public relations is best described as the management of communication between an entity and its audiences, according to (Grunig & Hunt, 1984). Thus far, and in relation to the study's focus, MoFA's immediate public are the farmers, who depend on the Ministry's knowledge delivery services in their farming pursuits.

Several research on the agricultural information delivery system in Ghana points to a lack, or inadequate and untimely information extension services (Boateng and Hlaváčková, 2017; Folitse *et al.*, 2017). Though communication has been recognised as vital for the sectors growth. (Folitse *et al.*, 2017).

(Munyua, 2000), cited in (Folitse *et al.*, 2017), argues that the lack of reliable and detailed knowledge in rural areas is a major obstacle to agricultural development. Folitse *et al.*, (2017) describes, among other things, that agricultural knowledge is a key instrument for rural development. Knowledge helps to open and provide rural farmers with opportunities to develop their agricultural activities and to improve their livelihoods. Farmers' decisions therefore rely on the amount of relevant information at their disposal.

The successful distribution of knowledge on agriculture to farmers remains a promising strategy to improve development. For the farmers to embrace the innovations and continue to put them to use, the new ideas must reach their farms and homes through effective communication. (ibid).

CABI uses mass communication, knowledge exchange, and agricultural extension programs in partnership with country-level collaborators, Toepfer *et al.*, (2019), to help identify and handle FAW at the farm level. In his view, mass communication allows for wider and quicker outreach to producers, sometimes at a lower cost, unlike face-to - face methods such as farmer field schools, plant clinics, or extension worker field visits. (ibid).

The rest of the world

FAW is a polyphagous native insect in the Americas (Bateman *et al.*, 2018), able to spread rapidly and fly up to 1600 km over a 30-h span (Tambo *et al.*, 2020).

Tambo *et al.*, (2020) posit that FAW was first recorded in Nigeria, Togo and Benin and the island of Sao Tome in 2016. Since, FAW has been identified in 44 other African states as of February

2018. This is corroborated by Abrahams *et al.*, (2017), “FAW is a moth that is indigenous throughout the Americas, where it is widely agreed to be one of the most damaging crop pests, feeding on over 80 different crops.” It has the tendency to travel long distances on prevailing winds, while breeding continuously in a favourable climatic situation. (ibid).

According to Cock *et al.* (2017), (cited in Tambo *et al.*, 2020), a pathway of introduction analysis, revealed that FAW’s presence on the Africa continent is due to a successful transfer as a ‘stowaway’ on a direct flight. Abrahams *et al.*, (2017) asset that the strains of FAW might have entered the Africa region, perhaps, as stowaways on commercial aircraft, either in cargo containers or airplane holds, before subsequent widespread dispersal by the wind.

It primarily targets members of the Poaceae family, causing serious damage to economically valuable cultivated grasses such as maize , rice, sorghum and sugarcane, as well as other crops such as cabbage, beet, peanuts, soybeans, alfalfa, onions, cotton, millet, tomatoes , potatoes and cotton. (ibid).

According to a Food and Agriculture Organization’s report, (2017) ‘tens of millions’ of small holder farmers in Africa will be affected, with a consequential threat to food security on the continent. (Bateman *et al.*, 2018).

Based on the utilization of a combination of sustainable control methods, Bateman *et al.*,(2018), the preferred management option for FAW is the integrated pest management (IPM). However, many stakeholders have turned to chemical pesticides for control.

According to the results, governments in Africa have bought and distributed pesticides worth millions of dollars, frequently preferring cheaper and usually higher-risk products. Methomyl, methyl parathion, endosulfan and lindane, all of which are listed as extremely harmful pesticides, are examples of pesticides that are known to be used for FAW management.

According to globally agreed classification systems and pesticides, the impact approaches adopted are the 'high levels of acute or chronic health or environmental hazards that cause significant or permanent harm to health or the environment under conditions of use in a country' (FAO, 2016) in (Bateman *et al.*, 2018).

In a recent study cited by Bateman *et al.*, (2018), over 60% of farmers interviewed in Ghana and Zambia reported having applied pesticides, while Kumela *et al.* (2018) found that 48% of farmers in Ethiopia and Kenya used chemical sprays. Pesticide dealers and local manufacturers of unproven and unregistered 'organic' concoctions have been able to exploit the opportunity to sell their goods. This has left many farmers uncertain about what they are supposed to do. Furthermore, farmers are at risk of using dangerous materials that they know nothing about and/or do not have the necessary personal protective equipment to handle risks adequately.

In a rapid survey carried out in Zambia and Ghana, in the estimate of a recent CABI proof note commissioned by the United Kingdom Department for International Development (DFID), both countries, as revealed, are likely to skip 45% and 40% of maize production respectively. (Day *et al.*, 2017; Bateman *et al.*, 2018).

Given the risk of pesticides, the list of approaches to FAW using biopesticides based on biochemical, microbial or microbial pest management products is high on the national and regional level of the list of short-term activities listed in the action plans for the affected countries in Africa (ibid).

This calls for a solution in the form of an efficient control mechanism, in the absence of which the other 12 African countries could suffer annual production losses of 8.5 to 21 million tonnes, equivalent to a value of US\$ 250 to 630 million. (Abrahams *et al.*, 2017; Bateman *et al.*, 2018).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the technique of analysis that was used during the report. The research design, target population, sample size and sampling technique, data collection techniques, data collection procedures, processing and analysis of data and the ethical considerations of the study are described.

3.1 Research Design

In this analysis, descriptive research design will be used. A descriptive design includes the preparation, coordination, processing, and review of data to provide the information being sought, according to Saunders, Lewis, and Thornhill (2007). It provides a detailed profile of people, incidents or circumstances and helps a large population to collect data in a highly economical way. Descriptive research design is a method of gathering information by interviewing or administering a questionnaire to a group of individuals, according to Orodho (2003). The design is relevant as the study collects data using qualitative (interview guide) data collection instruments. The objectives of the interviews data collection are to build a relationship of trust, field notes, open-ended questions, and less structured style (Miles & Huberman, 1994).

3.2 Research Approach

Due to the descriptive nature of this study, the research approach will be qualitative. A qualitative study offers perspective and interpretation of the problem framework. This entails any data that can be obtained that is not numerical in nature. (Miles & Huberman, 1994). This approach to research is used to obtain an in-depth understanding of human activities, experience, attitudes, motives, empirical and interpretative acts, to find out how people think and feel. The researcher

gives more weight to the participants' opinions when performing such study. This forms the basis for the selection of this approach. In reference to the subject being studied, the is approach will allow the researcher to explore, collect evidence, produces findings that were not determined in advance and provide “human” side of an issue (Mack, Woodsong, MacQueen, Guest, Namey, 2005). People’s feelings under this approach cannot be put in numerical form as feeling is abstract in nature. Furthermore, choosing the qualitative research method will give the researcher first-hand information which will give the researcher a vivid picture of the problem understudy. It provides views on various topics and helps to establish hypotheses or ideas for future quantitative study(ibid). The qualitative approach will help the researcher explore new thoughts and individual views with study to look deeper into issues.

3.3 Population

The study’s target population are farmers affected by the Fall armyworm (FAW) in Ashanti, Brong Ahafo and Northern regions of Ghana who are in contact with MoFA. These regions were selected because they are the areas mostly affected by the Fall armyworm. Furthermore, the study focuses on the PR units of MoFA and technical officers at the Plant Protection and Regulatory Services Directorate. The latter was included because they present the situation on the field to the PR unit who then together plan the appropriate communications. These officers also are the contact to the farmers in terms of providing technical assistance and training. The selected population is appropriate since they encompass all those primarily implicated in the subject understudied.

3.4 Sample Size

In qualitative research, the sample size is small. To obtain reliable findings, it is not appropriate to collect data from everyone in any given society even if it was feasible. Only a subset is required of a population is required for any given study (ibid). In this study, fifteen individuals will make

up the sample size comprising of 10 farmers from the three regions (3 from Ashanti Region, 3 from Brong Ahafo Region, and 4 from the Northern region), 1 Public relations officer or individual working in this capacity from Mofa, 1 technical officer from Plant Protection and Regulatory Services Directorate and 1 extension officer each from the three regions.

3.5 Sampling Technique

To pick a sample size, the study will adopt purposive sampling. The main objective of a purposive sample is to produce a sample that can be logically assumed to be representative of the target population. This includes the detection and collection of people or groups of people who are knowledgeable and well-informed about a phenomenon of interest (Mack, et al., 2005). The relevance of availability and willingness to participate and the ability to convey experiences and viewpoints in an articulate, expressive, and reflective manner are not overlooked, in addition to expertise and experience (Etikan, I. et al. 2015). As a result, purposive sampling will be used to select the 15 respondents.

3.6 Data Collection Instruments

The research focuses on primary data collection. In-depth Interviews are the main source of data collection by the researcher. An interactive in-depth interview with those directly involved in the communication process as well farmers affected by the FAW. In-depth interviews, semi-structured in this regard, according to Givens (2008), enable the interviewer to maintain some influence over the path and content to be addressed while allowing participants the freedom to evolve or take the interview in a new yet related path. Interviews for this study will be performed by engaging participants in interviews and discussions using the art of questioning and evaluating to provide participants with insights into the topics of the analysis. Semi-structure face-to - face interviews are often deemed necessary as depth of context is important and the study essentially entails

gaining insight into the role and functions of PR in crisis management. The semi structured interview is described by Stone (1984) as an interview method in which some questions are structured (closed) and some are open-ended. Unstructured questions enable respondents to respond freely without having to pick one of many answers given, ensuring that respondents are restricted in their information provision.

3.7 Data Collection Procedures

The process of data collection for this study began with an ethical clearance form from the University's research department allowing the researcher to collect data. Interviews conducted were done at a place and date convenient for the participants. A telephone recorder will document the interview proceedings, and these will be transcribed verbatim afterwards.

The researcher will contact the participants, through a visit to their institution and farms if possible, otherwise, tele-meetings via phones will be used. A data request consent form is then attached to an interview schedule, as a way of introducing the researcher, explaining the objectives of the study, and guaranteeing confidentiality to the respondents and participants.

3.8 Data handling and Analysis

Thematic analysis process will be used to analyse the data collected from the interviews. The table below is a depiction of the six stages and process of thematic analysis that reflect procedural measures in this study.

Thematic Stages:

(1) Data Familiarisation (2) Generating Initial Codes (3) Searching for Themes

(4) Analysing the Themes (5) Classification and Naming Themes (6) Report Production

Source: Braun and Clarke (2006)

First, verbal electronic (audio) data recorded during interviews will be imported for subsequent transcription into text with colour coding. This will then make it readable and easy to read the text. The use of the recorder means that the participants' moods and feelings are recorded, and the researcher does not need to write while engaging the participants or probing. Transcription would be done by the researcher specifically ensuring that the recorded text is not misunderstood (verbatim) as the interviewees' words because transcription is a dynamic method according to Sandelowski (1994) that can hardly be free of inaccuracies and can defy ethical problems (Dickson-Swift, James, Kippen & Liamputtong, 2007) particularly when transcriptionist(s) is/are recruited. The first instance that will cause one to be familiar with the data is the transcription process. This method would also allow one to be more familiar with the raw data and some notes taken as a preparation to start the 'generating initial code' stage.

In the second phase of the process, after adequate understanding and ideas have been collected from the point of view of participants in stage one, preliminary codes will be manually generated from the printed data. The initial coding will be carried out around a set of perceived questions relating to the study under consideration, because the themes are data driven. Step two will then prepare the data through code assignments into meaningful, manageable sections. Each part of the transcript will be read systematically and thoroughly, using different colour markers to label probable patterns. First, defined codes will be paired with extracts of data and finally collated for each case (code).

In the third stage, the researcher will use the codes defined in the preceding stage to search for themes in the data. The various codes and their extracts are grouped here to form the wider primary themes and sub-themes. Codes that speak to a particular topic are correctly classified under different themes using the printed data (transcript) as a reference using the 'copy and paste' technique since it is exactly the same in terms of structure (format) as the softcopy.

At stage four, themes emerging from stage three are subject to a review process focused on some basic questions: (i) Has each theme found sufficient evidence to be analytical? (ii) Is a theme likely to slide into another theme(s)? (iii) Is a theme too large to disintegrate to form two or more themes? (iv) Are there codes and extracts that are not part of any theme yet? Along with their extracts, the researcher will further synthesize the current themes and note that all the questions (ii, iii, iv) are valid.

In the fifth stage, themes and sub-themes will then be identified and named. While themes and sub-themes that will arise will be more aptly identified in previous phases (3 and 4), the current phase redefines them to place them in the right perspective in the light of the objectives and research questions of the research. The findings of the empirical data are presented in narrative format thematically and compared to the literature examined, including the relevant works, as described in chapter two, which then leads to conclusions.

3.9 Ethical Considerations

In the identification of the research problem, data collection, data analysis and interpretation and, ultimately, in the writing and distribution of research, ethical problems extend to all research methods and to every level of research (Creswell, 2009). Ethical concerns include issues of access, confidentiality and secrecy of the participants, the consent of the participants, and legal issues such as intellectual property, confidentiality, privacy, acceptance, and deceit, according to Johnson and Christensen (2008).

To ensure that ethical issues are compromised, the following ethical considerations will be adhered to; an ethical clearance form applied for and signed before the start of the research, acknowledge cited sources, informed consents, confidentiality and anonymity of the respondents ensured and assured that information provided is only to be used for academic purpose.

CHAPTER FOUR

CONCLUSION

This chapter highlights, in brief, key findings of the study. The study examined the state of Ghana's Ministry of Food and Agriculture's (MoFA) **public relation unit** in the handling of the fall armyworm (FAW) outbreak in the country.

Since FAW's outbreak in 2017 in Ghana, (Adzawla et al., 2020), MoFA through its Public relation's unit has developed series of communications strategies aimed at stakeholders, especially, farmers with requisite knowledge to curb the spread and otherwise effects of outbreak.

First, the study established that public relation has evolved with the expansion of activities and engagement at MoFA over the decades. Since its establishment in the 1960s, MoFA created a PR office in 2010. Strategically, the PR unit's contribution has been in the areas of communication/crisis management.

According to CABI (2019), in the wake of the outbreak, Ghana faced numerous communication challenges in the forms of inadequate technical experts amongst other things, to educate the public, build the capacity of extension agents and develop concise, precise and effective communication materials on early identification, monitoring and management. These had led to inconsistencies in information delivery to farmers and the public. Again, problems of over-sensationalised media reports led to misinformation. To address these challenges, MoFA with its stakeholders adopted the approach of developing communication materials (posters, jingles, flyers, videos etc) to educate farmers about the outbreak.

Other approaches considered were the development of synopses to guide discussions in the media, an emergency hotline was created to assist farmers to manage the pest, with regular engagement and training for media personnel on the FAW situation to ensure accurate reporting. (ibid).

Though these adopted approaches proved effective, a CABI, (2019) report revealed that Pest Management Communication Plans must improve on collaboration, and coordination among stakeholders.

In other words, a communication plan is effective through the adoption of the system's approach. This should promote "...collaboration and coordination among professionals working in the communication field, research and extension, and government institutions, as well as the development of appropriate policies that systematically integrate communication in outbreak preparedness and management." (ibid).

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