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# **FOOD SAFETY REGULATIONS: AN OVERVIEW OF THE COMPLIANCE PROCESS**

A dissertation submitted to the Faculty of Health Sciences, University of  
Johannesburg, in fulfilment of the requirements for the degree of Magister  
Technologiae in Environmental Health



Supervisor: Mr. T. Sigudu

Co-Supervisor: Dr. T. Morse

Johannesburg, 2016

## DECLARATION

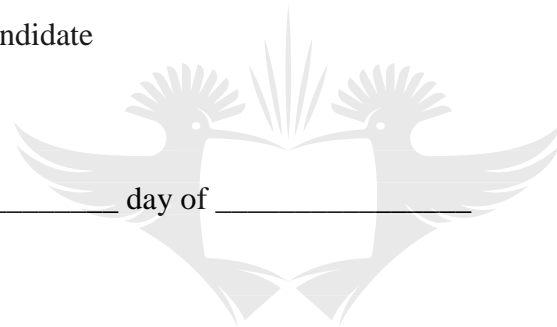
I declare that this dissertation is my own, unaided work. It is being submitted for the Degree of Master of Technology at the University of Johannesburg, Johannesburg. It has not been submitted before for any degree or examination at any other University.

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## **ABSTRACT**

The growing interest in Food Safety Regulations is not only in the nature of the regulations but also in the process by which the regulations are enforced to ensure compliance. This is because non-compliance to food safety regulations poses a threat to the health of the consumer and should be recognised by authorities as early as possible for intervention. The local authority system has however raised a number of criticisms.

The research followed a descriptive design, using quantitative method, to determine the compliance process that Environmental Health Practitioners (EHPs) follow in cases where food premises within City of Johannesburg do not comply with food safety regulations. The sample population included 110 EHPs selected using purposive sampling due to their role in enforcing food safety regulations. Each EHP further provided 5 document records of non-compliant food premises, selected using simple-random sampling, giving a total of 550 document records.

Data was collected using self-administered questionnaires and data collection forms. The questionnaire was completed by EHPs and the researcher concurrently collected data by reviewing document records of food premises using a data collection form. The findings of the study allowed for a clear compliance process to be outlined, however not to the latter of the legislation requirements to ensure rectification of non-compliance.

The study shows an existing record management system in need of reform. The outcome of the study indicated the need for the training of EHPs in law enforcement procedures and the necessity to have guidelines specific to enforcement of food safety regulations.

## **DEDICATION**

This dissertation is dedicated first to my late father, Jacob Papa Maphuthuma for implanting a seed of valuing education from the early years of my life.

Secondly, a special gratitude to my husband “Mann Mokoalte” for the love, support and encouragement and for walking the educational journey with me.

Furthermore, to my brother Lebogang “Poni” Maphuthuma for always asking how far I was with the study, reminding me to push further and for believing in me.

Finally, to all the Environmental Health Practitioners, I hope that this research will encourage you to strive for excellent environmental health service delivery within our communities.



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- To the City of Johannesburg Metropolitan Municipality and all the EHPs who participated in the study. May this study lead to improvements in Environmental Health Profession.
- To Prof Andre Swart for serving as a role model in Environmental Health and always showing interest in my completion of the study.
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## **ABBREVIATIONS**

CoJ:	City of Johannesburg Metropolitan Municipality
COA:	Certificate of Acceptability
DoH:	Department of Health
EHPs:	Environmental Health Practitioners
FAO:	Food and Agriculture Organisation of the United Nations
WHO:	World Health Organisation



## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### 1.1 INTRODUCTION

This Chapter provides an introduction to the research study. It discusses the background to food safety regulations and the issue of compliance. Interest in food safety regulations has become more focused on the process by which the regulations are enforced to ensure compliance rather than on the nature of the regulations. This interest exists globally as food safety is of vital importance to the prosperity and well-being of humanity. Reference is therefore made in this chapter to international and national context of food safety regulations and compliance with these regulations.

#### 1.2 BACKGROUND

Food safety regulations are particularly interesting because of the variety of impacts they have along the food chain (Ragona and Mazzocchi, 2008:145). Based on a “farm to fork approach”, the regulations can bring together and harmonise all stages of the food industry, ensuring a high standard of food hygiene, reducing food-borne diseases and providing protection of public health (Alomirah *et al.*, 2010:501). In one form or another, regulation takes place at the port of entry, the manufacturing site and the retail outlet (Marks, 2013:727). This shows that food safety aspects covering the entire production chain are now a government, industry and consumer priority (Mulder and Hupkes, 2007:93). Acts and regulations are used to constrain the behaviour of actors in the food chain by stipulating specifications and requirements to be complied with and sanctions to be applied in case of non-compliance. This is an important function of government in maintaining food market order, protecting people’s safety and maintaining social stability (Fu-feng, 2010:60).

In South Africa, food safety regulation is the responsibility of municipalities as part of municipal health services at local government level (Pretorius and De Klerk, 2009:9). Hence municipalities are responsible for ensuring that food premises, from small shops and hot dog sellers to large food manufacturing, comply with food safety regulations.

### **1.3 INTERNATIONAL CONTEXT**

The main objectives of food safety regulations are to safeguard public health and reducing the risk of illnesses (Ragona and Mazzocchi, 2008:146). Compliance with food safety regulations is increasingly becoming mandatory in global value chains (Mensah and Julien, 2011:1224). This makes it essential for any country, developed or developing, to have an effective food regulatory system that continuously protects public health and responds to real and perceived food safety problems. Mukumba and Hornsby (2011:237) highlighted the emergence of the International Food Safety Complex (IFSC) that oversees the development and implementation of food safety standards. The IFSC is inclusive of the World Health Organisation (WHO), Food and Agriculture Organisation (FAO) of the United Nations and Codex Alimentarius Commission. They further elaborate that the Codex is an intergovernmental body that facilitates the FAO/WHO Food Standards Programme, whose purpose is protecting the health of the consumer, ensuring fair practices in food trade and promoting the coordination of all food standard activities undertaken by international governmental and non-governmental organisations.

Hence the Codex provides international guidance and a framework for enhancing national standards of member countries. Although not legally binding, Codex food safety authorities all over the world have acknowledged that ensuring food safety must not only be tackled at a national level but also through closer links between food safety authorities at an international level (FAO, 2012). However, authorities vary in food safety regulation across countries to ensure public health and protect consumers.

According to Nyambok and Kastner (2011:31), in the United States of America (USA) foreign food manufacturers who comply with import regulations are granted expedited port clearance, while importers in continuous violation of food safety regulations receive greater scrutiny from the Food and Drug Administration (FDA) and customs officials before their products are allowed into the USA.

The country's regulatory community understands that collaboration and efforts to harmonise, to a practical extent, food safety regulations and standards, have an important role in advancing food safety and in preserving public health (Keener *et al.*, 2013:1952). Hence the FDA, responsible for scrutinising the safety of most food products consumed in the USA, works together with state and local regulatory agencies to ensure compliance (Nyambok and Kastner, 2011:30). Keener *et al.* (2013:1950) indicates that in Canada the responsibility for food safety is shared by federal, provincial and territorial governments, industry and consumers. Both the American and Canadian governments take a similar approach to ensuring food safety, particularly as it crosses borders, by reflecting in their legislation a shift in focus from reactive to proactive when it comes to food safety.

Elvbakken *et al.* (2008:143) found that in Norway, Sweden, The Netherlands, United Kingdom and Germany, food safety regulation has its origin in the public health arena, with the objective of health protection and the prevention of adulteration and fraud in the trade in food. They further found that local authorities remain the major structure for enforcement of the regulations, specifically in the UK, Sweden and Germany. In the UK, since the introduction of food safety regulations in 1995, there has been a move towards an "enforced self-regulatory" approach, where the regulator imposes a requirement on businesses to determine and implement their own internal rules and procedures to fulfil the regulator's policy objectives (Yapp and Fairmann, 2005:151).



This emphasises the continuous importance of the relation between regulatory authority and food industry in achieving compliance throughout the food value chain. The European Union member states have consolidated food safety authorities into a single regulatory and inspection agency (Hadjigeorgiou *et al.*,2013:728) by adopting the General Food Law with the intention of creating a transparent set of food safety rules applicable to all stages of the food chain (Lin, 2011:656) and therefore setting a good example for other countries.

In Australia and New Zealand the regulation of food to protect public health and safety is complex and fragmented, comprising of a large number of agencies and legislation spread across all tiers of government (Healy *et al.*, 2003:357). However, the Australia New Zealand Food Authority has a set of national food standards that covers food safety through every stage in the food chain, from farm to plate, enabling a preventative approach in the management of food safety specifically in Victoria. This is common where food businesses have food safety programmes and the monitoring process is managed by local government (Roberts and Deery, 2004:151). The recently implemented Australia New Zealand Food Standards Code represents a fundamental shift in regulatory approach, moving from a perspective and compositional based approach to one that is outcome based (Healy *et al.*, 2003:361).

Fu-feng (2010:60) acknowledges that regulation of food safety in China is not perfect, leading to the frequent occurrence of vicious food safety incidents, thereby seriously endangering lives and making the improvement of food safety regulations a pressing issue that must be resolved. However, in its effort to secure the safety of the nation's food, the Chinese government continues to face difficulties in constantly inspecting small-scale farmers, due to their large numbers and wide geographical distribution (Nyambok and Kastner, 2011:31).

The FAO/ WHO Global Forum of Food Safety Regulators (2002) noted that in Mongolia the enforcement of laws and regulations are incomplete and several areas of the food chain remain inadequately protected, resulting in a need to review and update existing food safety laws and regulations in accordance with international requirements. These deliberations clearly indicate that in most countries food safety regulation takes the form of standards outlining the requirements that food sold for human consumption must comply with to be deemed safe, with some countries providing specifications on how food safety is to be achieved. Falling into the latter category, South Africa is internationally recognised for its efforts to promote food safety and ensure public health.

#### **1.4 NATIONAL CONTEXT**

South Africa became a member of the Codex on 26 July 1994 and, according to Mukumba and Hornsby (2011:249), South African officials are particularly active in the Codex deliberations as a means of ensuring that the Codex standards are incorporated into food regulations. Mukumba and Hornsby (2011:249) further indicate that South Africa has an established National Codex Committee which brings together all the relevant departments to develop a national position on Codex drafts standards, guidelines and recommendations. The three national departments responsible for the regulation of the foodstuffs consumed, produced, manufactured, imported and exported into or via the country are the Department of Health (DoH), the Department of Agriculture, Forestry and Fisheries and the Department of Trade and Industry (Chanda *et al.*, 2010:818).

The resulting array of legislation for food regulations is administered and enforced through various sections within these government departments (see Table 1.1). However the table shows that food control is mainly administered by the DoH, making it directly responsible for all matters relating to food safety control at a national level, coordinating norms and standards and providing support to provinces and local authorities (Agenbag *et al.*, 2009:380; Mukumba and Hornsby, 2011:248).

**Table 1.1: Food Safety Acts in South Africa (Source: Chanda *et al.*, 2010:820)**

Act	Year Promulgated	Administered Department	Directorate	Enforcement level
National Health Act	Act 61 of 2003	Health	Food Control	National
Foodstuffs, Cosmetics and Disinfectants Act	Act 54 of 1972	Health	Food Control	National
International Health Regulations Act	Act 28 of 1974	Health	Food Control	Provincial Ports/ local
Agricultural Products Standards Act	Act 119 of 1990	Agriculture	FSQA	National
Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act	Act 36 of 1947	Agriculture	FSQA	National
Genetically Modified Organism Act	Act 15 of 1997	Agriculture	Biosafety	National
Meat Safety Act	Act 40 of 2000	Agriculture	Veterinary Services	National
National Regulator for Compulsory Specifications Act	Act 8 of 2008	Trade and Industry	Trade and Industry	National

*Food Safety and Quality Assurance (FSQA)*

The DoH: Food Control Directorate is the national Codex contact point for enquiries from different states, and internationally it participates in WHO International Food Safety Authorities Network (INFOSAN), the EU Rapid Alert System for Food and Feed and pertinent bodies within SADC (Mukumba and Hornsby, 2011:248). Table 1.2 summarises the food control responsibilities of the Department of Health at national level, provincial level and district/local level.

**Table 1.2 Food safety responsibility of the national department of health**

<b>LEVEL OF AUTHORITY</b>	<b>ROLE</b>	<b>RESPONSIBILITIES</b>
The National Department of Health	The Directorate: Food Control administers food legislation on behalf of the Minister of Health	<ul style="list-style-type: none"> <li>• Coordinating activities, such as food product recalls, within the country and setting national norms and standards</li> <li>• Supporting provinces and local authorities</li> <li>• Assuming the role of the National Codex Contact Point</li> </ul>
Provincial Department of Health	Food control at provincial level	<ul style="list-style-type: none"> <li>• Coordinating activities within the province</li> <li>• Providing support to the local authorities</li> <li>• Rendering specialised services such as import control, which is done on behalf of the national department of health</li> <li>• Setting protocols and strategies for health within the province</li> </ul>
Municipal Health Services (Metros and Districts)	Food control within area of jurisdiction	<ul style="list-style-type: none"> <li>• Involving community participation in health-related issues</li> <li>• Hygiene control (within the environment)</li> <li>• Investigating complaints</li> <li>• Law enforcement</li> <li>• Identifying and controlling health hazards</li> <li>• Monitoring for compliance to legislation</li> </ul>

*Source: Department of Health Policy guidelines: food safety alerts and official product recalls in South Africa, 2004*

The primary legislation administered by the Food Control Directorate to regulate food premises in South Africa is The Foodstuff, Cosmetics and Disinfectants Act (Act 54 of 1972). In accordance with this Act, metropolitan and district municipalities are authorised by the Minister of Health to enforce this Act in their areas of jurisdiction. The municipalities enforce regulations relating to the general hygiene requirements for Food Premises and the Transport of Food (Regulation No 962 of 2012), hereafter referred to as R962/2012, and regulations relating to the Powers and Duties of Inspectors and Analysts conducting inspections and analyses of foodstuffs and at food premises (Regulation No 328 of 2007), hereafter referred to as R328/2007, promulgated under the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972). The Department of Health also administers the National Health Act (Act 61 of 2003) which has relevance to food safety. This Act defines Food Control as part of municipal health services and indicates the obligation for health officials to maintain and manage health records.

## **1.5 CONCEPTUALISATION OF THE PROBLEM**

Lundén (2013:84) highlighted that non-compliance with food safety regulations pose a threat to the health of the consumer and should be recognised by authorities as early as possible for intervention. Lundén (2013:84) further states that with regard to the compliance process, food control authorities have several control measures for intervention in case of non-compliance in food premises. Some authorities adopt a highly educational approach in encouraging businesses to comply, while others adopt a more legal approach, serving notices where non-compliance is not remedied and prosecuting individual businesses (Yapp and Fairman, 2005:151).

The local authority system has, however, raised a number of criticisms (Hutter and Amodu, 2008:12) with the acknowledgement that most authorities are under-resourced with Environmental Health Practitioners (EHPs), making it difficult to systematically enforce food safety regulations (Yapp and Fairman, 2004:153). Roberts and Deery (2004:153) cited in the Australian Food and Grocery Council (1999) as highlighting that the issue of compliance is fraught with the problem of understanding the legislation on one hand and of enforcing the legislation on the other. Moreover Yapp and Fairman (2006:50) found that EHPs are inconsistent in their approach towards ensuring compliance in the food industry.

It is also generally accepted by enforcers and experts that there will always be a sector of food business that will not comply with food safety regulations (Yapp and Fairman, 2004:9). However, Dillion and Griffith (2001:39) emphasise that where non-compliance is identified, municipalities are responsible for taking enforcement action. The growing interest in food safety regulations is not only in the nature of the regulations, but also the process by which the regulations are enforced to ensure compliance (Henson and Heasman, 1998:9). Several studies (Henson and Heasman, 1998; Yapp and Fairman, 2005; Yapp and Fairman, 2006) have investigated factors affecting the compliance process within food manufacturers and retailers. Mensah and Julien (2011:217) reiterate the availability of the wealth of literature which gives insight into the behaviour of food businesses in response to food safety regulations. A variety of literature exists on the impact of food safety regulations on enterprises, providing guidance on how to effectively implement regulatory requirements on the shop floor (Roberts and Deery, 2004; Mensah and Julien, 2011; Buckley, 2015).

On the basis of the discussion above, a quantitative research strategy was developed to answer what is the compliance process followed by EHPs from the point of identified non-compliance in food premises towards ensuring compliance.

## 1.6 RESEARCH STRATEGY

The study adopted a quantitative approach which aimed to determine the steps in the compliance process that EHPs follow in cases when food premises do not comply with food safety regulations. It was carried out in the City of Johannesburg Metropolitan Municipality (CoJ), Environmental Health regional offices, inclusive of Region A, C, D, E, F, and G with the pilot area being Region B. The study commenced after permission was granted by the Executive Director for Health at CoJ (Appendix E) with informed consent sought from each EHP participant (Appendix D). Ethical clearance was granted by the University of Johannesburg to conduct the study (Appendix F).

Pre-testing of data collection tools – i.e. self-administered questionnaire and document review form – was done before the actual study to ensure the reliability and validity of the information required for the study. Data was collected using self-administered questionnaires which were distributed at the regional offices, to EHPs who were suitable respondents for the study due to their responsibility for food premises inspections (Newbold *et al.*, 2008:54) and their role in enforcing food safety regulations (Hutter and Amodu, 2008:6). The researcher concurrently collected quantitative data through review of documented records of food premises where food safety regulations were implemented, to provide in-depth information and enhance the quantitative results of the questionnaire (Roberts and Deery, 2004:154).

## **1.7 PROBLEM STATEMENT**

Environmental Health Practitioners (EHPs) employed by municipalities remain a key influence in food businesses. However, literature highlights the inconsistent approach of EHPs towards ensuring compliance with food safety regulations. The municipality's interest is in the outcome, whether food businesses comply or not. Meanwhile little attention is placed on the process followed to ensure such compliance. It is in this regard that the study intended to outline the compliance process that EHPs follow in cases when food premises do not comply with food safety regulations within the City of Johannesburg Metropolitan Municipality.

## **1.8 AIM AND OBJECTIVES**

The following aim and objectives are applicable to this study.

### **1.8.1 AIM**

The aim of the research is to determine the compliance process followed by EHPs in CoJ when enforcing food safety legislation.

### **1.8.2 OBJECTIVES**

The following objectives are identified to inform the research aim:

- To identify the steps in the compliance process followed by EHPs when regulating food premises.
- To assess the statutory requirements applied by EHPs in terms of food safety regulations.
- To evaluate the EHPs' perception of their role in enforcing food safety regulations.
- To assess the recording of the compliance process and maintenance of statutory evidence applied by EHPs.



## 1.9 SUMMARY

Food safety regulations are a component of food control system for develop and developing countries to safeguard the health and well-being of the public. An effective and efficient food control system for any country requires concrete efforts of the food businesses, government regulators and the consumers. This is as a result that regulation takes place at all stages of the food chain, from “farm to fork”. Hence the food industry needs to comply with food safety regulations to ensure the protection of the consumer. In cases where non-compliance with regulations occurs, it is dealt with by local government through the function of EHPs.

The EHPs are employed to enforce food safety regulations as part of municipal health services provided for ensuring public health. However, there are variations in the ways which EHPs implement regulations and achieving a balance between advice and enforcement actions is not without debate and is a fundamental question concerning the role of EHPs .It is in this regard that the research will outline the current compliance process followed by EHPs in cases when food premises do not comply with food safety regulations, and if necessary, will highlight the need for general guidelines on compliance process for food premises within the City of Johannesburg Metropolitan Municipality. The outcome of the study anticipates to establish whether or not the statutory steps applied in the compliance process is as per legislative requirements.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Food safety regulations include requirements and standards issued by regulatory authorities, related to the hygiene and quality of foodstuffs and intended to secure the protection of public health (FAO, 2012:2). For humanity, ensuring food safety is of crucial importance for people's prosperity and well-being. According to Marks (2013:727), from "farm to fork", the food on one's plate has touched a dozen different shippers, foreign ports of entry, distributors and restaurants, necessitating its regulation, which is a complex task. The government therefore has the additional responsibility to provide an appropriate legislative framework to safeguard all aspects of producing, processing and selling food to consumers (Griffith, 2005:132) and enforcement authorities are charged with inspecting food premises to ensure that they are in compliance with food safety regulations. Chapter 1 discussed the background and gave an outline of the entire study; this Chapter looks at the literature reviewed with regard to food safety regulations and related compliance. The literature is discussed under the topics: the role of regulatory authorities; the role of the food industry and the consumer; the background to food safety compliance and the related food safety legislation in South Africa.

#### **2.2 THE ROLE OF REGULATORY AUTHORITIES GLOBALLY**

Historically, the task of food regulation has been assigned to national and local government and has been institutionalised through legislation (Elvbakken *et al.*, 2008:127). Food law and regulation is one of the key elements of a national food control system (FAO, 2008:10) aimed at protecting the consumer's health, increasing economic viability, harmonising and engendering fair trade of food within and between nations (Aruoma, 2006:119).

According to Fu-feng (2010:60) the safety and quality of food directly relate to people's health, necessitating food safety regulation in any country. However, in many countries, effective food control is undermined by weakness in surveillance, monitoring and enforcement of laws (FAO, 2012:2). Such effectiveness should not include unorganised but responsible state organs with overlapping jurisdictions and competencies (Lin, 2011:685) and is imperative to ensure safe food for consumers (Ali, 2013:40). The food is deemed safe by some form of verification of practices, commonly known in the food industry as inspections (Powell *et al.*, 2013:686). The inspections are conducted by EHPs in food premises to assess food safety compliance.

### **2.2.1 Role of National and Provincial government**

Food control authorities verify that the handling of food products complies with food safety legislation (Lundén, 2013:84) and government's role is to promulgate sufficiently stringent food safety regulations that will promote safe food as a priority outcome for the food processing industry (Keneer *et al.*, 2013:1948). In the event of a food safety breach, the regulatory authority is responsible to identify and rectify the situation (Iyengar, 2013:451). This can be done through national, provincial/regional and local laws enforced by regulatory agencies as applicable to each country. Mostly, public health departments are responsible for this function of ensuring the safety and quality of food provided by food businesses (Hoag *et al.*, 2007:33). In South Africa, the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972) governs the manufacture, sale and importation of foodstuffs, cosmetics and disinfectants from a safety/public health point of view and is administered by the Directorate: Food Control of the Department of Health and enforced by local authorities in their areas of jurisdiction.

The Act further stipulates that an inspector may at all reasonable times enter upon any premises in which any foodstuff is manufactured, stored, sold or served and inspect such premises for compliance with regulations promulgated under this Act.

### **2.2.2 Role of Local government/ Municipality**

Premises handling foodstuffs are monitored by municipalities who enforce food safety regulations at a local government level in South Africa (Pretorius and De Klerk, 2009:3). In terms of the National Health Act, No 61 of 2003 (South Africa, 2003) and the Municipal Systems Act, No 32 of 2000 (South Africa, 2000) a municipality is defined as an organ of state within the local sphere of government exercising legislative and executive authority within a determined area. The Constitution of the Republic of South Africa Act, No 108 of 1996 (South Africa, 1996) promulgates three categories of municipalities, namely A- metropolitan municipalities, B- local municipalities and C- district municipalities. The Constitution indicates municipal health services under part B of schedule 4 as the responsibility of metropolitan municipalities and for the municipalities to control the undertakings that sell food to the public.

Agenbag *et al.* (2009:380); Bekker *et al.* (2011:343) make reference to activities for municipalities relating to food control including: identification of food-related hazards; guidance on legal requirements for food premises and food handling; certification of food premises in terms of legal requirements; health education and law enforcement regarding continuous compliance. Hutter and Amodu (2008:6); Yapp and Fairman (2005:151) state that municipalities perform the key role of enforcing food safety regulations through the functions of Environmental Health Practitioners (EHPs). These regulatory activities are aimed at retail food premises, focusing on the routine inspection of the food premises to monitor and enforce compliance with applicable legislation (Newbold *et al.*, 2008:56).

The inspection of food premises forms a core component of an integrated food control system responsible for ensuring safety and quality of food supply and to a larger degree, national food control systems rely on food inspections to ascertain that food safety and quality regulations are complied with (FAO, 2008:12). Food safety inspections are one activity used to verify that a food producer handling food is following specific guidelines or requirements as stipulated in legislation.

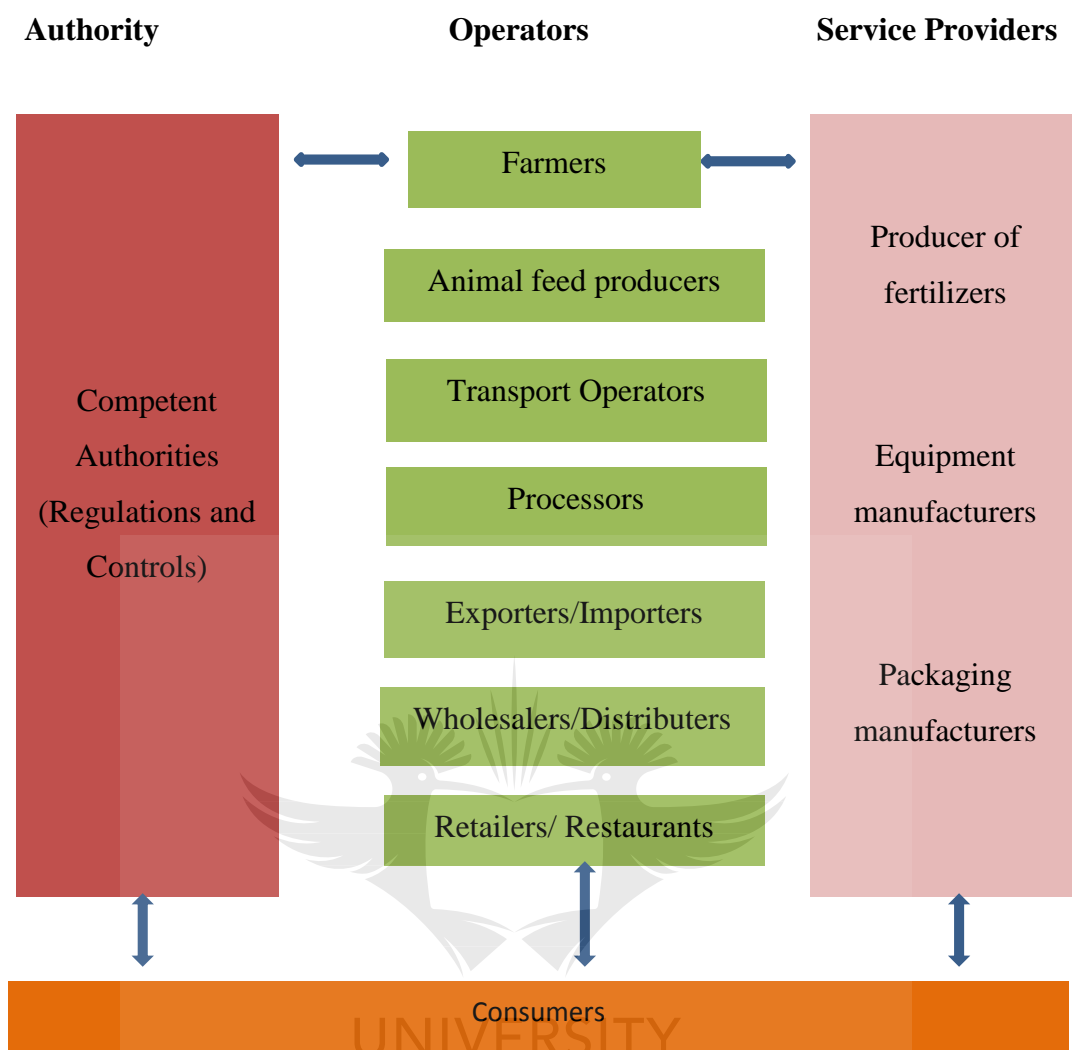
In accordance with the National Health Act, No 61 of 2003 (South Africa, 2003) the EHPs are appointed by the mayor of a metropolitan council in the employ of the council in question as health officers of the municipality. Hutter and Amodu (2008:6) further state that EHPs monitor compliance with minimum standards and may take enforcement action against businesses which are non-compliant with the legal requirements. Hutter and Amodu (2008:6) however, acknowledge that municipalities are under-resourced with EHPs which makes it difficult to systematically and rigorously enforce food safety regulations. Nevertheless, in accordance with R962/2012, if, following an inspection of food premises, an inspector/health officer is of the opinion that such food premises do not comply with requirements of R962/2012, and that the continued use of the food premises should be prohibited, the local authority may summarily prohibit the use of the premises by serving a written order on the person in charge of such premises.

In terms of Regulation 328/2007, an inspector/ health official shall, within 14 days after completing an inspection of food premises, compile a report and hand-deliver or send by registered post a copy to the person in charge of the premises concerned. In a nutshell, the local authority is responsible for overseeing that national regulations are implemented by appointed EHPs and are complied with by the food businesses in their area of jurisdiction. Mwamakamba *et al.*, 2012:6295 emphasise that no matter how well food safety regulations are drafted, they remain worthless in the absence of proper enforcement.

The City of Johannesburg metropolitan municipality has in place a standard operating procedure (SOP) for the certification of food premises within its jurisdiction, outlining requirements in line with food safety regulations. The requirements entailed in the SOP are consistent with the requirements as outlined in R962/2012. Van Niekerk (2008:1) indicates in the SOP, the city's requirements of food businesses to submit to Environmental Health Department a lay-out plan of the food premise on a scale of 1:50 and for EHPs to refer the COA application to Emergency Services Department and Development Planning Department of the municipality for suitability of the premises. According to Van Niekerk (2008:1) certification of the food premises is not issued should the premise not comply with requirements of the said Departments and including requirements of applicable food safety regulations. EHPs, however, have a number of options in any given situation, ranging from taking no formal action, to serving of a notice, to prosecution (Hutter and Amodu, 2008:11).

### **2.3 THE ROLE OF THE FOOD INDUSTRY AND THE CONSUMER**

Achieving food safety is the responsibility of the individual companies that manufacture and market an article of food (Keneer *et al.*, 2013:1948). According to Aruoma (2006:124) the food industry is responsible for producing safe food and demonstrating how food safety has been planned, to avoid the consumption of unsafe food, which could cause a considerable number of diseases at a particular point in any part of the world (Ali, 2013:31). With the role of the regulatory authorities and the industry clarified, as directed at consumer protection, it is pertinent that food safety and its regulation is a matter of concern at all stages of the food chain in any nation. Figure 2.1 indicates the integrated role players in food safety regulation all striving towards consumer protection.



**Figure 2.1: Role players in Food Safety Regulation (Source: FAO, 2012)**

Aruoma (2006:120) further highlighted that consumers also bear the responsibility of food safety, as they need to be informed about regulatory mechanisms and their association to food supply. Through the work of the Codex Alimentarius Commission, it is universally acceptable that people have the right to expect their food to be safe, of good quality and suitable for consumption (FAO, 2008:2). Hence consumer participation in food safety debates is vital (Nguz, 2007:133) and in order to achieve the highest level of consumer protection, it is fundamental that food safety and food quality be ensured through appropriate enforcement of laws.

Mensah and Julien (2011:1218) reiterate that a consumer's role in food safety includes being at the receiving end of potential health risk in the food value chain and playing an advocacy role in the regulatory process. Communities can therefore have the expectation of government to enforce applicable legislation to ensure food safety compliance.

## **2.4 BACKGROUND TO FOOD SAFETY COMPLIANCE**

According to Mensah and Julien (2011:1219), compliance with food safety regulations has become a ticket for accessing the global food value chain and it is apparent that regulation is a very important incentive for compliance in most countries, with the degree of enforcement able to cause even the smallest of enterprises to comply without question. Mensah and Julien (2011:1225) further state that food safety has become a sensitive and global issue, with no way around it without food businesses suffering the consequences for non-compliance. However, such compliance requires ongoing monitoring and evaluation of food business performance to ensure continued conformity and crucial to understanding the issue of compliance is the fact that it is a dynamic, ever-present issue (Hutter and Amodu, 2008:9).

Lin (2011:652) emphasises that what is required by law is not necessarily what will be implemented on the ground and the only way to address non-compliance is to ensure the enforcement of laws. With regard to compliance, the regulatory authorities are particularly interested in the outcome, being whether food businesses are conforming to regulatory requirements or not (Henson and Heasman, 1998:11). Meanwhile little attention is placed on the process followed to compel those businesses to comply. In cases where non-compliance is not corrected, it may pose a threat to the health of the consumer, necessitating more effective measures and justifying the use of enforcement measures (Lundén, 2013:84). Such non-compliance should be met with clear disapproval and increasingly punitive measures especially in the case of non-cooperation from food businesses (Hirschauer and Bavorova, 2014:98).



Compliance with food safety standards is mostly enforced via government sanctions, with enforcement tools including detention, seizure, injunction and civil and criminal penalties (De-Waal *et al.*, 2014:47). The Food and Agriculture Organisation of the United Nations (2008:12) states that “non-compliance and violations are dealt with by serving the establishment with a notice and/ or a fine and demanding corrective action which may or may not follow depending on the regulatory authority”.

## **2.5 APPLICABLE FOOD SAFETY LEGISLATION**

According to FAO (2008:11) food law and regulations form part of an effective food safety control system and, ideally, such laws and regulations should be relevant to and apply to all stages of the food chain (Alomirah *et al.*, 2010:501). The farm-to-fork approach to food safety is based on the premise that food-borne disease is commonly caused by multiple factors arising at dispersal points along the farm-to-fork continuum with the need for regulation in the entire food supply chain (Mwamakamba *et al.*, 2012:6293).

The legislation mainly used to regulate food premises is The Foodstuff, Cosmetics and Disinfectants Act (South Africa, 1972). The purpose of this Act includes but is not limited to the control of manufacture and sale of foodstuffs meant for human consumption in food premises. The municipalities control food premises in terms of Regulation 962/2012 promulgated under the Foodstuff, Cosmetic and Disinfectants Act. The regulation states that “no person shall handle food in a manner contrary to the provisions of these regulations”. Table 2.1 summarises the regulatory requirements as per R962/2012 for food premises. These regulations are enforced to be complied with by food premises and R962/2012 defines such food premises as a building, structure, stall or any other similar structure used for or in connection with the handling of food. The regulation 962/2012 further states that “any person who contravenes a provision of these regulations or allow such contravention to take place shall be guilty of an offence”.

**Table 2.1: R962/2012 regulatory requirements**

<b>Regulation Number</b>	<b>Focus Area</b>	<b>Summary of Standards</b>
Regulation 2	Application	A local authority which does not have services of an inspector at its disposal for any reason may use services of an inspector from another local authority
Regulation 3	Certificate of Acceptability	No person shall handle food or allow food to be handled on premises in which a COA is not issued or is not in force and/or allow food to be handled in contravention of restrictions contained in such certificate of acceptability
Regulation 5	Standards and requirements for the design and location of food premises	Food premises shall be of such location, design, construction and furnish and shall be so equipped in such condition that they can be used for the purpose of what they intended for
Regulation 6	Standards and requirements for Facilities on food premises	The surface of any table or working area in which unwrapped food is handled and any utensils, basin and any equipment which comes directly into contact with food shall be made of smooth and non-toxic and non-absorbent material free from joints
Regulation 7	Standards and requirements for food containers	No person shall sell food in a container which bulges at the flat or is in any way bloated
Regulation 8	Standards and requirements for the display, storage and temperature of food	Food that is displayed or stored shall not be in any direct contact with the floor or any ground surface
Regulation 9	Standards and requirements for protective clothing	No person shall be allowed to handle food without wearing suitable protective clothing as specified in the regulation

The Foodstuff, Cosmetics and Disinfectants Act (South Africa, 1972) further indicates that an inspector may at all reasonable times enter upon any premises on or in which any foodstuff is manufactured, treated, graded, packed, marked, labelled, kept, stored, conveyed, sold, served or administered or on or in which any other activity with or in connection with any foodstuff is carried out and inspect or search such premises. The authority to enter the food premises is granted by Regulation 328/2007 which governs the powers and duties of inspectors conducting inspections and analysis of foodstuffs in food premises.

R328/2007 further states that if an inspector is of the opinion that in relation to food premises, activities or conditions exist which are likely to be dangerous or harmful to health, he or she shall issue a written order, signed by him or her and addressed to the person in charge of such premises, in which he or she instructs that the activity or condition stated in the order must be rectified immediately or within a specified period determined by the inspector.

The National Health Act (South Africa, 2003) stipulates statutory requirements for Environmental Health investigations. The Act states that:

- a. If a health officer has reasonable grounds to believe that any condition exists which is likely to cause a health nuisance, the health officer must investigate such conditions and, if found to exist, the health officer must issue a compliance notice to the person determined to be responsible for such conditions;
- b. A compliance notice remains in force until the relevant provision of the Act has been complied with and a compliance certificate has been issued in terms of that notice;
- c. Any person aggrieved by the instructions of the notice may, within a period of 14 days from the date on which he or she became aware of the instruction, lodge an appeal with the head of the relevant provincial department;

- d. A person is guilty of an offence if he or she fails to comply with a compliance notice issued to him or her by a health officer and that a person convicted of an offence in terms of the Act to be liable for conviction, and a fine or imprisonment for a period not exceeding five years or both a fine and such imprisonment.

Notably as prompted by the global shift in food regulation, several studies have been done on the reform and harmonisation of legislation and regulations to achieve food safety at an international, national and local level (Healy *et al.*, 2003; Nguz, 2007; Mulder and Hupkes, 2007; Keneer *et al.*, 2013; Marks, 2013). The impact of revised regulations on food businesses and the trade of food within and across countries has also been extensively researched (Yapp and Fairman, 2004; Roberts and Deery, 2004; Yapp and Fairman, 2006; Bremmers *et al.*, 2011; Mensah and Julien, 2011). The literature emphasises the importance of the role of regulatory authority in food safety being government (Griffith, 2005; FAO, 2008; FAO, 2012). However, limited studies on the implementation of this role have resulted in a gap in the literature on the role of government, specifically through the key function of EHPs, in ensuring compliance with food safety regulations by food businesses.

## **2.6 SUMMARY**

Compliance with food safety regulations requires ongoing assessment and evaluation of food business performance to ensure continued conformity. The regulations are enforced by municipalities at a local government level in South Africa through the functions of EHPs who conduct inspections of food premises. Although the inspections are designed to monitor food safety, infrequent visits leave compliance to the food premises owners, whose focus on food safety is secondary to sales and making a profit.

Various food safety legislation and regulations provide guidelines that in terms of non-compliance, the EHPs shall 1) issue a compliance notice to the person in charge of the premises, with conditions of what needs to be rectified within a specified period of time 2) follow-up in accordance with the specified time frame to determine if the notice issued was complied with and 3) if a person in charge of the premises is found not to comply with the notice, the person is found guilty of an offence and is liable to conviction, and a fine or imprisonment or both.

The importance of the role of government in enforcing food safety regulations to ensure compliance is undisputed, but limited studies on the execution of this role, result in a gap in the literature on the role of government specifically through the key function of EHPs to ensure food business compliance to food safety regulations. Chapter 3 describes the methodology and mechanisms used to determine the compliance process followed by EHPs in the City of Johannesburg municipality to ensure food premises comply with food safety regulations.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

Chapter 2 outlined the literature reviewed in an attempt to understand food safety regulations and compliance thereof. This Chapter gives a detailed description of the methodology used in this study, specifically the research approach and design, the sample population used, the research instruments used and how the data was collected and analysed. Reference is made to the ethical considerations taken in the study, outlining the approval and consent obtained to conduct the study and collect the data.

The researcher chose a quantitative research approach to answer the aim of the study. The study aimed to determine the compliance process steps followed by EHPs in City of Johannesburg Municipality in cases when food premises do not comply with food safety regulations. The municipality is divided into seven regions namely Region A; B; C; D; E; F; and G (refer to Figure 3.1) and the pilot study was conducted in Region B. The study population included EHPs appointed by the municipality to enforce food safety regulations within its area of jurisdiction.

#### **3.2 RESEARCH APPROACH**

According to Edmonds and Kennedy (2013:107), approaches to research can be classified according to whether it is qualitative or quantitative. Bowling (2009:214) states that quantitative research is appropriate in situations where there is pre-existing knowledge, which will permit the use of standardised data collection methods such as a survey questionnaire. Edmonds and Kennedy (2013:112) highlight that qualitative research represents a form of data collection and analysis with a focus on understanding and an emphasis on meaning.

Edmonds and Kennedy (2013:107) further point out that with quantitative approach, participants are usually selected from the population to discover the relative incidence and distribution of various variables with details of causal mechanism. Quantitative methods are considered more rigorous than qualitative where data can be counted and frequency of observations measured (Hoe and Hoare, 2012:55). Leedy and Ormrod (2013:139) state that qualitative research approaches are largely subjective in nature. Therefore a quantitative research approach was most appropriate to either verify or disprove the hypothesis that EHPs may not be following the regulatory steps to ensure food premises comply with food safety regulations, rather than generate new hypothesis.

### **3.3 RESEARCH DESIGN**

According to Joubert and Ehrlich (2007:77), research design refers to the structured approach followed by researchers to answer a particular research aim and objectives. Research design refers to the overall structure or plan of the research study to be conducted, whether descriptive or experimental, and with what target population (Bowling, 2009:158). In this study a survey design provided appropriate data to respond to the research objectives.

Vogt *et al.*, (2012:15) regard surveys as popular because they can be efficient and provide the researcher with enormous evidence at a relatively small cost. Vogt *et al.*, (2012:16) states that surveys are an effective research design where data can be obtained directly from the respondent and by brief answers to structured questions with the expectation of an adequate response rate. Surveys can also be referred to as descriptive research designed to measure and observe certain trends, attitudes, behaviours and opinions of the population of interest (Edmonds and Kennedy, 2013:107; Bowling, 2009:215). The study followed a descriptive design to describe the steps undertaken by EHPs in ensuring compliance of food premises with food safety regulations.

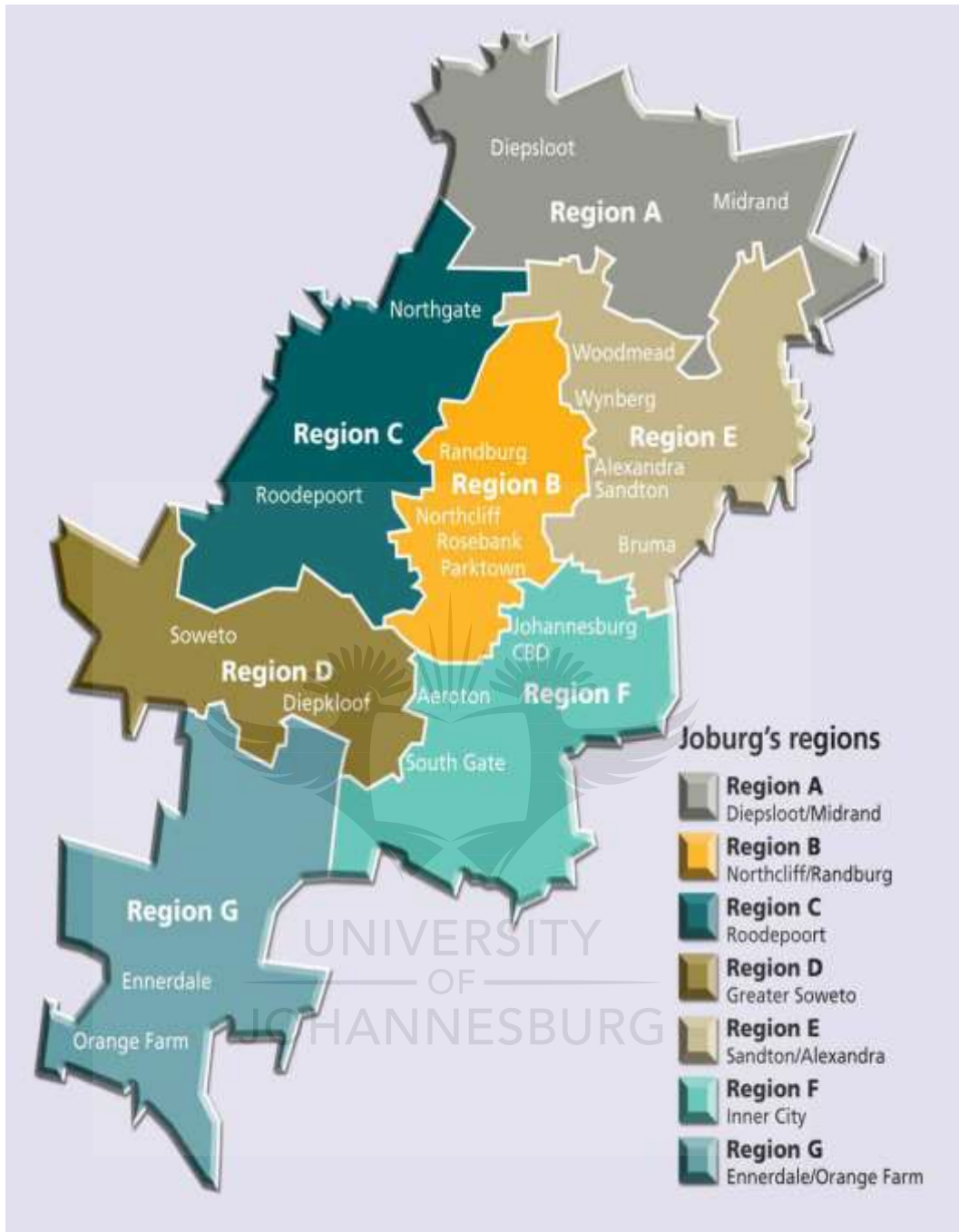
Bowling (2009:216) further state that descriptive study literally describes the phenomenon of interest to estimate certain population parameters. The study is descriptive in that it examines the compliance process, such as it is, followed by EHPs in City of Johannesburg Metropolitan Municipality in cases when food premises do not comply with food safety regulations. Leedy and Ormrod (2013:184) state that descriptive research design is considered to yield quantitative information that can be summarised through statistical analysis. Leedy and Ormrod (2013:184) further indicate that in a descriptive study, the researcher poses a series of questions to willing participants; summarises their responses with percentages and frequencies; and then draws conclusions about a particular population from the responses of the sample.

#### **3.4 RESEARCH POPULATION**

Joubert and Ehrlich (2007:94) emphasise that, when conducting a study, it is important to define clearly the group about which a researcher wants to gather information and draw conclusions from. This is referred to as the study population and was the EHPs who were interested and consented to participate in the study. Vogt *et al.*, (2012:115) states that if the researcher studies an entire population, the researcher is selecting one population amongst other similar populations.

The population included both males and females, of all races and appointed by the City of Johannesburg Metropolitan Municipality to enforce food safety regulations within its area of jurisdiction at the time of study. The population used in this study were selected by the researcher because they were deemed to have an understanding of the compliance process to food safety regulations. There were 151 EHPs appointed in the seven region of the City of Johannesburg Metropolitan Municipality at the time of study (Shikwambane, 2013).Figure 3.1 illustrates the map of City of Johannesburg Metropolitan Municipality, highlighting the seven regions of the city, where EHPs are employed to enforce food safety regulations in respond to food control as one of the municipal health services.





**Figure 3.1: City of Johannesburg map (not to scale) [www.joburg.org.za, 2012]**

### **3.5 SAMPLING**

Vogt *et al.*, (2012:115) highlights that researchers sample in the sense that they select from a defined population. However the sample needs to be representative of the study population. At times, the study population of interest to the researcher may contain too many members to study conveniently, thus prompting for a sample to be drawn (Bowling, 2009:196).

#### **3.5.1 Sampling of Environmental Health Practitioners**

Purposive sampling was used to sample the EHPs that participated in the study. According to Bowling (2009:208) purposive sampling is a deliberate non-random method of sampling, which aims to sample a group of people with particular characteristics, where respondents are selected because they have knowledge valuable to the research route. Creswell and Plano Clark (2007:5) define purposeful sampling as sampling where the researcher intentionally selects participants who have experience with the central phenomenon or the key concept being explored.

All EHPs were approached to participate in the study as they are responsible for food premises inspections (Newbold *et al.*, 2008:54) and are the key role players in enforcing food safety regulations within municipalities (Hutter and Amodu, 2008:6). This was to provide for a suitable sample with representativeness to determine the compliance process followed to enforce food safety regulations in the City of Johannesburg. A total of 110 EHPs participated out of a total number of 151 EHPs in the municipality at the period of study. This means 73% of the EHPs appointed to enforce food safety regulations participated, giving a representative sample to enable the substance and confidence of findings. Punch (2014:244) highlights that purposive sample is appropriate to ensure that there is maximum chance for any relationships between variables to be observed to warrant representativeness.

### **3.6 DATA COLLECTION**

Data collection is an accurate, systematic process of gathering information relevant to the research purpose, using methods consistent with research ethical principles (Leedy and Ormrod, 2013:151). Two data collection instruments were used, namely, a self-administered questionnaire (Appendix A) and a data collection form (Appendix B) for review of documents records. Emails were sent to regional Environmental Health managers to request a time to conduct a briefing session with the EHPs to build a rapport before the actual data collection. The briefing session highlighted all ethical approvals received to conduct the study, an explanation of the background and purpose of the study and the matter of obtaining a written informed consent from potential participants. An information letter (Appendix C) was designed and used to ensure consistency in the briefing sessions across all the regions, accompanied by a consent form (Appendix D) to obtain written consent from participants.

The questionnaires were handed out at the municipal regional Environmental Health offices for completion by interested EHPs and the researcher concurrently collected additional quantitative data through reviewing document records of food premises for EHPs who participated in the study. The data from the document review was to provide in-depth information and enhance the quantitative results of the questionnaire.

#### **3.6.1 Data Collection Using Self-Administered Questionnaire**

Joubert and Ehrlich (2007:108) outline the advantages of using self-administered questionnaire as: generally less costly and time consuming; being anonymous; and having no interviewer variations. With a self-administered questionnaire, the researcher can be certain that the respondents have been asked exactly the same questions in the same way (Vogt *et al.*, 2012:21) and in most cases the respondents are able to complete the questionnaires at their leisure, resulting in more thoughtful and reflective responses (Andres, 2012:47).

Leedy and Ormrod (2013:191) indicate that participants can respond to questions with some assurance that their responses will not be used against them, encouraging them to be more truthful than they would be in a personal interview, especially when addressing controversial issues. The self-administered questionnaire was used to determine the EHPs' level of knowledge of food safety regulations and food safety legislation, compliance regulation steps and EHPs' perspectives of the regulatory compliance process.

The questionnaire was divided into two sections, namely, section one: compliance process and section two: EHPs' perspectives (refer to Appendix A). Questions in section A addresses: 1) the familiarity of legislation, 2) steps undertaken upon identified and persistent non-compliant conditions, 3) possible reasons for not achieving compliance, and 4) the level of effectiveness of the regulatory steps to ensure compliance.

Section B covers questions on: 1) the perception of the status of compliance in the city, 2) the perceived importance of the role of EHPs in enforcing food safety regulations 3) the responsibility for enforcement actions 4) the barriers preventing to reach compliance, and 5) the regard/disregard of the usefulness of guidelines outlining the compliance process for enforcement of food safety regulations.

The information letter, consent form and self-administered questionnaire were issued to the EHPs individually for completion on an individual basis. The discrete completion of the self-administered questionnaire was emphasised by the researcher during briefing sessions to discredit coercion of information and thus limiting any possible bias in the data. The EHPs have individual work stations which aided for the sole completion of the self-administered questionnaire at their own leisure and comfort until collected by the researcher.

### 3.6.2 Data Collection Using Documents Review Method

The Centres for Disease Control and Prevention (2009:2) defines document review as a way of collecting data by reviewing existing documents. It further highlights that review of documents is relatively inexpensive, a good source of background information and provides a behind the scene look at a programme that may not be directly observed. Vogt *et al.*, (2012:209) highlights that organisational records constitute a huge source of high-quality data.

The review of document records of food premises was done at regional Environmental Health Offices in the six regions of CoJ and with prior ethical approval received from the local authority (Appendix E). Simple random sampling was used to sample documented records of food premises of the EHPs that participated in the study. Bowling (2009:204) states that simple random sampling is used where sampling is random and each population member has an equal chance of being selected and included in the sample. Joubert and Ehrlich (2010:95) point out that while the researcher controls the sampling process, he or she has no control over exactly which subjects are selected and in the end, whether a member is selected or not is determined purely by chance and not by the choice of the researcher.

Bowling (2009:190) further states that a sample size is determined by balancing both the statistical and practical considerations. The City of Johannesburg Metropolitan Municipality has a total of 3 613 non-compliant food premises on its database (Manganye, 2015). Hence it was practical to do a simple random sample of 5 documented records of non-compliant food premises per EHP who participated in the study ( $n=110$ ), giving a total of 550 document records reviewed. The sample of documented records was convenient for the researcher to obtain information to support the quantitative data of the self-administered questionnaire. According to Offredy and Vickers (2010:135) this type of sampling is the most basic of the probability sampling methods and a sample selected randomly in this way cannot be subjected to research bias.

The data collection form was used to summarise key information that will be grouped into different categories extracted from the documents reviewed. Information recorded include 1) steps taken to ensure rectification of non-compliance conditions, 2) follow-up action where non-compliance persisted, and 3) a review of additional documentation on record serving as evidence of action taken at the specific food premises. Table 3.1 indicates the number of EHPs who participated per region of the municipality and the number of documented records sampled.

**Table 3.1 Sample population of EHPs and document records reviewed per region**

<b>Region</b>	<b>Total EHPs appointed</b>	<b>Number of EHPs participated</b>	<b>Number of Document Records</b>
A	15	<i>n</i> = 15 (100%)	75
C	14	<i>n</i> = 12 (86%)	60
D	26	<i>n</i> = 17 (65%)	85
E	20	<i>n</i> = 11 (55%)	55
F	61	<i>n</i> = 42 (69%)	210
G	15	<i>n</i> = 13 (87%)	65
<b>Total</b>	<b>151</b>	<b>110</b>	<b>550</b>

### 3.7 DATA QUALITY

According to Punch (2003:42), quality of data can be looked at from a technical point of view using the concept of reliability and validity and also from a non-technical point of view using response rate. A pilot study can also be used to determine the quality of data collection instruments and overall study. Joubert and Ehrlich (2007:116) define a pilot study as a test run of aspects of the main study, to refine the measuring instruments with the aim of improving its quality.

### **3.7.1 Piloting the Study**

Andres (2012:27) highlights the purpose of piloting as: to ensure that the level of language used in the questions is appropriate and understandable to the audience; to assess whether the questions are understood as intended; and to determine whether the order of questions is logical. One region (B) which did not make the study population was used for piloting and respondents were EHPs who complied with the inclusion criteria. The researcher also reviewed the documented records of non-compliant food premises, of the EHPs who participated, to pilot the data collection form.

The following became apparent for the researcher, from the pilot study:

- the questionnaire provided the data that the researcher was looking for, therefore questions remained unchanged;
- the language and terminology used in the questionnaire was clear and understood by the participants as no need for clarity arose;
- the data collection form was not logical as anticipated, to provide data, therefore the numbering and sequence of questions were changed with added questions to ensure dependability and evenness;
- the researcher reviewing document records in a visible area, elicited more interest from other EHPs to participate

### **3.7.2 Reliability and Validity**

The questionnaire and the data collection form were piloted to determine the validity and reliability of the study. Williams (2003:245) indicates that every questionnaire should undergo a formal pilot during which acceptability, validity and reliability of the measure is tested. During the pilot study, participants were given a blank feedback sheet asking them to write any additional comments about the questionnaire and recommendations to improve it. Corchon *et al.*, (2010:221) found that participants' comments about the instrument suggested adequate face validity.

The data collection form used was uniform across all study regions and if it were used by another researcher, it would answer the same questions the same way as it is standard. The response rate in a study is also a measure of validity. According to Bowling (2009:241) external validity relates to the generalizability of the research results to the wider population of interest. Vogt *et al.*, (2012:18) states that if the response rate is less than 50%, it prompts the researcher to have little confidence in the research answers. Punch (2003:43) highlights that survey researchers should strive for a response rate of at least 60%. The study obtained a response rate of 73% excluding the pilot region, adequate to generalise the results and thus ensure external validity.

### **3.8 DATA ANALYSIS**

According to Neuman (2014:393) data analysis include presenting data in charts and graphs to summarise, interpret and to give meaning to the findings. Quantitative data are analysed using statistics (Punch, 2014:252). Descriptive statistical analysis was used in this study to determine the compliance process followed by EHPs in cases where food premises do not comply with food safety regulations. Punch (2014:396) states that descriptive statistics are a general type of simple statistics used to describe basic patterns in the data.

Data was first coded by allocating numbers to each category of all variables. Neuman (2014:393) defines data coding as a systematically reorganising raw data into a format that is easy to analyse using statistics software on computer. Questionnaire data was captured and analysed using Statistical Package for the Social Sciences (SPSS) version 18.0. Each questionnaire was allocated a unique code for easy entering of data into the SPSS software by a statistician at STATKON, a consultative statistical service available to postgraduate student at the University of Johannesburg. SPSS is a system for capturing data from any type of file and use the data to generate charts and plots of distributions and trends.



The information from the data collection form was entered into Microsoft Excel spreadsheet by the researcher. Excel spreadsheets can be used to enter data in a variety of forms such as text, numbers and dates (Leedy and Ormrod, 2013:336). The researcher assigned a row to each reviewed record and a column to a particular variable that the data collection forms measured. Descriptive statistical analysis of the questionnaire data and the information from the data collection form was done by the researcher to determine frequency distributions to show percentage of cases of all variables.

According to Punch (2014:255) frequency distributions are a useful way to summarise and understand data whereby individual scores in the distribution are tabulated according to how many respondents achieved each score or gave each response. Punch (2014:255) further states that results can be shown as frequency distribution tables or as graphs. The researcher made use of table, graphs and charts to display the results. Simple correlation of variables was done to determine the relationship between variables and deduce basic pattern of the data to give meaning to assumptions.

### **3.9 ETHICAL CONSIDERATIONS**

The research was approved by the University of Johannesburg, Faculty Academic Ethics Committee and Higher Degrees Committees (Appendix F) and permission was granted by the City of Johannesburg Executive Director, Health for the study to be conducted at the municipality. According to Joubert and Ehrlich (2007:120) obtaining informed consent from potential participants is very important ethically, the researchers are required to protect the identity of the participants.

#### **3.9.1 Informed Consent**

Informed consent is ethically and legally required for all health research involving human participants (Lansimies-Antikainen *et al.*, 2010:56).

According to Agulanna (2010:204), obtaining a person's informed consent in research is to admit that such person possesses human self-worth and is to agree that people have fundamental rights which cannot be invalidated. Vogt *et al.*,(2012:243) state that informed consent requires the researcher to make clear to the respondents, the purpose of the research, the methods used, any possible conflict of interest and possible risk associated.

This consent should be in writing, signed by the participant, to protect their freedom in choosing to participate in the study or not and to reduce the legal liability of the researcher (Bowling, 2009:176). All participants were informed about the aim and objectives of the research and permission was requested from EHPs to participate in this research by signing of an informed consent (refer to Appendix D). Respondents were informed that they could at any point withdraw their consent to participate and that the study would not cause them any harm.

### **3.9.2 Anonymity, confidentiality and privacy**

The right to anonymity, confidentiality and privacy was respected in such that the self-administered questionnaire was completed on an individual anonymous basis to allow the participants to express themselves freely. The names of EHPs who participated and names, addresses and ownership details of document records of food premises reviewed was handled as highly confidential and will not be disclosed to anyone except members of the research team, i.e. researcher and supervisors. Individual responses were illustrated in a generalised manner and the results of the study will be revealed only to the City of Johannesburg Metropolitan municipality and used for academic purposes such as conference presentations and publications.

### **3.9.3 Community and community science**

All participants were classified as Environmental Health Practitioners and there was no grading of participants according to age or gender, to ensure the respondents' right to dignity as Environmental Health Professionals was respected. The participants may access any information pertaining to this research and the results of this research through the management of CoJ Health Department. Dissemination of research findings includes presentations at key meetings, conferences and publications in sources likely to be accessed by the targeted audience (Bowling, 2009:140). If any findings exist, that pose a threat to human health, it shall be reported to the management of CoJ Health Department by the researcher to ensure the right to community.

### **3.10 SUMMARY**

This Chapter focused on research approach, research design and the methodology of the study. The chapter explains the survey and descriptive study design as well as the study population and sampling method, outlining how the data was collected using the self-administered questionnaire and the data collection form. The chapter details the data capturing and analysis manually and with the use of SPSS package. Strategies aimed at ensuring all ethical considerations were summarised.

## CHAPTER 4

### RESULTS AND DISCUSSION

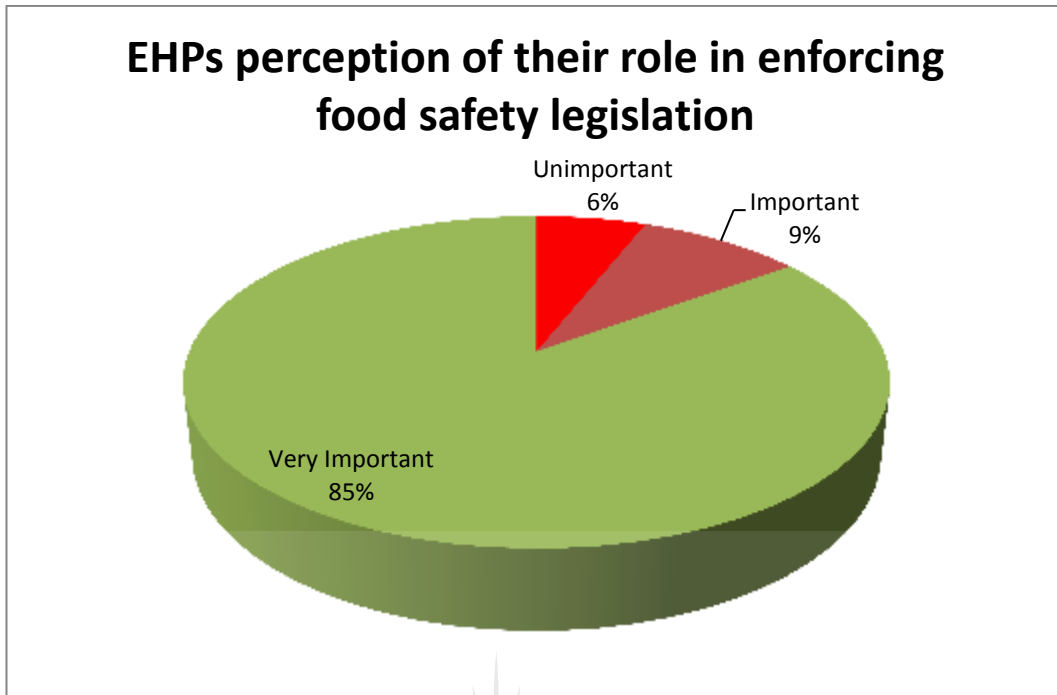
#### 4.1 INTRODUCTION

Chapter 3 described how data on the compliance process followed by EHPs in CoJ when enforcing food safety regulations was collected, captured and analysed. This Chapter presents the fundamental findings of the study, and the meanings drawn from the facts gathered during the data analysis. The results are outlined and discussed under the following headings:

- Perceptions of EHPs on their role of enforcing food safety legislation;
- Compliance process steps followed by EHPs;
- EHPs' perspectives of the compliance process; and
- Recording of the compliance process and management of evidence records by the EHPs

#### 4.2 PERCEPTIONS OF EHPs ON THEIR ROLE OF ENFORCING FOOD SAFETY LEGISLATION

The role of EHPs in enforcing food safety regulations is, without a doubt, a significant one. This is shown in Figure 4.1, with 85% of EHPs rating their role as very important. Of concern to the municipality are the 6% who indicated their role in enforcing food safety regulations as unimportant, as the municipality performs the key role of ensuring food safety compliance through the function of EHPs. The FAO (2012) highlights the responsibilities of EHPs as 1) inspecting premises and processes for compliance with hygiene standards and regulations, 2) recognising, collecting and transmitting evidence when breaches of law occur and 3) appearing in court to assist prosecution. Hence the role of EHPs can never be viewed as not important even by a small margin. This regard off their role being unimportant is of concern as ensuring food safety compliance is the function of local authorities through appointed EHPs.



**Figure 4.1: Perceptions of EHPs on their role of enforcing food safety legislation**

EHPs need to vigorously enforce food safety regulations through implementing all regulatory requirements as stipulated by legislation. According to Table 4.1, not all EHPs are familiar with the food safety legislation and regulations. This is of concern as the EHPs are expected to enforce these legislations and regulations to ensure that food premises in the municipality comply with the legislation, and even more of a concern is the fraction of respondents who are not at all familiar with the legislative documents. This can imply the inability of EHPs to identify non-compliance with the specifications of regulations, and, as a result, thumb-suck the requirements without giving the actual specifications for appropriate compliance.

Yapp and Fairman (2005:159) found that food businesses relied on EHPs to interpret and apply the regulations within their businesses and to specify the method by which they would comply. This is likely to present a challenge in cases where an EHP is not familiar with the regulations and thus unable to provide requirements that the food business must comply to.

Yapp and Fairman (2006:45) reported that EHPs were seen by businesses to act inconsistently and stipulate different food safety requirements, despite the conditions remaining the same and the same EHP visiting the premises. Many requirements in food safety regulations require EHPs' interpretation within the context of the specific food business (Buckley, 2015:75). This verifies the expectation, even from food businesses, for EHPs to be extremely informed about the regulations they enforce. The EHPs lack of familiarity with legislation present an inability for this interpretation. This may worsen the capacity of an already under-resourced regulatory authority to systematically enforce food safety regulations.

**Table 4.1: Familiarity of EHPs with legislative documents**

Question. How familiar are you with the contents of the following legislative documents?	Responses of EHPs			
	Not at all familiar	Slightly familiar	Moderately familiar	Extremely familiar
National Health Act 61 of 2003	0%	9%	63%	28%
Foodstuff, Cosmetics and Disinfectant Act 54 of 1972	0%	3%	59%	38%
Regulations Governing the General Hygiene Requirements for Food Premises and the Transport of Food (R962/2012)	1%	6%	26%	68%
Regulations Relating to the Powers and Duties of inspectors and analysts conducting inspections and analyses at Food Premises (R328 OF 2007)	6%	22%	41%	31%
CoJ Public Health By-laws	0%	6%	33%	61%

### **4.3 COMPLIANCE PROCESS STEPS FOLLOWED BY EHPs**

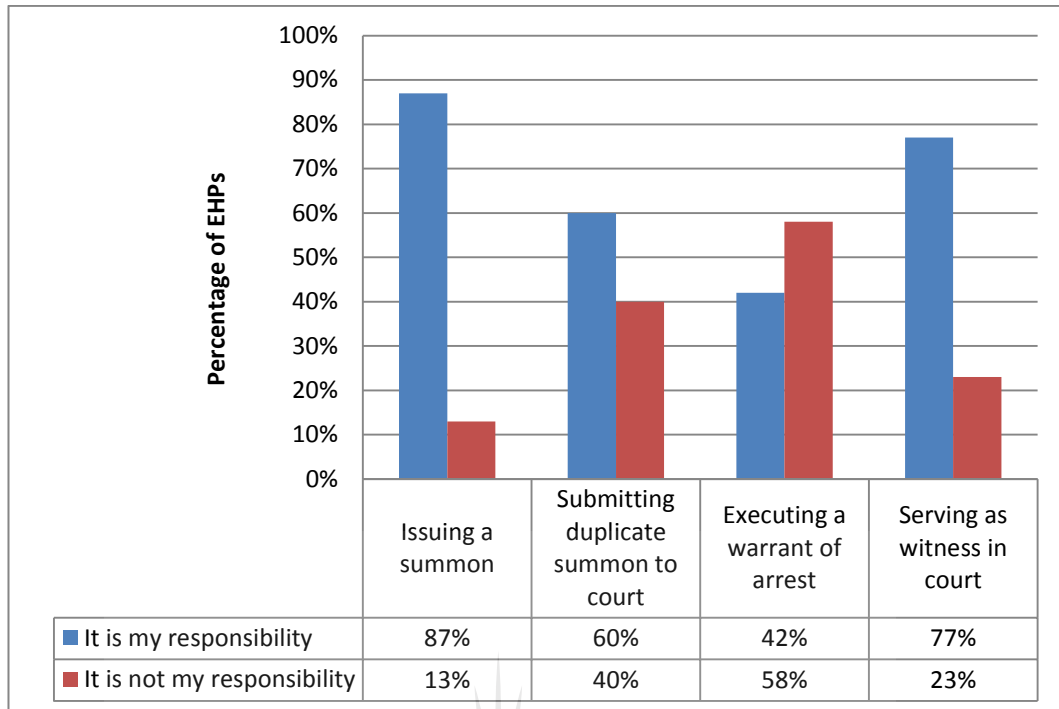
The results showed that 49% of EHPs indicated health education as the first step to remedy an identified non-compliance in food premises, with 57% indicating issuing a compliance notice as a follow-up step should the non-compliance persist after health education.

Seventy four (74) percent of EHPs indicated the final step of issuing a prosecution fine for persistent non-compliance. The results of the reviewed documented records which show that 62% of food premises' files recorded health education as the first step to remedy an identified non-compliance, 68% recorded issuing a compliance notice as a follow-up step and 76% recorded issuing a prosecution fine as their final measure to ensure that the persistent non-compliance is remedied.

The results concur with food safety legislation as more than half of the EHPs issued a compliance notice and followed with a fine. These finding is also reflected by data from the reviewed documents. However, the results show that the legislative requirements are not enforced to the latter of legislation to ensure non-compliance is dealt with. The respondents were asked to indicate how they regard food safety enforcement actions in relation to their duty as EHPs and it is commendable that the results indicate 87% of EHPs regard issuing a summons as their responsibility with a notable 60% who would submit a duplicate of that summons to court for processing. However an adequate 58% do not see it as their responsibility to execute a warrant of arrest for the prosecution fine issued. Meanwhile 77% would still serve as witnesses in the court of law for a prosecution case.

This implies a gap in the compliance process as it is expected of EHPs to enforce all the necessary regulatory requirements to ensure compliance of food premises rather than choose what steps to take or not to. Figure 4.2 displays the level of responsibility taken by EHPs for enforcement actions to ensure compliance of food premises.





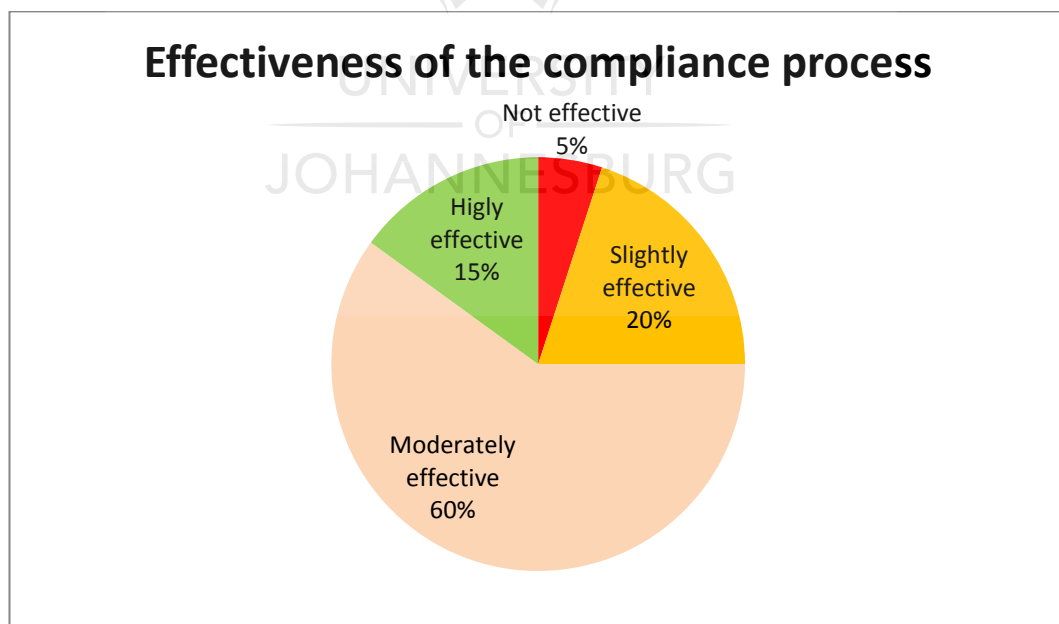
**Figure 4.2: The level of responsibility taken upon by EHPs for enforcement actions**

Surprisingly 13% of the respondents did not see it as their responsibility to issue a summons for non-compliance, which is a concern as the legislation clearly stipulates that if a person fails to comply with a notice issued by a health officer, the person is guilty of an offence and is liable for conviction and a fine. The EHPs were also asked about what informed the compliance process which they elected to follow and most stated to be informed by legislation (38% of respondents) and their own work experience (36% of respondents) followed by 18% informed by supervisor and 5% informed by other EHPs. Since 38% of respondents indicated that they were informed by legislation and 36% by their own work experience, it is reasonable to assume that the requirements stipulated by EHPs are not always guided by legislation specifications since not many of them are extremely familiar with legislation.

Malicious food safety violations largely occur due to food businesses failing to abide by the law as a result of weak law enforcement by government departments (Fu-feng, 2010:60) like Environmental Health departments of the city of Johannesburg municipality. This is likely to happen if EHPs do not make proper reference to legislation to satisfactorily describe requirements.

#### 4.4 EHP'S PERSPECTIVES OF THE COMPLIANCE PROCESS

Figure 4.3 shows that 60% of EHPs regard the compliance process followed as moderately effective and 15% regarding the process as highly effective. Yapp and Fairman (2005:152) define effectiveness as a measure of how an enforcement agency meets the objective of improving food safety compliance within food businesses. This implies that only a quarter of the respondents were highly confident that the enforcement actions taken would yield compliance in food premises. This is agonising because how do the respondents continue to implement a process when they are not sure that it will accomplish results, in this case compliance of food premises with food safety regulations.



**Figure 4.3: The level of effectiveness of the compliance process followed for enforcement of food safety regulations**

Table 4.2 indicates the several reasons stated for the rated level of effectiveness of the compliance process followed for enforcement of food safety regulations. The main reasons stated are lack of co-operation from food premises owners, who present a negative attitude towards EHPs and who do not take legislative requirements seriously, and the need for more health education to enhance the knowledge of food premises owners on requirements of food safety regulations. Other reasons include: 1) EHPs being too lenient on food premises owners for non-compliance; 2) following the compliance process takes too much time; 3) frequent change of management in the food premises, resulting in new ownership; and 4) owners are experiencing financial constraints which impede improving their premises towards compliance.

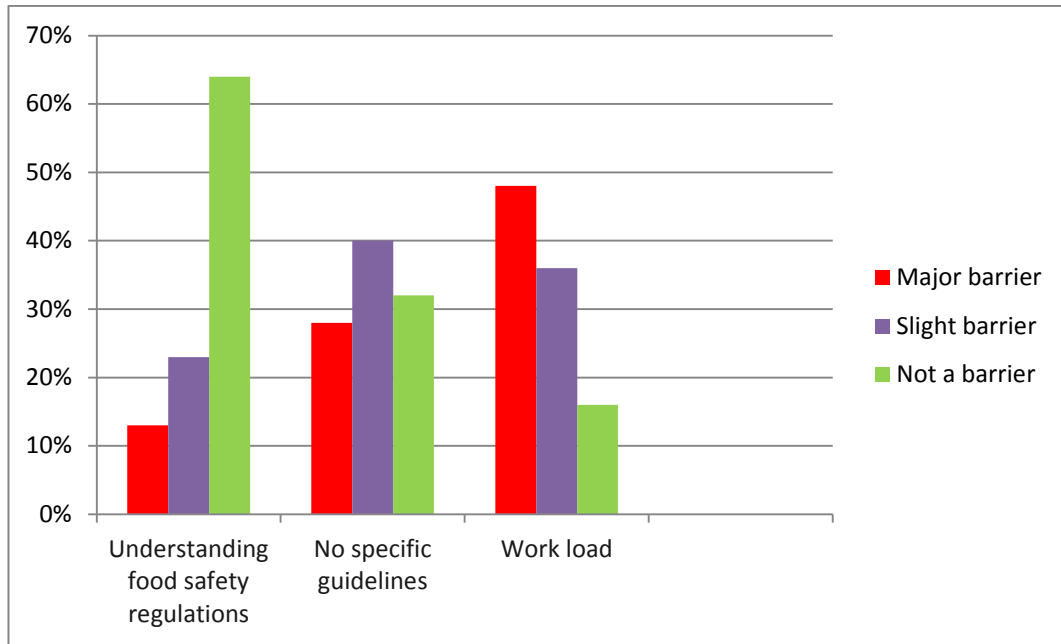
The leniency acknowledged by EHPs could be a contributing factor to the food business owners not taking the requirements of the law very seriously. Hence the perception needs to be strengthened that if non-compliance persists in a food enterprise, enforcement action will be taken by the EHP. Such actions should be aggressive enough to propel owners towards compliance and maintaining their premises in order, the same way they would maintain the sales and profits of their food businesses. Stringent enforcement action may also drive food business owners to invest financially into uplifting their premises towards a compliant status.

**Table 4.2: Stated reasons for the level of effectiveness of the compliance process followed**

<b>Stated reasons</b>	<b>Percentage of responses</b>	<b>Percentage of non-responses</b>
No co-operation from food premise owners	25%	
Need for more health education	20%	
Leniency of EHPs	10%	
Lengthy compliance process	8%	
Frequent change of food premises management	6%	
Financial constraints	6%	
Other various reasons	12%	
<b>Total</b>	<b>87%</b>	<b>13%</b>

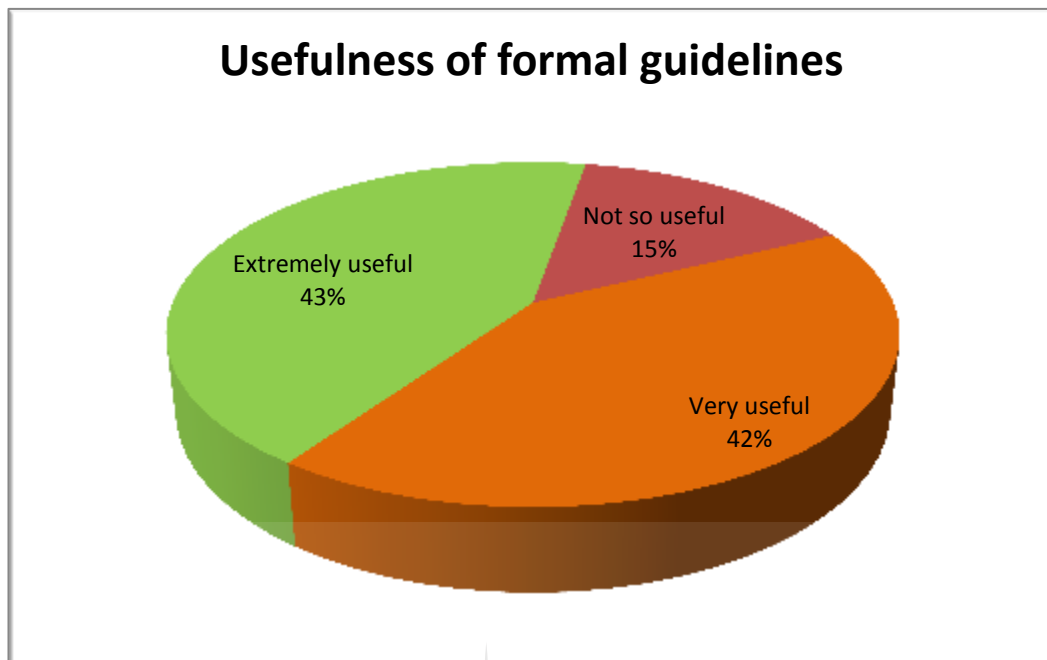
Although the findings indicated some level of effectiveness of the compliance process with subsequent reasons for such levels, the respondents also highlighted certain barriers to not being able to accomplish compliance in food premises. Figure 4.4 illustrates work load as a major barrier, followed by lack of specific guidelines outlining the compliance process in line with food safety regulations. While the South African ratio for EHP per population norm is 1:15 000, the city of Johannesburg municipality indicates that EHPS are overworked, with their estimated population of 4.8 million translating to a ratio of 1:32 000.

Work load as a barrier could also be attributed to the fact that EHPs not only inspect food premises for compliance with legislation but they also perform additional functions such as pollution control, waste management and water quality monitoring. These are additional municipal health services as stipulated for the function of EHPs in the National Health Act, 61 of 2003. The EHPs bring to light the lack of strict law enforcement within CoJ hence food businesses do not prioritise compliance. Other barriers identified by respondents as preventing compliance include language barrier whereby most food business owners do not understand the English language and financial constraints which implies the reluctance of business owners to invest money into regulatory requirements which are often secondary to sales.



**Figure 4.4: Barriers to ensuring food premises compliance**

The respondents also indicated that formal guidelines outlining a compliance process in line with the requirements of food safety regulations would be useful. Figure 4.5 shows that 42% of respondents would find guidelines for food safety regulations very useful; 43% finding such guidelines extremely useful; and also noting the 15% who would not find guidelines useful. This could allow for a focal legislative reference as compared to EHPs using various legislative documents.



**Figure 4.5: Opinions on the usefulness of formal guidelines for enforcement of food safety regulations**

#### **4.5 RECORDING OF THE COMPLIANCE PROCESS AND MANAGEMENT OF EVIDENCE RECORDS**

The results show that a commendable 100% of the reviewed food premises records were found to be complete with an inspection date; 66% detailing the non-compliance conditions at the premises and all the files had been checked by the supervisory manager as indicated by the signature and date of checking of the file. However, a notable 16% of the reviewed records did not indicate an enforcement action, implying that no action was taken for the identified non-compliance or that if action was taken, it was not recorded.

Only 22% of the checked files were recorded with comments from the supervisor either to note the flaws in the record or to advise for further enforcement action. This is shown in Table 4.3 and indicates that the City of Johannesburg municipality does have a recording system in place, although in practice it needs improvement to ensure effective record keeping and evidence management.

**Table 4.3: Completeness of recorded data from reviewed food premises files**

<b>Completeness of the records</b>	<b>Yes</b>	<b>No</b>	<b>Total percentage</b>
Date of inspection	550 (100%)	0%	100
Details of non-compliance identified	363 (66%)	187 (34%)	100
Enforcement action recorded	460 (84%)	90 (16%)	100
Signature of supervisor	550 (100%)	0%	100
Comments from supervisor	121 (22%)	429 (78%)	100

#### **4.5.1 Lack of evidence of enforcement action**

The findings show that there was lack of evidence in the reviewed files of the recorded enforcement action said to have been taken to remedy the identified non-compliance. Table 4.4 indicates the files with recorded enforcement action and the percentage of files without evidence of such enforcement action as verification that the action was applied. The unavailability of proof of these enforcement actions in the records raised the following concerns: 1) the records did not show a true reflection of actions taken due to the missing evidence; 2) the inconsistency in the management of documents as certain files had evidence of actions taken and some did not; and 3) the supervisors did not check the recorded enforcement action against the existing proof.

**Table 4.4: Availability of evidence for recorded enforcement actions**

<b>Enforcement action taken</b>	<b>Number of files with recorded action</b>	<b>Number of files without evidence of recorded action</b>
Compliance notice (hand-written)	400	265 (66%)
Compliance notice (typed)	138	89 (65%)
Prosecution fine	82	52 (63%)

#### **4.5.2 Lack of follow-up of enforcement action taken**

The findings show that in premises where enforcement action was taken, the owners were given a range of 7-30 days to comply with requirements of food safety regulations. Yet 82% of follow-up action was not conducted within this time frame. Table 4.5 displays the range of days given for compliance, however, only followed-up after three months and even up to more than six months. This indicates a delay in verifying that the non-compliance has been remedied and poses a food safety risk to consumers as the food premises continues to operate under non-compliant conditions. Compliance is not necessarily regarded as being immediately implemented, but is rather seen as a long-term achievement (Hutter and Amodu, 2008:11). Hence it is crucial for EHPs to follow-up enforcement actions periodically, as a measure to drive food businesses towards compliance.

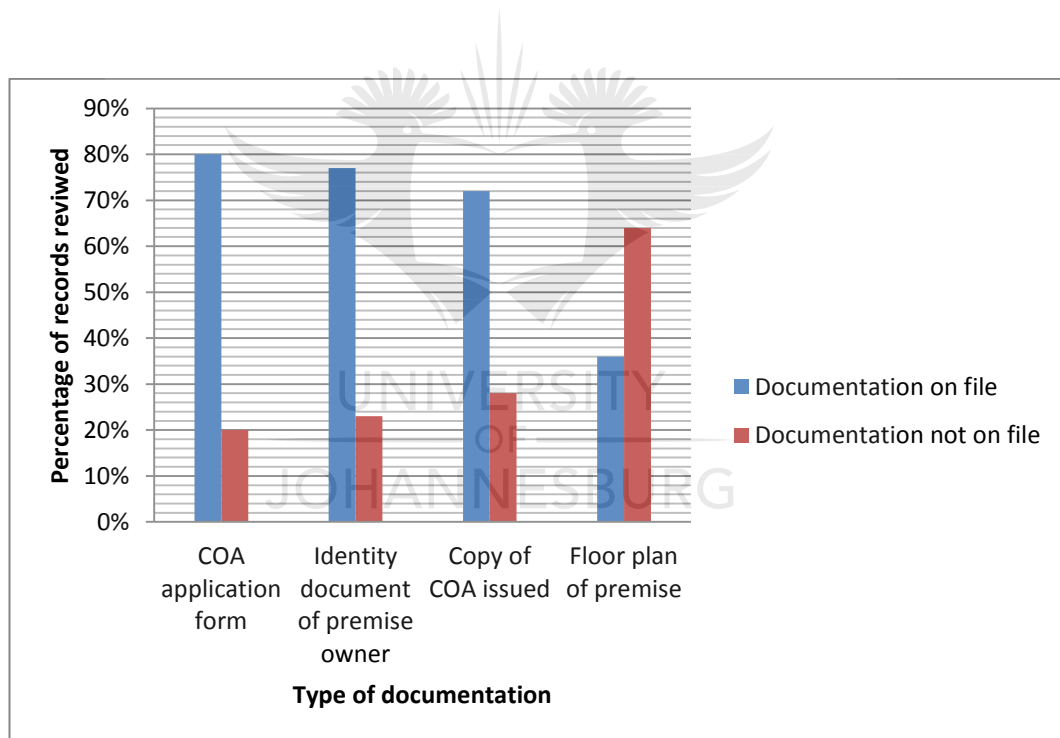


**Table 4.5: Follow-up period of recorded enforcement action**

<b>Number of days given</b>	<b>Follow-up period (in months)</b>	<b>% of actual follow up conducted</b>
7 days	1 m	54%
	3 m	34%
	6 m	12%
	> 6 m	0
14 days	1 m	74%
	3 m	21%
	6 m	5%
	> 6 m	0
21 days	1 m	0
	3 m	36%
	6 m	15%
	>6 m	49%
30 days	1 m	0
	3 m	24%
	6 m	31%
	>6 m	45%

### 4.5.3 Lack of standardisation in the management and maintenance of documentation on file

The results showed inconsistency in the management and maintenance of evidence records and additional documentation that were available in the reviewed files. The general procedure for maintaining documentation on file was not standard across different regions of the City of Johannesburg as some EHPs kept additional documentation on file and some did not. Figure 4.6 indicates the type of documentation to be kept on file according to the standard operating procedure on Application and Issuing of Certificates of Acceptability for food premises in the city and the percentage of additional documentation available and not available on file.



**Figure 4.6: The details and percentage of additional documentation on file and not on file**

Figure 4.7 indicates the two examples of Certificate of Acceptability (COA) issued to the food premises upon compliance with regulation 962/2012 governing the general hygiene requirements for food premises. These COAs were issued in one region, however the authentication in the form of official stamps of issuing authority of these COAs are not the same. This implies that EHPs working in the same regional office do not manage the authentication and certification of legal food safety documentation similarly.

Figure 4.8 indicates another COA issued at a separate region, with a different layout and authentication of such certification. This is an indication that the management of records across the city regions and even within the same region is different. The lack of standardisation is of concern as these certifications are legal documents, required by law to uphold a particular appearance to avoid fraudulent alterations. This implies that the obligation of maintaining records as per standard operating procedure for the certification of food premises within the City of Johannesburg was not followed similarly across the city.

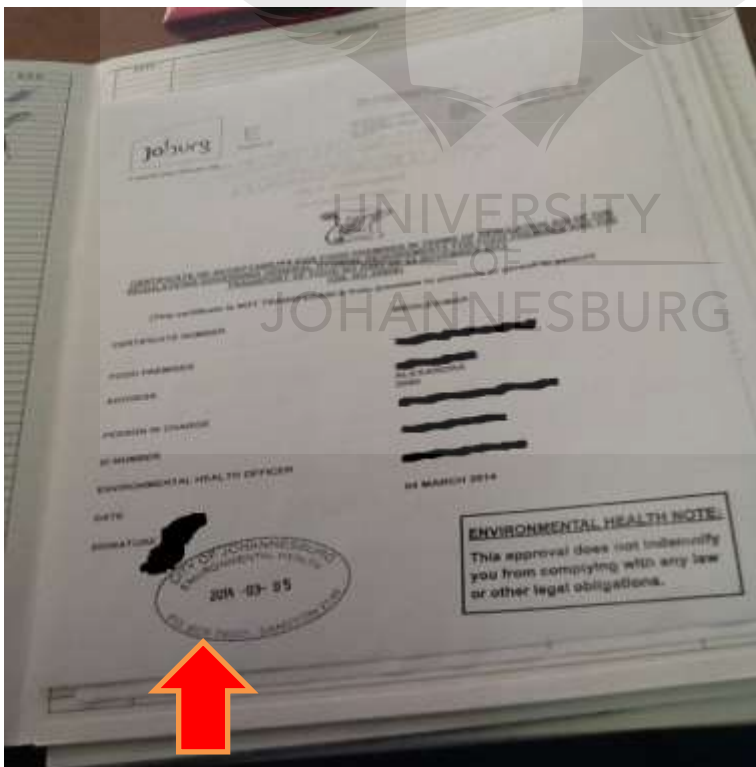


Figure 4.7: Certificate of Acceptability issued in one region with differing authentication

**ENVIRONMENTAL HEALTH  
REGION G**

**CERTIFICATE OF ACCEPTABILITY FOR FOOD PREMISES**

A. CERTIFICATE NO.: [REDACTED]

This certificate is valid in terms of the Food Safety and Inspection Act, 1972 (Act No. 54 of 1972) and the Food Safety and Inspection Regulations, 1975 (Regulation No. 100 of 1975).

B. FOOD PREMISES

Type of business: General Dealer  
 Trade name: [REDACTED]  
 Address: [REDACTED]  
 Vehicle: N/A

C. PERSON IN CHARGE  
 [REDACTED]

ID/PASSPORT NO. [REDACTED]

D. CERTIFICATE AND RESTRICTIONS Reg 3(D)(b)  
It is hereby certified that the above-mentioned food premises comply with the provisions of Reg 3(D)(b) of the Food Safety and Inspection Regulations, 1975 in respect of handling food in the manner specified.

**RESTRICTIONS, CONDITIONS OR STIPULATIONS IN TERMS OF REGULATION 3(D)(b)**

**FOOD PREPARATION**

This certificate does not exempt you from complying with any other relevant requirements of any other department of the council or any legislation, which may be applicable to your business. This would include the following Departments: Fire and Emergency Services, Town Planning and Business Licensing.

E. Signature of the EHP: [REDACTED] Date: 04/12/2013  
 Name of EHP: [REDACTED]  
 (Official Designation: Environmental Health Practitioner)

F.


ENDORSEMENTS/ EXEMPTIONS IN TERMS OF REGULATION 15	DATE	SIGNATURE OF EHP
Allow for consent	04/03/2014	[REDACTED]

OFFICIAL DATE STAMP  
 [REDACTED]  
 04/12/13

City of Johannesburg  
 Environmental Health  
 No. 1, Sandton Road, Sandton  
 Johannesburg 2146

P.O. Box 10500  
 Sandton, Park  
 2113

Joburg Region



**Figure 4.8: Certificate of Acceptability issued at a different region (G) with a different layout and authentication**

The results also show that where evidence records were available on file, substantial flaws were noted, including spelling errors and missing information on hand-written compliance notices (name and address of premises, number of days given to comply, signature and contact details of EHP) and typing errors on compliance notices posted to owners. Figure 4.8 shows a hand-written compliance notice with missing information. As in all organisations, officials create records to support and provide evidence of their transactions and the records must be authentic, complete and usable (Kasulopa and Ngulube, 2012:1).

#### **4.6 SUMMARY**

The study determined the regulatory steps taken by EHPs to ensure compliance of food premises, and identified steps not taken to ensure the identified non-compliance is remedied. Barriers to achieving compliance were also outlined, as well as an indication of the usefulness of guidelines detailing the compliance process to be followed when enforcing food safety regulations. Through the reviewing of food premises records, the study also found that there is a recording system in place, although with flaws that need to be addressed, duly accountable to EHPs who complete and update the records and supervisors who verify and audit the enforcement action recorded on file and advise further enforcement action where needed.



## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

Chapter 4 provided an overview of the findings of the study and this last Chapter provides conclusions drawn from the findings of the study and recommendations for possible interventions that can be implemented to improve on the compliance process followed by EHPs in the City of Johannesburg to ensure compliance of food premises with food safety regulations.

#### **5.2 CONCLUSIONS**

South Africa has sufficient food safety legislation with an appropriate international reference in terms of ensuring food control and public health. Although various legislative documents provides for regulatory reference, the legislation stipulates a clear statutory process to be followed in case of non-compliance to food safety legislation. The role of Environmental Health Practitioners in enforcing food safety regulations is important, as highly rated by 85% of EHPs appointed in the City of Johannesburg municipality.

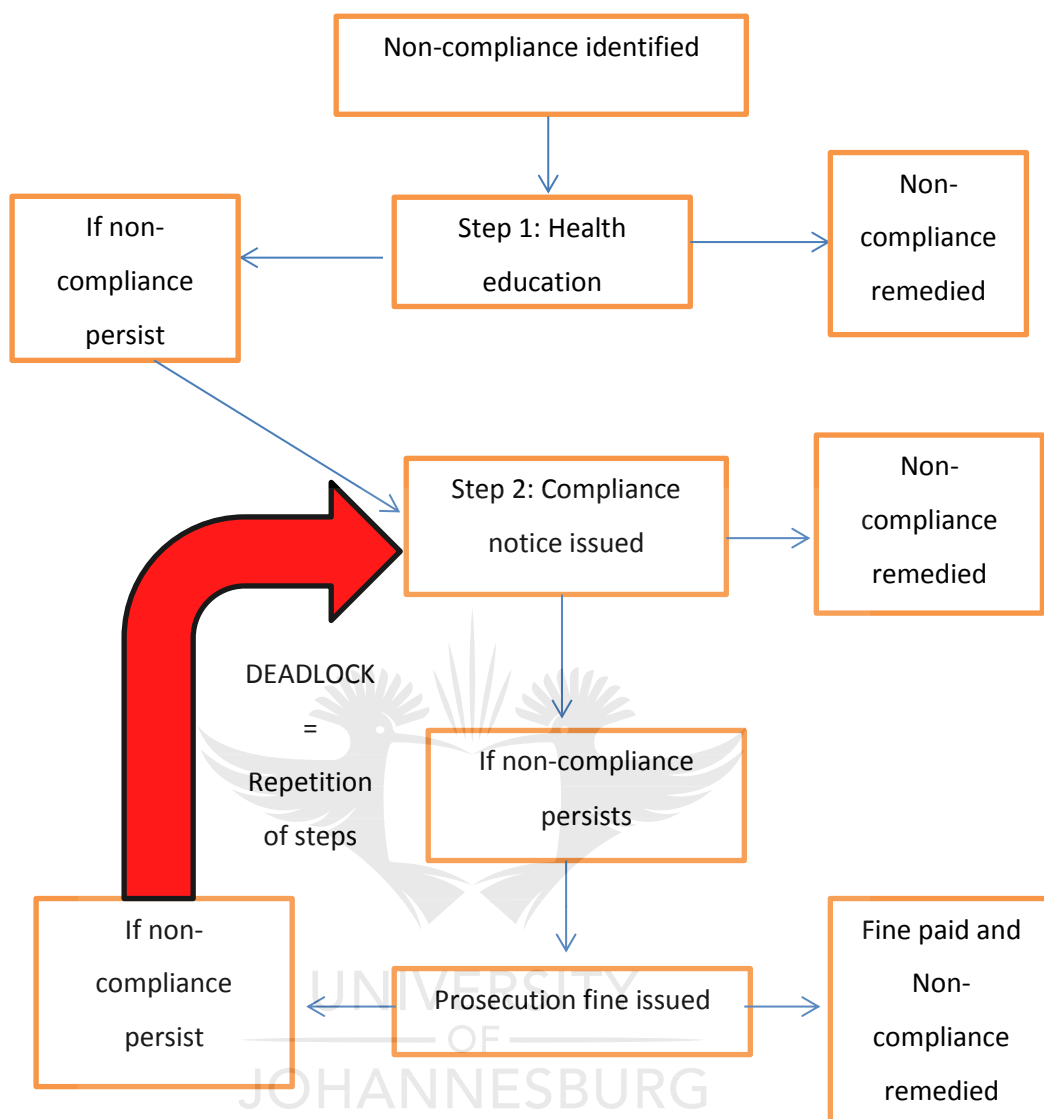
The EHPs enforce these regulations during inspections of food premises where 61% indicated possession of regulations during such inspections. However not all EHPs were familiar with the regulations, which may imply that inspections and related enforcement actions were taken without proper referral to legislation. The primary food safety oversight of many food businesses is through governmental inspections conducted by EHPs. This necessitates maintaining regular inspections with adequate reference to legislation significant for effective law enforcement, moreover with food businesses relying on EHPs to interpret the regulations and provide a method of compliance for their specific businesses. The study revealed a clear compliance process with precise steps taken by EHPs in CoJ to ensure food premises comply with food safety regulations.

The findings indicate a clearly outlined compliance process in line with the requirements of the regulations, however not implemented to maximum fulfilment. This is a result of EHPs not enforcing regulatory requirements to the latter as required by national legislation.

The regulatory steps taken by the EHPs upon identifying non-compliance are health education, issuing of compliance notice, and issuing of a prosecution fine. If the non-compliance persists, the steps are repeated again as long as the non-compliance remains unrectified. This shows that EHPs do not follow the food safety regulations to the letter as regulation 962/2012 states that any person who contravenes these regulations shall be guilty of an offence. The National Health Act further states that a person guilty of an offence is liable to an imprisonment.

Based on the questionnaire survey responses of 151 EHPs and findings of the 550 reviewed food premises records, a compliance process model for food safety regulations can be outlined as shown in Figure 5.1. The model sketches the steps taken by EHPs in the City of Johannesburg municipality to ensure food premises comply with food safety regulations. However, the model indicates a deadlock as a result of EHPs not taking any further action after issuing a prosecution fine, subsequently resulting in a repetition of the compliance steps.





**Figure 5.1: Compliance process model followed by EHPs in CoJ for enforcement of food safety regulations**

The model indicates that EHPs do not enforce the legislation in its entirety, by not ensuring the person guilty of an offense is liable for conviction in a court of law. Marks (2013) reiterates that regulation is more than making rules, but includes setting standards, monitoring compliance to those standards and where non-compliance occurs, applying enforcement actions involving the court system. The compliance process followed by EHPs in CoJ does not complement fully, the requirements of the South African legislation and the guidance of international organisations such as FAO.

Hence it is necessary to strengthen the regulatory strategy applied by EHPs, with the focus on prosecution in a court of law, as this seems to be the gap in ensuring an effective compliance process where enforcement actions are taken to ensure food businesses suffer the consequences for non-compliance. The degree of enforcement can cause even the smallest enterprise to comply without question (Mensah and Julien, 2011) and the use of enforcement measures are justified from a human health perspective of a potential health threat (Lundén, 2013).

The study indicates the lack of confidence of EHPs in the effectiveness of the compliance process followed, with only 15% of respondents regarding the process as highly effective. The lack of confidence in the effectiveness of the compliance process may be attributed to the deadlock reached by the EHPs in ensuring compliance. To indicate its competency as a food control authority, the City of Johannesburg should have appropriate and effective enforcement practices to ensure the correction of food safety violations in case of non-compliance (Kettunen et al., 2015).

Kettunen et al., 2015 found that the use of enforcement measures leads to correction in the vast majority of violations. It is therefore necessary for the City of Johannesburg municipality to strengthen its enforcement strategy and for EHPs to be stricter in applying enforcement action to the letter as per legislation. It is very clear that the responsibility for enforcement of food safety regulations lies with local governmental authorities through the function of EHPs. The study shows that this responsibility is not fully acknowledged by EHPs, as some indicate that enforcing legislation is not their responsibility. In view of the potential of non-compliance to cause serious health threats, authorities are obliged to employ appropriate and necessary enforcement actions when food businesses do not comply with legislative requirements.

The study points out the barriers to achieving compliance as experienced by EHPs in the City of Johannesburg. The majority of EHPs indicated a high work-load as a barrier, and this is supported by the high population ratio per EHP of 1:32 000 as compared to the national norm of 1:15 000 population. The EHPs may face difficulties in inspecting food premises constantly and conducting periodical follow-up of enforcement actions. This difficulty is acknowledged in the literature that authorities are under-resourced with EHPs hence struggling to systematically enforce food safety legislation.

It is commendable that all the reviewed records were indicated with a date of inspection, signature of the supervisor checking the file and the date the supervisor checked the file. The study also highlights the lack of standardisation in the management of evidence records kept on file and the errors in those documents. This is an indication that a record keeping and evidence management system is in place, however with flaws that need to be addressed and the system is in need of reform. It is necessary for organisations such as the City of Johannesburg to ask whether there is sufficient evidence on record for a defence or to file a claim (Ngoepe, 2014:7), should the need arise. This is essential for municipalities as non-compliance with food safety regulations poses a threat to the health of the consumer and should be recognised as early as possible for intervention (Lundén 2013:84).

The study established that follow-up of food premises is considered an effective measure to drive food businesses towards compliance, although the reviewed records indicate a delay in follow-up where EHPs would give up to 30 days for food premises owners to comply, however, the EHPs would not follow up after 30 days and it may even extend to up to six months with no follow-up. This may prompt owners of food premises not to take the matter of food safety compliance seriously and not move quickly towards conforming to the given regulatory requirements.

Hence persistent non-compliance needs to be followed up with vigorous enforcement action in accordance with legislation, to prosecute the person found guilty of an offence.

### **5.3 RECOMMENDATIONS**

This section summarises essential recommendations centred on the findings of the study to improve on the current practices of the compliance process in the City of Johannesburg Metropolitan Municipality. The recommendations are discussed under the following headings:

- training of EHPs in legislative compliance process;
- technology-assisted record keeping;
- grading system for food premises; and
- formal guidelines on enforcement of food safety regulations

#### **5.3.1 Training of EHPs in legislative compliance process**

The EHPs' inadequacy in familiarity of food safety legislation and regulations is an area of concern and in need of reform. This calls for a recommendation to train EHPs on the requirements of national legislation and regulations, the enforcement of these requirements and the record keeping and evidence management of actions taken. The training can further focus on prosecution of offenders and serving as witness in the court as it seems to be the area in the compliance process that EHPs are most hesitant about, or even reluctant to take responsibility for.

Enforcement of food safety regulations may be undermined by the lack of institutional competence (Mwamakamba *et al.*, 2012:6300). Therefore appropriate national training programmes on food safety should be developed in accordance with national standards (Bekker *et al.*, 2011), to enhance knowledge of regulations and on-the-job training of EHPs.

The FAO (2012) highlights that the reputation and integrity of the food control system to a very large extent depends on the skills of the food inspectors. The FAO (2012) further states that administration and implementation of food laws require an efficient and honest food inspection service through the function of trained and qualified EHPs.

### **5.3.2 Technology-assisted record keeping**

Information and communication technology (ICT) is taking a leading role in the practices of health care at all levels. Griffith (2005:135) highlights that software is available to run on various platforms such as laptops or tablets, offering various degrees of convenience and consistency to manage records. An ICT system to scan and save evidence documentation of enforcement actions is recommended as a measure to ensure these documentations are filed in a reliable system and are available should the need arise, such as to provide evidence in a court case for prosecution of non-compliance.

This will also enable a usable and valuable database which can easily generate and circulate reports at the press of the button as records are an important source of information for any governmental authority. Kasulopa and Ngulube (2012:14) recommend the incorporation of electronic and office systems so that records can be captured seamlessly and the integrity of the records can be protected over time. Kasulopa and Ngulube (2012:13) further recommend that to ensure organisation's efficiency in court cases, appropriate records must not only be kept but kept well, with full evidence of the life cycle of a premise. This kind of a system can aid to generate a follow-up system to assist EHPs to maintain timeous follow-up of statutory requirements.

### **5.3.3 Grading system and public disclosure of grades for food premises**

In order to encourage food businesses to take the matter of food safety compliance seriously and to focus on the rectifying of non-compliance conditions as being equal to increasing sales and profit, it is recommended that the City of Johannesburg municipality develops a grading system to classify premises according to whether they comply with regulations or not.

The grading can be classified as grade A: Fully compliant, meaning the premises meet all the requirements of the food safety regulations; grade B: Partially compliant, meaning there are outstanding requirements which however do not threaten the safety and quality of food and consumers' health; and grade C: Non-compliant, meaning the premises are required to rectify non-compliant conditions to eliminate the risk to food safety. Such grading can also be published for consumer information thus driving food premises owners towards compliance in order to obtain the highest grading, which can also be used to attract customers. The grading could encourage food businesses to invest financially into improving their businesses, thus remedying non-compliance. Furthermore, the grading could motivate food businesses to start taking the requirements of the legislation and conformity to those requirements as serious for public health as for business sense.

Lee *et al.*, 2011:2 emphasise the consumers' interest in food inspection results and that they would want to have this information before entering a restaurant. Lee *et al.*, 2011:2 further states that grading can be used as an indicator of food safety in food premises and can be used as a tool to compare one food business with another. Consumers have the right to know and to choose what they are eating and the right to determination of acceptable risk (Nguz, 2007:133). Hence EHPs in the City of Johannesburg municipality can assume the responsibility of helping consumers protect themselves when dining out, by grading the food premises and publishing the grading for the information of the public.

These grading can be published at entrances of food premises, in local newspapers, on social media and on the city's website, and increasing awareness of food safety issues among consumers would give them the opportunity of supervising food safety together with the authorities.

#### **5.3.4 Formal guidelines on enforcement of food safety regulations**

The study established the usefulness of guidelines on the requirements of food safety regulations and enforcement thereof. The guidelines will strengthen the current compliance process and incorporate the regulatory steps contained in national legislation. This is to make it easy to enforce food safety regulations systematically, towards achieving compliance. The guidelines can provide for a clear compliance process model complementing the various legislative requirements for food safety compliance. The guidelines can further include requirements for food premises' record keeping and evidence management to ensure common practice across the city on the maintenance of food safety related records.

Continuous update and strengthening of food safety legislation through the introduction of guidelines of practices is a current trend internationally, to avoid the lengthy exercise of reviewing the laws entirely (Nguz, 2007:134). The City of Johannesburg municipality can pilot these guidelines and recommend them to the national food control authority to make them applicable at a national scale to enhance R962/2012 which is applicable to all municipalities in South Africa. Alomirah *et al.*, 2010 emphasise that the consistency of the work of EHPs would improve with the provision of detailed guidance and instructions to ensure standardised application of legal procedures and a correct administrative approach.

#### **5.4 FURTHER STUDIES**

Further studies are recommended to investigate the following:

- The level of knowledge of food business owners on food safety regulations
- The consumer reaction towards safe and quality of food vs cheaper priced food
- The efficacy of the legal system in promoting compliance with food safety regulations

#### **5.5 SUMMARY**

Food safety regulations are meant to be enforced to ensure the safety and quality of food and subsequently for consumer protection. The regulations are enforced by EHPs appointed by municipalities to ensure food premises are compliant. The intention of this study was to fill a void in the literature in regard to the compliance process steps followed by EHPs to ensure compliance of food premises in the City of Johannesburg municipality. Ticking a box to say premises have been inspected means little if the process is target driven rather than outcome driven. Therefore regulatory requirements enforced during inspections and follow-up thereof should yield rectification of identified non-compliance and eventually achieve compliance in food premises.

The recommendations of the study can be applied in other metropolitan municipalities in South Africa where EHPs are appointed to enforce food safety regulations as per national legislative requirement. These municipalities can use the recommendations of this study to improve their compliance process and record management systems.



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**SELF-ADMINISTERED QUESTIONNAIRE**

**FOOD SAFETY REGULATIONS: AN OVERVIEW OF THE COMPLIANCE PROCESS**

Date completed: \_\_\_\_\_

REGIONAL OFFICE						
A	B	C	D	E	F	G

Area of work/ Suburb/s allocated:

\_\_\_\_\_

**SECTION ONE: COMPLIANCE PROCESS**

1.1 Do you have the following legislative documents at your disposal? *Please tick applicable answer for each legislative document*

	At office only		During inspections		Both at office and during inspections	
	Yes	No	Yes	No	Yes	No
National Health Act 61 of 2003						
Foodstuff, Cosmetics and Disinfectant Act 54 of 1972						

Regulations Governing the General Hygiene Requirements for Food Premises and the Transport of Food R962/2012						
Regulations Relating to the Powers and Duties of inspectors and analysts conducting inspections and analyses at Food Premises (R328 OF 2007)						
CoJ Public Health By-laws						

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1.2 How familiar are you with the contents of the following legislative documents? *Please tick applicable answer for each legislative document*

	Not at all familiar	Slightly familiar	Moderately familiar	Extremely familiar
National Health Act 61 of 2003				
Foodstuff, Cosmetics and Disinfectant Act 54 of 1972				

Regulations Governing the General Hygiene Requirements for Food Premises and the Transport of Food (R962/2012)				
Regulations Relating to the Powers and Duties of inspectors and analysts conducting inspections and analyses at Food Premises (R328 OF 2007)				
CoJ Public Health By-laws				

1.3 When you identify non-compliance in a food premises, what step or procedure do you apply firstly to ensure it is remedied? *Please tick one*

Verbal warning	
Health education	
Compliance notice	
Prosecution	
Other	

If Other, please specify

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1.4 If the non-compliance is not remedied, after the first procedure listed in 1.3 was applied, which step do you follow up on or with? *Please tick one*

Verbal warning	
Health education	
Compliance notice	
Prosecution	
Other	

If Other, please specify

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1.5 What is most likely to be your final step if the non-compliance persists?  
Please tick one

Verbal warning	
Health education	
Compliance notice	
Prosecution	
Other	



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1.8 How effective is the process followed from 1.3 to 1.6 in ensuring compliance of food premises with food safety regulation? *Please tick one*

Not effective at all	
Slightly effective	
Moderately effective	
Highly effective	

1.9 What are the possible reasons for your answer to question 1.8?

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**SECTION TWO: EHPs PERSPECTIVES**

2.1 Are food premises within your allocated area complying with food safety regulation? *Please tick one*

Never	
Sometimes	
Often	
Always	

2.2 Are food premises within your entire region complying with food safety regulation? *Please tick one*

Never	
Sometimes	
Often	
Always	

2.3 How important would you rate your role as an EHP in enforcing food safety regulations? *Please tick one*

Totally unimportant	
Unimportant	
Important	
Very important	

2.4 In your opinion, how effective is each of the following in ensuring compliance of food premises with food safety regulations?

	Not at all effective	Slightly effective	Moderately effective	Extremely effective
Verbal warning				
Compliance notice				
Follow up inspection				
Health education				
Issuing a Prosecution fine				
Taking person in charge of food premises to court				



2.5 How do you regard the following activities in relation to your duty as an EHP in enforcing food safety regulations?

	It's not my responsibility	It's not my responsibility but I do it	It's my responsibility but I'm not trained for it	It's my responsibility and I'm trained for it	It's my responsibility and I'm trained for it but require retraining
Issuing a summon for non-compliance					
Submitting the duplicate summon to court for processing					
Executing a warrant of arrest for the prosecuti					

on made					
Serving as a witness in the court of law during prosecution					

2.6 How do you rate the following as barriers to you ensuring food premises compliance?

	Not a barrier	Slight barrier	Major barrier
Understanding food safety regulations			
No specific guidelines outlining the compliance process in line with food safety regulation			
Work load			

2.7 If any other barriers to you ensuring food premises compliance exist, please

specify, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.8 In your opinion, how useful will you find guidelines outlining a compliance process in line with requirements of food safety regulations?

Not useful at all	Not very useful	Very useful	Extremely useful
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**THANK YOU FOR YOUR PARTICIPATION**



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**DOCUMENT REVIEW DATA COLLECTION FORM**

**FOOD SAFETY REGULATIONS: AN OVERVIEW OF THE COMPLIANCE PROCESS**

This document review form shall be administered by the researcher during regional visits.

Regional Office: \_\_\_\_\_

Area/ Suburb: \_\_\_\_\_

Date completed: \_\_\_\_\_

1. What date was the non-compliance identified?

\_\_\_\_\_

2. What is the non-compliance condition identified?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What action is recorded as the 1<sup>st</sup> step to ensure remedying of non-compliance?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Is a follow-up inspection recorded? \_\_\_\_\_

5. What date was the follow-up inspection? \_\_\_\_\_

6. Was the non-compliance remedied? \_\_\_\_\_

7. If No, what follow-up action was taken by the EHP? Explain in detail

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8. Was the follow-up action effective in remedying the non-compliance?

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9. If No, what further action was taken by the EHP?

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10. Does the follow-up inspection correspond with the period given to remedy non-compliance?

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Any additional notes recorded?

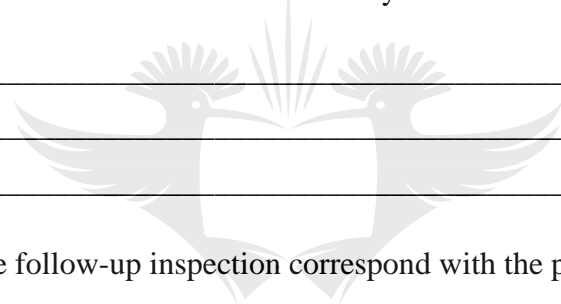
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11. Are any of the following evident on/in the document record?

	Yes	No	Not applicable	If Yes, date recorded	Additional notes
Health Education					
Compliance notice issued					
Prosecution issued					
Date prosecution submitted to court					
Date for a court case					

Any additional evidence available in/on document?

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**INFORMATION LETTER TO PARTICIPANTS**

University of Johannesburg  
PO Box 524  
Auckland Park  
2006

Dear Participant

My name is Charlotte Maphuthuma, a postgraduate student at the University of Johannesburg studying towards a Master's Degree in Environmental Health.

I would like to invite you, with your consent to participate in my research entitled: **FOOD SAFETY REGULATIONS: AN OVERVIEW OF THE COMPLIANCE PROCESS**. The aim of the research is to determine the compliance process followed by Environmental Health Practitioners in City of Johannesburg (CoJ) when enforcing food safety legislation.

Your participation will be in the form of you completing a structured questionnaire and providing the researcher with document record of food premises of your allocated area of work. The questionnaire should take between 30-45 minutes, but may take longer. Your anonymity, privacy and confidentiality and that of the information you provide shall be maintained; to such an extent that the information will not be disclosed for purposes other than for which it was collected. Also note that you are at liberty to withdraw from the research at any time, without the pressure to provide reasons. The anticipated outcome of the research is to outline the compliance process adopted by the CoJ and the findings will be used to make recommendations to CoJ to improve on or strengthen current procedures where shortcomings exist.

I hereby request you to sign the consent form in order to indicate that you have given permission to take part in the research.

Thanking you in advance

Charlotte Maphuthuma

011 559 6229

**CONSENT FORM**

I, the undersigned, (Prof/Dr/Mr/Mrs/Ms) \_\_\_\_\_ hereby agree to take part in the research entitled: **FOOD SAFETY REGULATIONS: AN OVERVIEW OF THE COMPLIANCE PROCESS.**

I have received a full explanation about the aim, objectives and anticipated outcome of the research and by signing this consent form, I accept the conditions noted below:

- Participants are at liberty to withdraw at any time in the research, without any pressure to provide reasons.
- All possible means will be undertaken to ensure that participants are not caused any detriment by participating in this research.
- Participants will not be exposed to any acts of deception in the research process or its published outcome

\_\_\_\_\_  
Signature of Participant Date

\_\_\_\_\_  
Signature of Researcher Date

I, the researcher may be contacted at the University of Johannesburg as follows:  
Tel: 011 559 6229

Email: [charlottem@uj.ac.za](mailto:charlottem@uj.ac.za)

Below are the contact details of my supervisor should you have any questions being a participant in this research.

Mr T Sigudu  
Tel: 011 559 6240  
Email: thembas@uj.ac.za

Thank you





a world class African city

ENQUINER 1217 Passer  
Tel: +27(0) 11 407 7407  
Tel: +27(0) 11 407 6240

27 Floor 6 Block  
Metropolitan Centre  
159 Lombard Street  
Gauteng

PO Box 31094  
Cape Town  
6017

Tel: +27(0) 11 400 7613  
Fax: +27(0) 11 389 2883

27 August 2013

Dear Ms. Maphuthuma

**APPROVAL TO CONDUCT RESEARCH WITHIN HEALTH IN THE CITY OF JOHANNESBURG**

Permission has been granted to you to conduct research in the Health Department within the City of Johannesburg.

**Topic: Food Safety Regulations: An Overview of the Compliance Process**

Please contact the following person(s) before you commence with your project and to gain access to the clinics:

Region	Regional Health Manager	Contact No.	Cell phone
A	Mr Harry Pieters	011 237 8010	082 467 9284
B	Ms Paulinah Maepa	011 718 9658	082 551 5804
C	Mr. Tebogo Motsepe	011 761 0248	082 467 9512
D	Ms Mabel Ngcobo	011 986 0164	082 467 9316
F	Mr Oupa Montsioa	011 681 8130	082467 9423
G	Ms Nelly Shongwe	011 213 0009	082 467 9276

Should you have any queries please do not hesitate to contact our department.

We look forward to your Final Research Report.

Thank you

*[Handwritten signature]*  
27/8/13  
**DR. R. BISMILLA**  
Executive Director  
City of Johannesburg  
Health Department



**FACULTY OF HEALTH SCIENCES  
ACADEMIC ETHICS COMMITTEE**

**AEC25-01-2013**

**20 May 2013**

**TO WHOM IT MAY CONCERN:**

**STUDENT: MAPHUTHUMA  
STUDENT NUMBER: 802003760**

**TITLE OF RESEARCH PROJECT: Food safety regulations: An overview of the compliance process**

**DEPARTMENT OR PROGRAMME: M TECH Environmental Health**

**SUPERVISOR: Ms B Allies CO-SUPERVISOR: Dr T Morse**

The Faculty Academic Ethics Committee has scrutinised your research proposal and confirm that it complies with the approved ethica standards of the Faculty of Health Sciences; University of Johannesburg.

The AEC would like to extend their best wishes to you with your postgraduate studies.

Yours sincerely,

  
Prof M Poggenpoel

Chair : Faculty of Health Sciences AEC