



Government of Malawi
Ministry of Health



Food Safety and Quality Control Situation Analysis for Malawi

May 2014



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Acronyms

| | |
|---------|---|
| AIDS | Acquired Immunodeficiency Syndrome |
| ASWAp | Agriculture Sector Wide Approach |
| AU | Africa Union |
| CAC | Codex Alimentarius Commission |
| CAMA | Consumers Association of Malawi |
| CDC | Centre for Communicable Disease |
| CHSU | Community Health Sciences Unit |
| COMESA | Common Market for Eastern and Southern Africa |
| CONGOMA | Council of NGOs of Malawi |
| EH | Environmental Health |
| EHO | Environmental Health Officer |
| FADC | Food and Agriculture Divisional Committee |
| FAO | Food and Agriculture Organization |
| GoM | Government of Malawi |
| HACCP | Hazard Analysis Critical Control Point |
| HEU | Health Education Unit |
| HIV | Human Immunodeficiency Virus |
| HRCISI | Health Research Capacity Strengthening Initiative |
| IDSR | Integrated Disease Surveillance and Response |
| IEC | Information, Education and Communication |
| LAM | Laboratory Association of Malawi |
| MAPAC | Malawi Program for Aflatoxin Control |
| MBS | Malawi Bureau of Standards |
| MEHA | Malawi Environmental Health Association |
| MoAFS | Ministry of Agriculture and Food Security |
| MITC | Malawi Investment and Trade Centre |
| MoH | Ministry of Health |
| MoIT | Ministry of Industry and Trade |
| MRA | Malawi Revenue Authority |
| NCC | National Coordinating Committee |
| NCCP | National Codex Contact Point |
| NCST | National Commission of Science and Technology |
| NGO | Non Governmental Organization |
| NSO | National Statistics Office |
| OPC | Office of the President and Cabinet |
| PACA | Programme for Aflatoxin Control in Africa |
| PHI | Public Health Institute |
| PHL | Public Health Laboratory |
| RASSF | Rapid Alert System for food and feeds |
| RUTF | Ready to eat Therapeutic Foods |
| SADC | Southern African Development Community |
| SPS | Sanitary and Phytosanitary |
| SQAM | Standards, Quality Assurance, Accreditation and Metrology |
| UKAID | United Kingdom Agency for International Development |
| UNDP | United Nations Development Program |
| UNICEF | United Nations Children Fund |
| UNIDO | United Nations International Development Organization |
| USAID | United States Agency for International Development |
| WB | World Bank |
| WHO | World Health Organization |
| WTO | World Trade Organization |

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1.0 Executive Summary

Food insecurity in Africa continues to threaten the lives of millions of people. Food-borne diseases impose an additional burden on healthcare systems, and reduces economic productivity. Furthermore, the implementation of the World Trade Organization Sanitary and Phytosanitary Agreement poses major challenges to African countries, in ensuring that food-safety conditions are met in the national supply chain for both domestic and export markets. Non-compliance with food safety measures undermines local and regional exchanges and also international trade in food products, by reducing access to markets, reducing buyer and investor confidence and lowering prices (African Union 2013).

Nevertheless, ensuring improved food safety conditions in African countries presents significant structural challenges, including overcoming poorly developed infrastructure and services (such as access to clean water), inadequate knowledge and skills in food workers and significant lack of data. These insufficiencies are compounded by outdated, weak and dysfunctional regulatory systems, often a legacy of a previous era (African Union 2013).

Current food safety systems in Malawi have been described as ‘weak’, ‘fragmented’, ‘not well coordinated’, and ‘lacking in capacity’ (WHO 2005b, CAC 2009). Currently systems are not in place to adequately protect the health of consumers and to enhance the competitiveness of food exports. A presentation to the FAO/WHO conference 2005 (WHO 2005b) outlined a number of strengths and weaknesses for food safety in Malawi at that time, and although various donor led projects have attempted to address these issues, to date no coherent strategy for food safety control has been developed for Malawi.

This report details a Situation Analysis which was undertaken in line with the WHO publication *Guidelines for Developing and Implementing National Food Safety Policy and Strategic Plan*, and the FAO/WHO publication *Assuring food safety and quality: guidelines for strengthening national food control systems*.

The study assessed the key components of the current national food safety system through a review of literature and interviews with key informants (n = 66) to achieve the following objectives:

- (a) Analyse the performance of the different components of the national food safety system
- (b) Identify the institutions and agencies involved in food safety focussing on their roles and mandates, the legal basis for their work and level of collaboration and coordination
- (c) Identify strengths and weaknesses with special emphasis on policy issues to be addressed in the development of policies and action plans.

Data collated was analysed and the findings are presented as a situation analysis with recommendations on the way forward.

1.1 Overview of Findings

Overall, the food safety and quality systems in Malawi currently suffer from a number of limitations, which can be summarized as:

1. Uncoordinated, outdated or incomplete food laws and regulations
2. Absence of a national food control strategy
3. Poorly defined and overlapping mandates
4. Limited infrastructure, equipment and skilled personnel
5. Inadequate resources for effective food inspection and enforcement
6. Limited knowledge about, and ability to comply with, food safety standards

The report details recommendations on how to address these issues and provide a more structured and aligned national system for food safety and quality management in Malawi. These recommendations include:

- Formation of a national food control organization
- Consolidating food laws, regulations and standards
- Improving food safety control management
- Formalizing surveillance on foodborne diseases
- Increasing information, education, communication and training

1.2 Formation of national food control organization

The cross-cutting limitations outlined above combine together to produce the most important issue to be addressed - the current lack of coordination and alignment in the regulatory framework, food control systems and food safety education programs.

In response to this the report recommends the formation of a multi-sectoral task force mandated to discuss and agree unilaterally on the formation of a centralized para-statal organization responsible for the oversight of food safety and quality in Malawi (e.g. a Food Control Agency). Such a task force may utilize those already in place such as the National Quality Policy working group or the Malawi Programme for Aflatoxin Control or Trade and Industry Technical Working Group. The para-statal may be the development of a new organization, or involve the overhaul of an existing authority such as Malawi Bureau of Standards. It is recommended that such a body must be stand alone and objective in its oversight and mandate. Such a body may not be responsible for provision of inspection and laboratory services, but rather act as an overarching independent body nationally responsible for developing consistency of approach, improved services and effective educational programs.

The formation of such a body would allow the smooth and coordinated development of the structures and support for the formation of an effective food safety and quality control program in Malawi. In order to achieve political will and support, it is recommended to use the success of the MAPAC programme. The success of this multi-sectoral group has led to Malawi being identified as a pilot country to work with the Partnership for Aflatoxin Control in Africa (PACA) on the development of a multidisciplinary approach to control aflatoxins across the country. At the recent COMESA/PACA meeting held in Malawi (March 11 –

13th 2014, Lilongwe) on Aflatoxin Challenge in Eastern and Southern Africa, the need for aflatoxin control to be part of wider food safety control program was emphasized, to avoid addressing a specific food safety issue in isolation. (PACA/COMESA 2014). This issue must be taken into consideration as this program moves forward in Malawi, and can potentially be used to generate the political will to put food safety as a priority in the public health and trade agenda.

The successful formation of this organisation will have an impact on the other report recommendations outlined below.

1.3 Consolidating Food Laws, Regulations and Standards

The regulatory framework for food safety and quality is currently uncoordinated, and incomplete in terms of generic requirements and enforcement procedures. The lack of any overarching policy relating to food safety compounds the lack of direction and consolidation, which is needed for an effective framework to be formed. Some progress has been made in the development of draft legislation such as the National Quality Policy and the Nutrition Bill 2013. Although, neither of these documents has a specific focus on food safety, any future food safety related Policy and Bill must ensure effective integration with these. In addition, Malawi Bureau of Standards has developed and gazetted a number of standards which reflect international standards under the CAC, ensuring that the regulatory framework for which they are responsible is up to date in particular sectors. Therefore recommendations are as follows:

- Develop a Food Safety Policy (Quality elements are addressed in the National Quality Policy which must be clearly integrated) and Strategy for Malawi which will include the development of the recommended national food safety control body, e.g. Food Control Agency. This Policy must take into consideration all key players in the sector and integrate with all relevant existing policy documents outlined in this report.
- Review all existing draft bills for proposed food safety laws. These should be consolidated and assessed in line with CAC recommendations to form one statutory recommendation to go forward as a Food Safety Bill. The proposed Bill must contain all statutory and enforcement procedures and make allowance for the provision of Regulations to address specific food safety control needs as they arise. The proposed Bill must clarify the roles of specific Ministries and Agencies in food safety control and allow for the review of all existing food safety related legislation.
- Build capacity within the Food Control Agency for the effective review and development of regulations and standards in partnership with relevant ministries and agencies. The review must avoid the mix of old laws and new regulations as these can lead to inconsistent application of standards across products, risks and countries of origin.
- Streamline the system of regulation and standards development in line with that of the MBS to ensure effective consultation.
- Mandate MBS to reform the National Codex Committee with original members to ensure it is functioning for input to all relevant development and review of regulation.
- Ensure that funding is ring-fenced for Malawi to participate in the Codex Alimentarius Commission meetings to ensure that we continue to participate

effectively in this international body, which will form the basis of the majority of legislative review.

1.4 Improving Food Safety Control Management

The key challenges identified in the management of food safety control were:

- Lack of a national database/register of all food premises
- Poor communication and information sharing between enforcement agencies
- Lack of capacity in terms of equipment, consumables and human resources in laboratory services
- No clear delineation between inspecting agencies and their responsibilities and criteria leading to gaps and overlaps in enforcement
- Lack of consistency in approach to inspection and inspection standards.

With this in mind, it is recommended that a national database of food businesses based upon current registration of businesses by MBS, Department of Tourism, Department of Veterinary Services and City/District Assemblies be designed, developed and implemented. This database should contain not only registration of premise but also include a digitized system for recording outcomes of inspections. The benefits to such a system would include:

- A comprehensive list of all food premises in the country ensuring effective registration and control
- Consolidation of data and reports for food premises
- Knowledge exchange and information sharing across all food safety control stakeholders
- Reduced duplication of effort thereby improving resource management, and private sector frustration
- Clearer delineation of roles and responsibilities
- Improved communication between stakeholders.
- Be a confidential system that is not open to the public.

The report also looks at recommendations for inspection services and laboratories in detail:

1.4.1 Inspection services

To improve food safety control through inspection services the report recommends actions including:

- The delineation of inspection roles between Ministries and Agencies responsible for food safety control. This will be an integral aspect of the review of the regulatory framework, the development of a central food control agency and formation of a national database. Overlap in inspection roles should also be addressed at City/District level with the formation of Food Safety Committees that contain representation of all stakeholders involved in food safety enforcement.
- Inspection frequency to be determined on a risk based system, whereby those food premises which pose an increased risk to public health are inspected more frequently. This system can be built in to the national

database and reporting system.

- Development of national guidelines and codes of practice for conducting food safety inspections with associated dissemination and training for all inspecting officers from all agencies and Ministries to ensure consistency of approach. Risk based inspection methods must be integral to this training and development. Guidance on effective inspection methods are available from FAO (2008) *Risk-based food inspection manual*.
- Develop and implement a scheme of competency training for all food inspecting officers to ensure consistency of approach and professional conduct.
- Build capacity within MBS for accredited officers to audit and inspect systems for international certification. This will potentially increase the number of certified businesses within Malawi thereby improving trade opportunities outside the country.
- Improve trans-boundary communications with neighboring countries to address private sector concerns with regard to law and order of their products during transport to relevant ports.

The report highlights that recommendations of the anticipated World Bank and EU reports on the structure and capacity building program for MBS will also affect the way forward on these issues.

1.4.2 Laboratory Services

Recommendations in terms of the laboratory services must take into consideration the outcomes and recommendations of the current SQAM Market assessment and the World Bank report on MBS, and the planned activities under the GoM-EU-UN SQAM Program. They must also take into account the development of the Laboratory Association of Malawi and the Public Health Institute, both of which could improve laboratory services through their mandates. As such, overall the recommendations for laboratory services are as follows:

- There is a need for the laboratories at CHSU and MBS to be more fully equipped in terms of equipment, human capacity and consumables to function as an independent National Public Health/Reference Laboratories. To achieve this in a sustainable way Ministry of Health and MBS must also commit to the day-to-day running costs to ensure the smooth and effective provision of services. This can be assisted with the support of the Laboratory Association of Malawi and the Public Health Institute.
- Priorities for certification should be identified in a national survey to determine private and public sector food testing needs. This must be expedited to provide this service in country for both commercial and statutory sample testing and raise the confidence of industry in the in-country capabilities.
- Improve communication and working partnerships between laboratories to allow knowledge exchange and information sharing, and to ensure that data is effectively managed and used to identify public health incidents, and support resource management. This is also integral to the development of a food safety surveillance system and should be supported through the

Laboratory Association of Malawi and the Public Health Institute.

- Consideration should be given to resource provision and capacity building at district level for the analysis and examination of basic food samples, perhaps using rapid test kits, and outbreak related samples as part of foodborne disease management and disease surveillance.

1.5 Formalizing Surveillance of Foodborne Diseases

Malawi currently conducts surveillance for the priority diseases outlined in the IDSR. However, under the International Health Regulations (2005), it is mandatory for Malawi to report events of international importance that involve contaminated food and outbreaks of foodborne diseases. Although the Epidemiology Unit currently runs an effective IDSR system, it does not currently reflect this. However, a review of the IDSR Technical Guidelines to include food and waterborne disease is under development. Despite this, outbreaks appear to be reported and addressed on an ad hoc reporting basis, to the Ministry of Health and Epidemiology Unit therein.

The limitations to the current system are inextricably linked to the limitations of the current laboratory services and as such any recommendations here are also dependent on the development of improved laboratories. Improvements to the system are also anticipated with the formation of the Public Health Institute in 2013. The consolidation of the Epidemiology Unit and Public Health Laboratory under one organization should improve communications and systems. The PHI should also be improving the links with academia and the National Commission for Science and Technology. With this in mind, recommendations are as follows:

- Ministry of Health should complete the review the IDSR Technical Guidelines to integrate the monitoring and reporting of foodborne disease outbreaks into the formalised system. These guidelines must be disseminated effectively to all levels, which is accepted as a main challenge to ensure effective implementation.
- Guidelines should be produced and relevant persons trained on how to identify, manage and contain and foodborne outbreak. WHO (2008) *Foodborne disease outbreaks: Guidelines for investigation and control* could be used to develop these for Malawi.
- Effective cooperation between the Epidemiology Unit, laboratory services, research unit and academic institutions (including the National Commission for Science and Technology) to ensure that all data collected through surveillance and research is consolidated and used to inform planning and resource allocation. This should be assisted with the formation of the Public Health Institute.

1.6 Increasing Information, Education, Communication and Training

The issue of limited knowledge about, and ability to comply with food safety standards was found both among (1) the general public and consumers as well as (2) private sector companies and food handlers. The report makes recommendations for all of these stakeholders:

1.6.1 Public Education

Currently, public education on food safety issues has been limited, with concentration on specific areas such as general hygiene, nutrition, vitamin A in sugar and salt iodisation. It is recommended that a more targeted approach be taken to public information dissemination campaigns through mass media, the report contains several specific recommended actions for the Ministry of Health's Health Education Unit and the Ministry of Agriculture and Food Security Communications Section. This includes recommendations for consumer education on consumer rights with particular reference to the Consumer Protection Act.

1.6.2 Private Sector Training

In terms of private sector training there are three identifiable areas:

- (1) Training of farmers on Good Agricultural Practice to ensure food safety begins at the farming stage,
- (2) Training of companies in food safety standards, such as HACCP, with a view to increasing trade,
- (3) Training of food handlers to ensure the protection of public health through good food safety practices.

The report contains a range of recommendations on how these aims could be achieved including:

- Better coordination by groups such as the Technical Working Group for Trade and Industry, and the Donor Group for Trade and Private Sector Development who should extend their membership and reduce crossover
- Training of trainers support from Donors in addition to targeted company support to improve sustainability of programs in country.
- Adapt and develop generic programs such as Safer Food for Better Business (Food Standards Agency n.d.) to assist food businesses to develop food safety management systems.
- Under the regulatory review consider the requirement for all food handlers to have a minimal level of training in food safety, e.g. basic food hygiene certificate.
- Continue the development of training materials and programs targeting informal food traders, as these form a significant public health risk in terms of foodborne disease.
- The quality and content of food safety training courses, and the specific trainers should be monitored and if possible accredited/approved by the Food Control Agency or relevant professional body, to ensure the quality and consistency of training across the country.
- Food safety training programs should be conducted on a more regular basis.

2.0 Introduction

The World Health Organization has recognized that in Africa where food insecurity, political instability, communicable diseases, natural disasters and other major issues dominate political agendas and the news media, the importance of food safety is often not well understood. However, food safety is of critical importance to the region because of its position as a cross cutting issue which affects the impact of all of these areas from farm to fork (WHO 2005a).

The 1996 World Food Summit Plan of Action recognized the importance of food safety on food security, defining food security as: “...when all people ... (have) access to sufficient, *safe* and nutritious food...” which is also reflected in the Constitution of Malawi. It is also highlighted that poor food safety has a significant impact on not only public health and health services, leading to high rates of morbidity and mortality, but also on trade and industry, in terms of food export, with decreased worker productivity, disability, and even early death, resulting in lower incomes and access to food.

As such, the World Health Assembly (May, 2000) adopted a resolution calling upon the World Health Organization (WHO) and its Member States to recognize food safety as an essential public health function. This was formalized in 2002 in the WHO Global Strategy for Food Safety (WHO 2002), which is now being updated through the 2010 World Health Assembly resolution – Advancing Food Safety Initiatives. Subsequently, African Union Continental Workshops held in 2012 and 2013 have also highlighted the need for an international approach to food safety, and are under the process of developing an African Union Food Safety Authority and a Rapid Alert System (African Union 2013).

Nevertheless, ensuring improved food safety conditions in African countries presents significant structural challenges, including overcoming poorly developed infrastructure and services (such as access to clean water), inadequate knowledge and skills in food workers and significant lack of data. These insufficiencies are compounded by outdated, weak and dysfunctional regulatory systems, often a legacy of a previous era (African Union 2013).

The incidence of diarrheal diseases in African children is estimated as 3.3 to 4.1 episodes per child per year. It is estimated that 800,000 children in Africa die each year from diarrhea and dehydration. Persons suffering from diseases such as HIV/AIDS, tuberculosis, malaria, and other various ailments affecting the region are also at a greater risk of being debilitated by unsafe food, as their immune systems are already compromised. Therefore, the assurance of safe food is essential to improving the quality of life for those already affected by disease. Equally, persons suffering from food-borne illness are more likely to contract other communicable diseases. Food-borne diseases are also one of the most important underlying factors for malnutrition, and indirectly, for respiratory tract infections in developing countries. Repeated episodes of food-borne diseases over a period of time can lead to malnutrition with a serious impact on the growth and the immune systems of infants and children (WHO 2005a).

In addition, to the public health issues surrounding food safety control, countries

that are able to ensure safe food can take advantage of international trade opportunities, thereby increasing income levels. In order to export products globally and take advantage of the global market, countries are required to adopt and effectively implement international standards to ensure food is of the expected quality and safety at all times. However, the implementation of the World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) Agreement poses major challenges to African countries, in ensuring that food-safety conditions are met in the national supply chain for both domestic and export markets. Non-compliance with food safety measures undermines local and regional exchanges and also international trade in food products, by reducing access to markets, reducing buyer and investor confidence and lowering prices (African Union 2013).

Current food safety systems in Malawi have been described as ‘weak’, ‘fragmented’, ‘not well coordinated’, and ‘lacking in capacity’ (WHO 2005b, CAC 2009). As such, current systems are not in place to adequately protect the health of consumers and/or to enhance the competitiveness of food exports. A presentation to the FAO/WHO conference 2005 (WHO 2005b) outlined the following strengths and weaknesses for food safety in Malawi at that time (Box 1). Although various donor led projects have attempted to address these issues, to date no coherent strategy for food safety control has been developed for Malawi.

Box 1: Strengths and weaknesses of food safety in Malawi reported in 2005 (WHO 2005b)

| | |
|-------------------|--|
| Strengths | <ul style="list-style-type: none"> • Good standards system in place • Membership and representation on International Networks |
| Weaknesses | <ul style="list-style-type: none"> • Inspection mechanism not well established • Laboratory support services lack capacity • Laboratory services are not accredited • Lack of consumer education • Lack of National coordination mechanisms |

2.1 Justification

In order to clarify the current limitations in food safety and quality control in Malawi, the World Health Organizations (WHO) and Government of Malawi Ministry of Health, have undertaken a situation analysis of the sector. This situation analysis is to be used to inform the way forward in the development of a National Food Control Strategy aimed to improve coherence and streamline the food safety and quality sector in Malawi.

3.0 Methodology of Situation Analysis

The situation analysis was undertaken in line with the WHO publication *Guidelines for Developing and Implementing National Food Safety Policy and Strategic Plan*, and the FAO/WHO publication *Assuring food safety and quality: guidelines for strengthening national food control systems*. Guidance is provided for countries wishing to examine and improve their current food control systems with a view to ensuring public health and consumer protection.

The study assessed the key components of the current national food safety system (Figure 1) to achieve the following objectives:

- (d) Analyse the performance of the different components of the national food safety system
- (e) Identify the institutions and agencies involved in food safety focussing on their roles and mandates, the legal basis for their work and level of collaboration and coordination
- (f) Identify strengths and weaknesses with special emphasis on policy issues to be addressed in the development of policies and action plans.

To achieve this, the consultant used the process outlined in Figure 2, which was ratified by key stakeholders at the Inception Meeting on the 27th June 2013.

Figure 1: Elements of a National Food Control System (adapted from WHO)



2012)

Key stakeholders and key informants were identified in collaboration with WHO and the Ministry of Health. A list of stakeholders and key informants recommended by the consultant is contained in Annex 1 and 2.

The results of the study were shared with key stakeholders on the 3rd April 204 (Annex 3) for feedback to assess the credibility of the findings and ensure a consensus on the contents of the final report.

3.1 Data sources

The situation analysis took a holistic approach to data collection, taking into consideration the multidisciplinary nature of food safety and quality control in Malawi, and the wide range of key players who have a role to play in the sector.

Data was sought from two key sources namely:

- (a) Published and unpublished data in the form of peer reviewed literature, regulatory documents, grey literature, and published national surveys and reports.
- (b) Information and experience gained from 66 key informants who represented the public sector, private sector, bi/multilateral donors and consumers. This information was sought through both one to one interviews and focus group discussions. Refer to Annex 2 for a complete list of all key informants.

Questionnaires were developed based on the recommended documents in the WHO *Guidelines for Developing and Implementing National Food Safety Policy and Strategic Plan*. The outlined questionnaire was used as baseline and was adapted to be suitable for specific stakeholders in the form of:

- Questionnaire for key informants based in Ministry positions.
- Questionnaire for key informants based in laboratories offering services for food analysis and examination.
- Questionnaire for academic institutions (when appropriate this was combined with the laboratory questionnaire).
- Questionnaire for consumer representatives and health education key informants.
- Questionnaire for District and City Assemblies.

In terms of private sector, suitable questions were extracted and formed the basis of focus groups discussion guides for both retailers/importers and producers/exporters. These groups were interviewed in round table discussions.

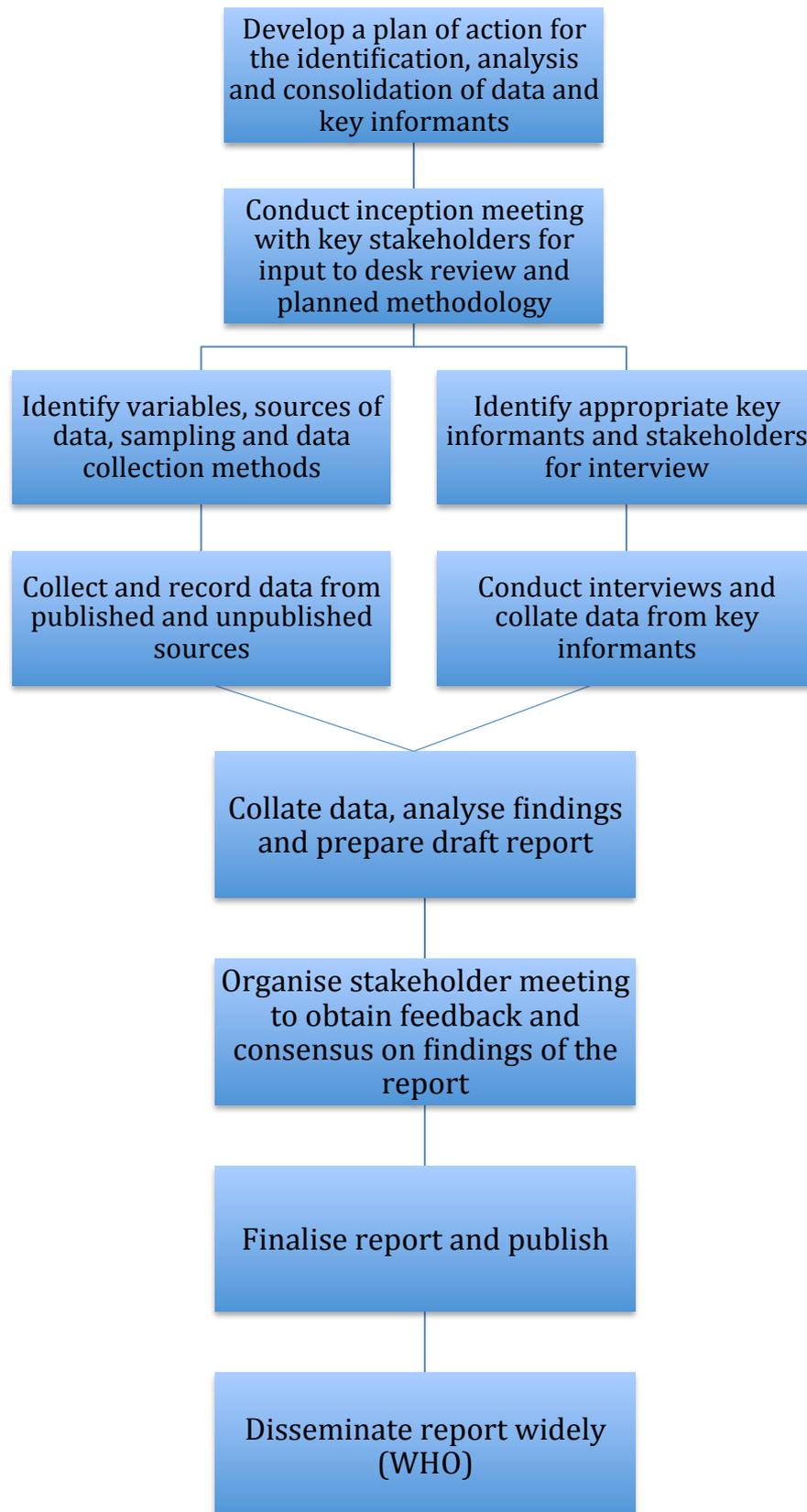
Copies of all tools used are available upon request.

Data was collated on the following areas:

- Current characteristics and trends related to food and agricultural production and processing as well as food imports and exports.

- Epidemiological profile outlining the prevalence and incidence of foodborne diseases, if known, and any existing procedures for investigating and notifying foodborne diseases.
- Capacity of laboratories for examining and analysing food samples and related outbreak samples in terms of human, financial and material resources.
- Availability and status of food policies, laws and regulations looking at both their enforcement and their compatibility with international standards.
- Institutional analysis of key institutions and agencies involved in food safety and quality control addressing roles and mandates, legal basis and interagency coordination.
- Profile of food safety information, education and communication (IEC) activities and services including consumer participation, extension and advisory services, human resources and training requirements.
- Capacity of food inspection services including human and material resource needs.

Figure 2: Process for undertaking a situation analysis of the national food control systems



4.0 Country Profile

4.1 Overview

Malawi, in sub-Saharan Africa, is bordered by Mozambique to the east, south and southwest, Zambia to the west, and Tanzania to the North. It is estimated that Malawi has a population of approximately 14 million with an area of about 118, 000 square kilometers, a quarter of which is covered by Lake Malawi. 85% of the population resides in rural areas, and the remaining 15% is urban based (NSO 2012).

Malawi is among the world's least developed countries, ranking 150th of 190 countries in the world in terms of nominal GDP per capita (World Bank 2012). The economy is heavily based on agriculture, with more than one-third of GDP and 90 percent of export revenues coming from agriculture. Agriculture also contributes 64% of the total income of the rural people, and more than 90% of the foreign exchange earnings. The country's GDP per capita is US \$187.42. At least 65% of the population lives below poverty line, earning less than US\$ 1 per day. The literacy rate is 74% for males and 57% for females (NSO 2012).

4.2 Staple Foods and Food Security

4.2.1 Staple Foods

In Malawi, food constitutes 54% of total household expenditure (NSO 2012) and three crops: maize, cassava and potatoes make up 60-65% of the daily calorie intake of Malawians, with maize alone representing more than 50% (Table 1) (FAO 2013). In addition diet diversification is poor, making the population more easily exposed to malnutrition related illness and food security issues (Mazunda and Droppelmann 2012).

Table 1: Malawi Food Crop Caloric Intake (FAO 2013)

| <i>Ranking</i> | <i>Commodity</i> | <i>Calorie Share (%)</i> |
|---|-------------------|--------------------------|
| 1 | Maize | 50 |
| 2 | Potatoes | 8.4 |
| 3 | Cassava | 5.8 |
| 4 | Sugar | 5.4 |
| 5 | Pulses | 4.1 |
| 6 | Groundnuts | 3.1 |
| <i>Subtotal Food Crop Share</i> | | 76.8 |
| <i>Animal Products Share</i> | | 3.8 |
| <i>Total calories (kcal/capita/day)</i> | | 2, 318 |

The safety and utilisation of food is affected by a number of factors. These include, inadequate knowledge of the Malawi Six Food Groups (Figure 3), childcare and feeding practices, gender issues, and intra-household distribution of food, all affecting the way households benefit nutritionally from the available foods. In addition, households also lack the appropriate skills and technologies for effective and hygienic food production whether commercially or domestically (Government of Malawi 2005).



Figure 3: Six food groups for Malawi (adapted from World Food Programme)

4.2.2 Food Security

Food security in Malawi is largely defined in terms of availability and access to maize. As such, 33% of the population is categorized as having very low food security, with a higher proportion of these being based in rural areas. Food security is significantly affected by the time of year, head of household, and the District in which the household is based. For example, Lower Shire Districts of Chikhwawa and Nsanje have up to 78% of the population with very low food security versus Machinga District with only 14% of the population in that category (NSO 2012). As a consequence these populations are more exposed to the risk of consuming foods that are not safe or of poor quality, which is compounded by the associated high malnutrition levels in the area.

4.3 Agriculture

Agriculture is the primary source of income and food in Malawi, over 80% of the population are subsistence farmers although only 27% of the surface area of the country is available as arable land (NSO 2012). The primary agricultural products reflect the staple diet of the population with cassava, maize and potatoes accounting for the top 3 food products, although there has also been an increase in the production of groundnuts (Table 2) (FAO 2009) (NSO 2012). Agriculture contributes 35% of GDP, and to ensure the maintenance of food security of the nation, diversification of crops and integrated agricultural approaches need to be developed (USAID 2013).

The need to approach improved agricultural practice through a more inter and multidisciplinary approach has been recognized by Government through its policies and the implementation of Presidential Initiatives such as the Poverty and Hunger Reduction and the Green Belt Initiative programs. These seek to provide an overview of the various programs, ministries and non- governmental organizations (NGOs) and provide a more integrated approach which can utilize expertise and funds more effectively.

Table 2: 2007/8 Agricultural (Food) Production.

| Rank | Commodity | Production (Metric Tonnes) |
|-------------|------------------|---|
| 1 | Cassava | 3 608 017 |
| 2 | Maize | 2 948 507 |
| 3 | S. Potatoes | 2 578 825 |
| 4 | I. Potatoes | 673 438 |
| 5 | Pulses | 407 531 |
| 6 | Groundnuts | 261 810 |
| 7 | Rice | 132 239 |
| 8 | Sorghum | 63 698 |
| 9 | Millet | 32 251 |
| 10 | Sunflower | 5 910 |
| 11 | Wheat | 4 605 |
| 12 | Paprika | 1 808 |
| 13 | Coffee | 1 403 |
| 14 | Chillies | 1 109 |
| 15 | Sesame | 504 |
| 16 | Cashew | 283 |
| 17 | Macadamia | 35 |

4.4 Food Imports and Exports

Food imports in Malawi were reported at 13.61% of total imports in 2010 (World Bank 2012). Most of Malawi's imports of food products, mainly wheat and cooking oils with lesser amounts of dairy products and oilseeds, can generally be considered of low to moderate risk. The imports of foods for which there might be greater food safety risks, such as dairy products, are from South Africa where relatively higher standards apply (Gokah, et al. 2012).

The main food exports are outlined in Table 3. Although tobacco and cotton are two of the main agricultural products for export these are not classified as foodstuffs and therefore not listed. Malawi's main export partner is the European Union (50% of exports) and others include: Zambia, Zimbabwe, South Africa and United States (World Bank 2012).

The export trade is significantly affected by the need for compliance with international standards and the European Union (EU) Rapid Alert System for Food and Feed (RASFF) lists 11 notifications of non-compliant imports of agri-food products from Malawi over the period from 2005 to the end of May 2012. Of these, 10 relate to levels of aflatoxins in groundnuts, with the one remaining notification concerning the colorant Sudan Yellow in curry. Malawi's performance in more perishable and SPS sensitive food exports, notably animals, fresh vegetables, and animal products also suggest that supply chain problems, logistics and seasonality remain the predominant constraints, especially in light

of the country's landlocked status and poor ranking in the world logistics performance index. This constraint was highlighted by private sector importers and exporters of foodstuffs in Malawi who contend with logistical challenges in terms of food safety and quality, and also law and order issues including container break-ins when passing through Malawi, neighboring countries and at border posts.

Where international certification and testing is required by the buyer, these are predominantly sought through international service providers. Nevertheless, in many cases Malawi's current major trading partners are within the region and as a consequence are not highly concerned about specific requirements. Evidence from key informants suggests that many traders circumvent these relatively easily through informal trade across borders, which in turn negatively impacts on Malawi's trade figures.

Table 3: Contribution of food products to the total agricultural exports for Malawi (NSO 2010)

| Commodity | Percentage of total agricultural export |
|---------------|---|
| Tea | 7% |
| Sugar | 6% |
| Groundnuts | 1% |
| Other nuts | 1% |
| Maize(corn) | 1% |
| Dried legumes | 1% |
| Pepper | 1% |
| Coffee | 0.4% |
| Total | 18.4% |

4.5 Food premises

Currently there is no comprehensive database of all food premises within Malawi. A comprehensive list of businesses holding MBS certification is available for large-scale businesses. However, at District level the information pertaining to the number of premises varies in quality, and data on the premises is not maintained in a single networked system. Data received during the situation analysis gave an estimation of the number of premises (Tables 4 to 6), however it must be borne in mind that with the overlap of inspection services there may be duplication of premises, as names of premises were not provided at District level.

Table 4: Malawi Bureau of Standards Food Premises

| Type of Premises | Number Listed |
|------------------------|---------------|
| Catering services | 166 |
| Food processing plants | 132 |
| Bakeries | 76 |
| Dairies | 8 |
| Retail premises | 12 |
| Fish/meat processing | 29 |
| Total | 423 |

Table 5: Food premises reported by the District and City Assemblies

| District | Food processing plants | Eating places | Markets | Bakeries | Fish or meat shops/stalls | Grocery / Retail shops | Milk shops | Slaughter-houses |
|------------------|------------------------|---------------|------------|------------|---------------------------|------------------------|------------|------------------|
| Blantyre | 104 | 106 | 37 | 22 | 123 | 1418 | 0 | 5 |
| Chikhwawa | 1 | 36 | 29 | 5 | 8 | 252 | 0 | 5 |
| Chiradzulu | 1 | 105 | 17 | 3 | 0 | 130 | 21 | 3 |
| Chitipa | 0 | 64 | 16 | 1 | 0 | 575 | 0 | 6 |
| Dedza | 0 | 54 | 73 | 2 | 32 | 98 | 23 | 4 |
| Dowa | 0 | 227 | 28 | 0 | 40 | 434 | 0 | 4 |
| Karonga | 1 | 273 | 53 | 2 | 28 | 0 | 0 | 1 |
| Likoma | 0 | 38 | 2 | 0 | 0 | 18 | 0 | 0 |
| Lllw DHO (rural) | 2 | 0 | 78 | 29 | 0 | 2687 | 2 | 24 |
| Llw City | 11 | 57 | 36 | 8 | 25 | 50 | 5 | 2 |
| Mchinji | 0 | 79 | 16 | 0 | 6 | 252 | 0 | 4 |
| Mulanje | 0 | 18 | 32 | 0 | 7 | 160 | 22 | 0 |
| Mwanza | 2 | 110 | 9 | 0 | 4 | 414 | 0 | 10 |
| Mzimba North | 6 | 104 | 11 | 9 | 36 | 634 | 4 | 5 |
| Mzimba South | 11 | 68 | 8 | 3 | 15 | | 5 | 7 |
| Mzuzu City | 4 | 229 | 7 | 6 | 40 | 456 | 15 | 1 |
| Neno | 0 | 10 | 8 | 0 | 0 | 50 | 1 | 2 |
| Nkhata Bay | 3 | 85 | 15 | 2 | 3 | 169 | 1 | 1 |
| Nkhotakota | 1 | 12 | 7 | 1 | 0 | 652 | 0 | 1 |
| Nsanje | 0 | 42 | 30 | 1 | 18 | 242 | 0 | 2 |
| Ntcheu | 1 | 405 | 19 | 2 | 3 | 570 | 2 | 6 |
| Ntchisi | 3 | 58 | 11 | 1 | 9 | 47 | 2 | 0 |
| Phalombe | 0 | 96 | 7 | 1 | 2 | 121 | 5 | 6 |
| Rumphi | 2 | 59 | 5 | 2 | 1 | 465 | 14 | 4 |
| Salima | 2 | 120 | 11 | 1 | 2 | 300 | 0 | 3 |
| Thyolo | 28 | 15 | 20 | 1 | | 50 | 0 | 3 |
| Zomba | 1 | 67 | 52 | 6 | 23 | 864 | 22 | 15 |
| Total | 184 | 2,537 | 637 | 108 | 425 | 11,108 | 144 | 124 |

In addition, the Department of Tourism reported that they currently have a register of 1,133 premises of which 823 provide accommodation and meals, and 310 provide catering services only.

It was not possible to determine the exact number of informal food traders currently within the country. However it is accepted that these play a significant public health risk in Malawi.

Table 6: Estimated number of food premises in Malawi

| Type of premises | Number of premises |
|---------------------------|--------------------|
| Catering/eating places | 3, 013 |
| Food processing plants | 316 |
| Bakeries | 184 |
| Dairies/Milk shops | 152 |
| Retail premises/groceries | 11, 116 |
| Fish/Meat processing | 578 |
| Markets | 637 |
| Hotels (with catering) | 823 |
| Total | 16, 819 |

5.0 Main findings

Food safety and quality are cross-cutting and integral aspects of both human rights and components of Government of Malawi development programs. For example, Figure 4 highlights a number of areas which are multi and interdisciplinary and have a component of food safety within their activities. In some, but not all, cases these activities are controlled by up-to-date policies, strategies and regulatory frameworks. However the overall lack of collaboration and cohesion in the food safety sector has led to a disparate system of regulation, education and management which requires to be addressed both to secure public health and facilitate effective trade.

The findings will concentrate on the following key areas, taking into consideration the desk review and input from key informants within the public, private, consumer and development sectors:

1. Food safety challenges in Malawi
2. Food safety management
3. Current food safety policy and regulatory framework
4. Food safety inspection services
5. Food safety laboratory services
6. Food safety information, education and communication (IEC) programs

Figure 4: *Food safety as a cross-cutting issue:*



5.1 Food safety challenges

5.1.1 Epidemiology and Foodborne Disease Surveillance

Foodborne disease surveillance is essential for estimating the national burden of disease, monitoring trends, detecting outbreaks and providing data for advocacy and resource allocation at National and District level. Currently, monitoring of disease in Malawi is the responsibility District Health Offices who feed through the Health Information Management Systems to the Epidemiology Unit within the Department of Preventive Health Services at the Ministry of Health. This data primarily focuses on the Integrated Disease Surveillance and Response (IDSR) program. The priority diseases addressed by IDSR include cholera, bloody diarrhoea and diarrhoea with dehydration among under-five children. However specific diagnosis is dependent on the presence of laboratory facilities and skilled laboratory technicians throughout the country who can undertake isolation and detection of microbiological and chemical hazards, which is currently unavailable. With the ratification of the International Health Regulations (2005) in 2007, it became mandatory for member countries such as Malawi to report events of international importance that involve contaminated food and outbreaks of foodborne diseases. However, the IDSR system in Malawi does not currently reflect this requirement despite the reflection in the updated IDSR Technical Guidelines in 2010. The Epidemiology Unit have advised that they are in the process of reviewing the IDSR guidance for Malawi, to increase the number of notifiable diseases to 45 from the previous 15. This will include a general need to report water and foodborne illness and should be finalized in April 2014. However, it was also noted that there will be need to train personnel in the new guidance and improve reporting to a real time data system, both of which will require significant funds.

Currently Malawi currently gathers data on the prevalence of cholera, bloody diarrhoea and diarrhoea with dehydration among under-five children. Information from the Epidemiology Unit indicated that in the event of an outbreak, the district food desk officer would notify them through the IDSR and trigger an investigation through the appropriate District, and if necessary national channels, this practice was confirmed by District Environmental Health respondents. As such, Malawi falls between the categories of having no formal surveillance system, to having syndromic surveillance, where systems are monitored through health facilities; communities and other data sources and unusual patterns are detected and investigated. Therefore, Malawi should reinforce its surveillance systems in order to make foodborne diseases part of food control and health systems strengthening.

5.1.2 Types of food and contamination

As global trends and data outline, there are significant risks to health in Malawi from specific food related hazards whether they are biological, physical, chemical or allergenic. Recent publications on food safety hazards in Malawi are limited and tend to be documented in grey literature in the form of donor and governmental reports, which are referred to below. Within these, there is a current concentration on biological and chemical hazards specifically pesticide residues and the presence of aflatoxins in staple foods (Gokah, et al. 2012).

Bacterial

Research on the microbiological contamination of foods is relatively limited within Malawi although it can be construed, that with similarities in cultural practice, research and documented food contaminants from neighboring countries may also be applied in this situation. Cholera is an annual concern with outbreaks occurring in at least one district of the country every year.

Taulo et al (2008) published some of the first peer reviewed microbiological data for Malawi, which gave evidence that common food poisoning bacteria were found at household level, including *Salmonella* species, *Staphylococcus aureus* and pathogenic *E coli* O157:H7. Attributed to poor food handling, preparation and storage, these organisms were distributed across food groups including the staple maize flour porridge (*nsima*), fish, vegetables, beans and fruits. Further studies also determined the transfer of food poisoning bacteria from food handlers to safe water and subsequently to high-risk foods (S. Taulo, et al. 2009).

It is unfortunate that foodborne diseases has not been recognised as the highest loss of productivity as much money is spent on treatment of the illnesses of the same and even loss of human resource as people die.....
EHO working in food safety

Box 2: Feedback from Key Informant

Grey literature of varying quality is available throughout academic institutions in Malawi. Both undergraduate and postgraduate programs within higher education institutions (Table 19) require students to undertake research studies which may centre around microbiological food contamination. Specific research has been undertaken on microbial loads in milk (Banda, L. PhD study, LUANAR) and meat (Tanganyika. MSc study, LUANAR). Further undergraduate studies have assessed microbial quality of street foods, smoked fish, fruits, salads and vegetables based at the University of Malawi (Polytechnic and Chancellor College), Lilongwe University of Agriculture and Natural Resources (LUANAR) and Mzuzu University. The need for further validated research in this area has been highlighted in the National Health Research Agenda for Malawi (2012 – 2016). Grey literature is also available from donor funded programs such as the USAID Milk Project which assessed levels of mastitis in dairy cattle as well as adulteration of milk by farmers. These capacity building programs and their outcomes also require to be consolidated to ensure future research and developments reflect the real gaps in knowledge and capacity.

Aflatoxins

In recent years significant interest has been placed in the presence and control of aflatoxins associated with maize, cassava and groundnuts. Their wide-ranging acute and chronic impacts on health, and impact on trade has raised the issue of aflatoxin control to the top of food safety agenda.

Although regular monitoring of aflatoxins takes place in Malawi, this is currently undertaken by the private sector, intermittently through national laboratories

(refer Section 5.5) and through specific research. As such the level of total national contamination is not currently known, although Monyo (2009) did produce maps highlighting high-risk production areas for aflatoxin within maize and groundnuts. A number of publications are also available which demonstrate aflatoxin to be present at levels harmful to human health in maize, groundnuts in 14% and 50% of product respectively, as well as maize based products available for consumer purchase (Monyo 2009; Matumba, et al. 2011; Matumba, et al. 2009). A number of programs targetting awareness and control of aflatoxins in groundnuts have been undertaken and are in progress (MAPAC 2013). This has been primarily aimed at the export market to date, to reduce the number of exports which are being rejected in the EU due to high aflatoxin levels (UNIDO 2012). On the domestic market, stringent requirements of aflatoxin levels in supplementary food products such as ready-to-use therapeutic foods (RUTF) are also putting pressure on the need for high quality product in Malawi. Such foods are used with severely malnourished populations and will exacerbate the issues of stunting and immunosuppression if they contain high levels of aflatoxin.

To consolidate the work done to date and achieve a more collaborative approach, a national coordinating group has developed the Malawi Program for Aflatoxin Control (MAPAC 2013) with a team of stakeholders from across all sectors. The success of this group has led to Malawi being identified as a pilot country to work with the Partnership for Aflatoxin Control in Africa (PACA) on the development of a multidisciplinary approach to control aflatoxins across the country. At the recent COMESA/PACA meeting held in Malawi (March 11 – 13th 2014, Lilongwe) on Aflatoxin Challenge in Eastern and Southern Africa, the key importance of aflatoxin control being part of a wider food safety control programme and structure was emphasised (PACA/COMESA 2014). This issue must be taken into consideration as this programme moves forward in Malawi, and can potentially be used to generate the political will to put food safety as a priority in the public health and trade agenda.

It is hoped that this will achieve a consistent approach to aflatoxin issues both in trade and public health for the future.

Chemical

Recent USAID reports indicated a strong emphasis on the control of pesticide residues in tea, maize, pulses and honey for export (Gokah, et al. 2012). This is not necessarily as a result of continuing problems in this area but rather to ensure compliance with international standards. Research on current residual levels of pesticides in food products was not readily found during the situation analysis, which may be a reflection of the poor capacity for this testing in Malawi. The need for chemical analysis of foods is highlighted as a gap in the National Health Research Agenda (2012 – 2016).

BY SIMEON MAGANGA

FIFTY seven people have been hospitalised at Tomasi Health Centre in Thyolo after drinking locally brewed non-alcoholic sweet beer suspected to have been poisoned.

Thyolo Police publicist Edith said the people are from Mankhamba II Village under Traditional Authority Tomasi in the district.

"People in the village were celebrating the end of an initiation period for their youth, and they brewed traditional sweet beer on Friday to be taken the following day to spice up

the celebration.

"But after taking the sweet beer on Saturday, 57 people did not only begin vomiting severely but also had open bowels which compelled others to rush them to the health centre for immediate medical attention," Likaka said.

She said all the 57 got hospitalised at the health centre and they were still

there as went to press yesterday.

"We have not reported any deaths so far and the good news is that some of them are getting better now though they have not been discharged yet," Likaka said.

She said the police have since collected samples from the affected people and brought them to Thyolo District Hospital for medical

examination so that they establish what went wrong.

"We are currently investigating the matter in conjunction with our hospital colleagues. We would like to establish if it was food poisoning; if yes, what type of poison? Who could have done that and why...?" she said.

No arrest has since been made in relation to the matter.

57 hospitalised over poisoned drink

Box 3: Example of chemical contamination of foods in Malawi

Publications related to chemical concentrations in Lake Malawi, which may affect the safety of fish for consumption, have found levels to be safe (Kidd, et al. 2003).

5.1.3 Risk Factors and Challenges

Ensuring improved food safety conditions in African countries presents significant structural challenges, including overcoming poorly developed infrastructure and services (such as access to clean water), inadequate knowledge and skills in food workers and significant lack of data. These insufficiencies are compounded by outdated, weak and dysfunctional regulatory systems, often a legacy of a previous era (African Union 2013).

Malawi is no exception to these challenges, with poor infrastructure for water and sanitation in both urban and rural settings, and intermittent power supply. Key informants have also indicated the porosity of borders and law and order in terms of goods being transported are significant concerns in the day-to-day operations of their businesses and the development of trade.

The FAO report (2009) on an Integrated Approach to Food Safety, Plant & Animal Health outlined a number of specific areas that need to be addressed in food safety:

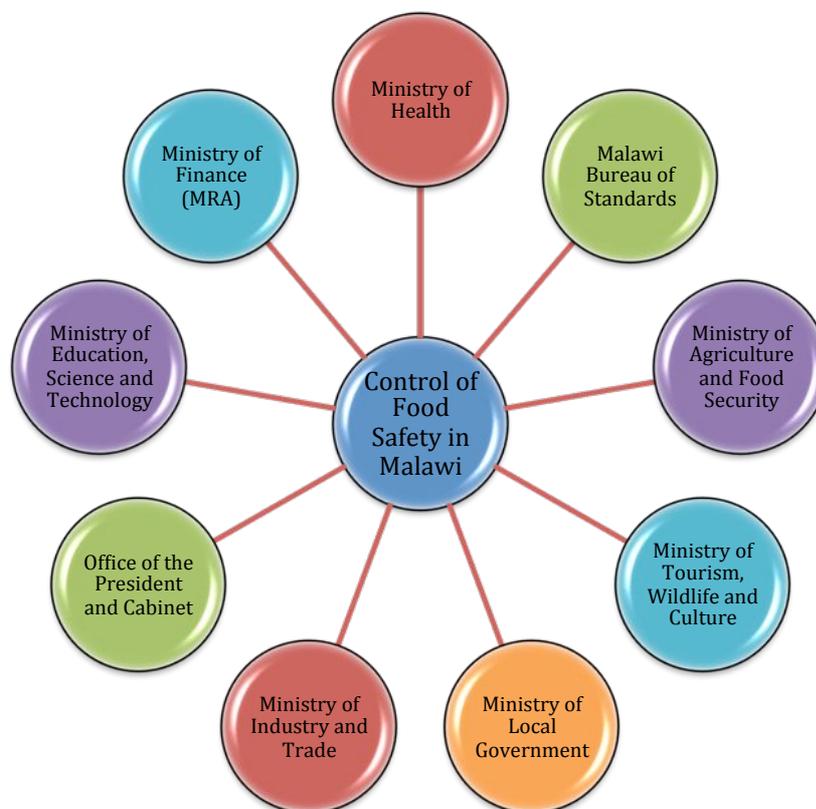
- Agricultural production continues to be mostly carried out by small-scale farmers, where there is often very little control over disease. In addition, if Malawi is not able to continue to increase production of its staple food, maize, it will need to import it.
- Fish stocks in Lake Malawi and the Shire River are decreasing; thus more frozen fish are being imported from Asian countries to large supermarkets. However, it is currently unclear which agency is responsible for the inspection of these frozen fish.
- Electricity blackouts are negatively affecting the hygienic functioning of food processing plants, as well as disturbing the food cold chain in the country (which is powered by electricity).

- There have been discussion regarding the use of genetically modified seeds to produce crops in Malawi, which also brings a number of biosecurity issues that the country must deal with in terms of controlling the growth, distribution and utilization of such seeds and crops.
- Food processors must establish hazard analysis critical control point (HACCP) systems for products with export potential, in order to meet the increasingly stringent sanitary and phytosanitary requirements of large food importing markets.
- In terms of distribution, large supermarket and retail stores are bringing in many more imported products that must be inspected and addressed properly. However, as a result of its porous borders with neighboring countries, many products are still brought into the country through the informal sector, without any inspection or control.

5.2 Status of food control management

The food control system in Malawi is governed by the Government's mandate to protect the consumer and ensure the safety and good quality of food going into international trade. This responsibility is shared by several government agencies and ministries, who operate under a series of fragmented legal instruments. As such there is significant overlap and gaps within the current systems of control. With current levels of malnutrition and diseases related to or affected by immunosuppression, nutrition plays an integral part of food safety in Malawi and the integration of nutrition and food safety from policy to implementation level is extremely important. The following provides a brief insight into the controlling systems currently in place.

Figure 5 Government Agencies and Ministries involved in the national control of food for human consumption



5.2.1 Ministry of Health

A number of departments are involved in the management of food safety and quality within the Ministry of Health, all of which are closely tied to District Assemblies, and District Health Offices therein (refer to Ministry of Local Government).

5.2.1.1 Directorate of Preventive Health Services

Within the Department of Preventive Health Services, four specific sections have direct impact on the control of food safety in Malawi:

Environmental health

This section houses the food safety unit within the Ministry of Health, which operates primarily under the Public Health Act, and the International Health Regulations for the control of hygiene in food production premises. This is achieved through the Port and Environmental Health officials at District level who are trained and monitored by the food safety unit as outlined in the sections below. The unit is also responsible for the formulation of policies, strategies, and guidelines related to food safety and ensuring their integration with the work of related Ministries and Agencies.

Health Education Unit

Despite the cross cutting role of the Health Education Unit within the Ministry of Health, they currently undertake very little specific work on food safety with the exception of donor related projects such as salt iodisation, nutrition and breast milk substitutes. Under the Health Promotion Policy (2013) it is proposed that the Health Education Unit be strengthened through the formation of a Health Promotion Technical Working Group.

Epidemiology unit

As outlined in Section 5.1.1 the Epidemiology Unit focuses on the collection, monitoring and response to data corresponding to the diseases of the Integrated Disease Surveillance and Response program. At this time this specifically relates to diarrhoeal disease, bloody diarrhoea and cholera. However consideration is being given to the integration of foodborne disease outbreaks to this system in accordance with the International Health Regulations 2005. An informal system of notification and outbreak investigation is currently in place.

Community Health Sciences Unit (CHSU)

The Public Health Laboratory under the department is one of a series of laboratories within Government Ministries and Agencies. The laboratory has a number of functions, as outlined in Figure 6, however sampling and testing of foods is not carried out on a routine basis. Day to day running of the laboratory is fully supported by donor agencies, for example, UNICEF (Vitamin A survey), CDC (HIV related testing).

Future developments

The Public Health Institute of Malawi was recently launched. The function of this Institute includes the inclusion of three scientific divisions, the Epidemiology Unit, Public Health Laboratory and the Research Unit, which are currently in the Ministry of Health. The Institute will initially

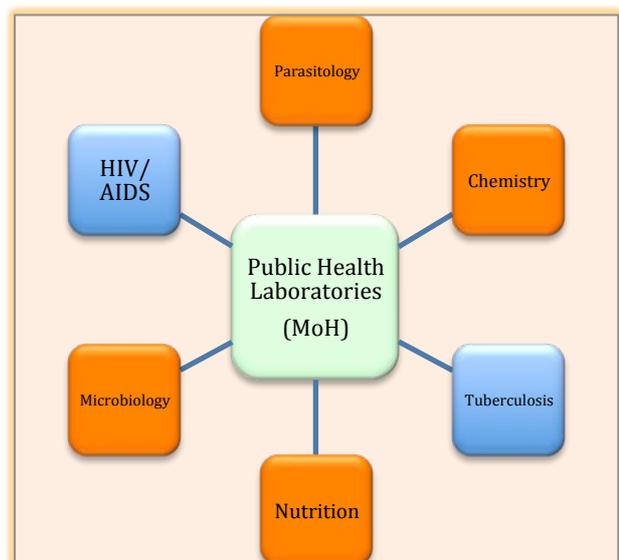


Figure 6: *Services provided at the Ministry of Health Public Health Laboratories (orange refers to food related services)*

operate within the Ministry of Health but will become semi autonomous in the future. This should help to consolidate and improve collaboration between these units and help to address some of the current shortfalls.

5.2.1.2 Directorate of Clinical Services

Within Clinical Services lies the Department of Nutrition, which works hand in hand with the Directorate for Preventive Health and the Department of Nutrition, HIV and AIDS in the Office of the President and Cabinet. The role of the department is to support policy development and guidelines for consumer education on nutritional issues, and provide regulation on the fortification of foods.

5.2.2 Ministry of Agriculture and Food Security

Due to the nature of the Ministry of Agriculture and Food Security, every department has an impact on food safety and quality from the farm to the fork. The Ministry functions primarily under the Agricultural Sector Wide Approach (ASWAp). The strategy aims to achieve food security through increased availability of food, added value to agricultural products, diversification of crops and improved rural infrastructure.

5.2.2.1 Department of Animal Health and Livestock

This Department has 5 key units:

- Animal Production
- Animal Health & Regulatory Services
- Research & Investigation
- Livestock Production & Veterinary Training Unit
- Planning Unit

As such, the authority for veterinary health and sanitary measures for all animal derived products, including meat and meat products, e.g. oversight in slaughterhouses, animal movement control, etc. lies within this department.

5.2.2.2 Department of Planning (Food security)

The Food Security Unit within the Department of Planning has a primary focus on the monitoring food production in the country and providing an early warning system for potential food shortages.

5.2.2.3 Department of Fisheries

The Fisheries Department is responsible for all fish and aquaculture related safety measures, including the fishing vessels and the issuance of permits. Policies, standards and regulations are currently being reviewed to improve statutory powers and capacity of fisheries officers to control food safety. Fisheries staff indicated “please do not leave fisheries food safety issues from the report as 70% of animal protein in the diet of Malawians comes from fish yet so often food safety and quality issues are ignored”.

5.2.2.4 Department of Agricultural Research

Based at Chitedze Research Centre, this department is responsible for agricultural research with its partner Bvumbwe research station in the Southern Region. Presently Chitedze primarily focuses on the analysis of ground nuts and maize for the presence of mycotoxins.

5.2.2.5 Department of Extension Services (Nutrition)

The Department of Extension Services has a number of key areas:

- Extension Management and Support Services
- Extension Methodologies, Training and System
- Agricultural Communications (ACB)
- Agribusiness Development and Management
- Agri-gender Roles and Extension Support Services (AGRESS)
- Food and Nutrition

As nutrition plays an integral role in agriculture, a specialised team is based within the Ministry of Agriculture. They work hand in hand with the Department of Nutrition, HIV and AIDS in the Office of President and Cabinet as well as the Nutrition Unit at the Ministry of Health. The Department also has a key role in education of the population regarding nutrition and food safety related to agriculture through their communications branch.

5.2.2.6 Department of Crop Production

The Department of Crop production works under six areas, management and support services, field crops, horticulture, crop protection, farm mechanization, and farm input services. Specifically, they carry out the following functions:

- Formulate and interpret crop development policies and legislation;
- Promote production of crops based on agro-ecological zones;
- Train extension and specialized farmer groups in crop production technologies;
- Promote post harvest management of crops including agro processing;
- Package and proliferate crop production technologies approved by Agricultural Technology Clearing Committee;
- Conduct surveillance and monitoring activities of migratory pests and effect control measures;
- Promote crop diversification and intensification as a means of increasing productivity while reducing pressure on land;
- Promote and coordinate seed multiplication programs;
- Implement farm mechanization programs;
- Promote sustainable pest and disease management practices;
- Promote commercial farming including contract farming;
- Coordinate and supervise crop production estimates;
- Monitor crop development in relation to weather pattern;
- Develop crop production project concept papers;
- Foster linkages with all stakeholders involved in crop production; and
- Monitor input availability and uptake.

5.2.3 Ministry of Industry and Trade

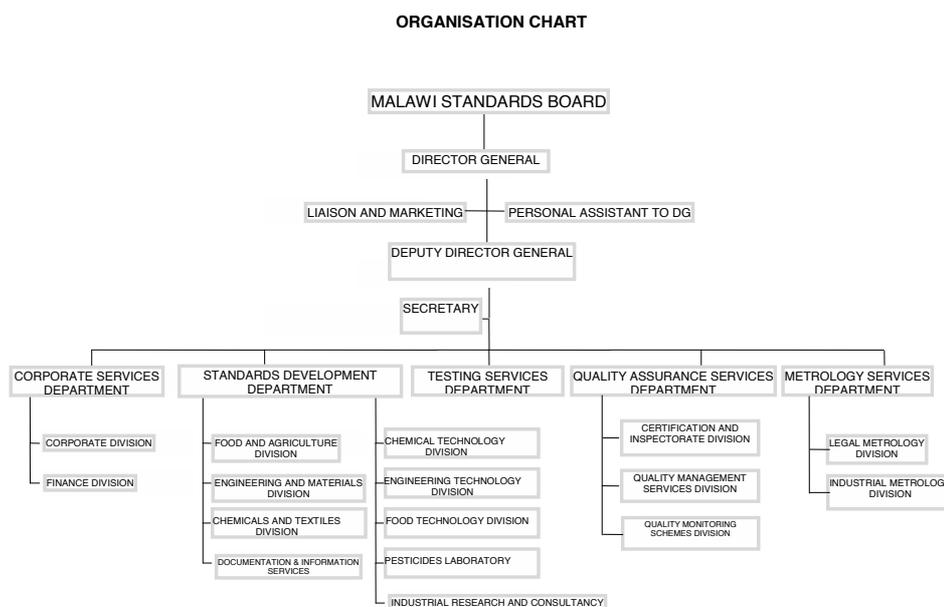
Although this Ministry does not have a direct responsibility, it is the home Ministry for the Malawi Bureau of Standards, and undertakes market surveillance exercises to assess compliance with food safety and quality related standards, e.g. salt iodisation and expiry dates. The Permanent Secretary for MoIT is the Chair of the Sanitary and Phytosanitary committee for Malawi and the Department of Industry is the contact desk for the same. MoIT is also active in a number of National food related groups such as National Fortification Alliance and represents Malawi at relevant SADC and COMESA related meetings.

Most recently, MoIT have been the driving force behind the Malawi Programme for the Control of Aflatoxins in their position as a key player in food safety issues related to the export trade.

5.2.3.1 Malawi Bureau of Standards

This institution is a statutory agency under the Ministry of Industry and Trade and a key player in food safety and quality control in Malawi. It is currently mandated to prepare and promulgate national standards with a view of helping the local industry to produce quality products and services, hence enabling them to compete effectively in world markets. Its work in standards, testing, quality assurance, metrology and export guidance is geared to enable local companies to meet quality needs of buyers at home and abroad. MBS also serves as the National Codex Contact Point, and the National Enquiry Point for Sanitary Issues of Sanitary and Phytosanitary Agreements (WTO). The MBS goes through extensive consultation processes in the development of standards using technical committees with representation from public, private, academic and civil society organizations where appropriate.

Figure 7: Organisational structure of Malawi Bureau of Standards



The Malawi Bureau of Standards has recently undergone a consultation process to assess the future structure of the organization. Funded by the World Bank this report is not publicly available at present.

5.2.3.2 Malawi Investment and Trade Centre

The Malawi Investment and Trade Centre (MITC), a merger of the Malawi Investment Promotion Agency (MIPA) and Malawi Export Promotion Council (MEPC), became operational in 2011. The organization is geared toward promoting production (investment promotion) and marketing (export promotion) of Malawi's goods and services. This broad mandate is expected to complement the functions and resources (both human and financial resources) of the pre-existing institutions and therefore enhance efficiency in performance.

5.2.4 Ministry of Tourism, Wildlife and Culture

Department of Tourism within the Ministry is mandated under the Tourism and Hotels Act to register and inspect restaurants and hotels used for the purposes of tourism. A team of tourism officers is responsible for the enforcement of these regulations.

5.2.5 Ministry of Local Government

Under the Local Government Act and decentralisation, the Ministry has the authority for implementing municipal activities in production of foods through District Assemblies. These Assemblies use Bye-laws and National legal instruments to implement hygiene and labelling requirements on foods from commercial premises.

5.2.6 Office of the President and Cabinet

The Department of Nutrition HIV and AIDS is housed within the Office of the President and Cabinet (OPC) and coordinates matters on food, nutrition, HIV and AIDS. It serves as the national focal point for monitoring, formulating and implementing nutrition-based policy.

Also housed within the OPC are a series of Presidential Initiatives including the Presidential Initiative for Poverty and Hunger Reduction and the Green Belt Initiative, which have specific relevance to food safety and security. The initiatives sit in a separate office but aim to provide holistic advice to the State President and participate in programs where appropriate.

OPC has administrative responsibility of the Malawi Bureau of Standards.

5.2.7 Ministry of Finance

5.2.7.1 Malawi Revenue Authority (MRA):

As a revenue authority MRA plays an integral role in the control of trade and business in Malawi. MRA sits on numerous national and regional boards related to trade and is responsible for trade policy including the relevant duties and taxes applicable to specific goods when imported to Malawi. MRA border post officers also play a role in the control of prohibited and restricted goods and collaborate with the relevant government laboratories for testing purposes.

5.2.8 Ministry of Education, Science and Technology

5.2.8.1 Department of Education

The Department of Education is responsible for the control and management of primary to tertiary education.

At primary and secondary school, a number of school feeding programs are controlled by the School Health and Nutrition Unit. Its strategies and guidance have a specific focus on nutritional quality and food safety of feeding programs.

The Ministry of Education is also responsible for curriculum development within Primary and Secondary schools both of which should include important elements of hygiene and food safety for consumer education.

At tertiary level, the public universities are under the Department of Education. These include the University of Malawi (College of Medicine, Chancellor College and Malawi Polytechnic), Mzuzu University, Lilongwe University of Agriculture and Natural Resources, Malawi College of Health Sciences, and the Malawi Institute of Tourism all of which have departments, services and training programs relevant to food safety and quality in Malawi.

5.2.8.2 National Commission of Science and Technology

Government established the National Commission for Science and Technology to advance science and technology issues in Malawi. The National Research Council of Malawi and the Department of Science and Technology were integrated to form the National Commission for Science and Technology (NCST) which principally provides advice to the Government and other stakeholders on all matters related to science and technology in order to achieve a science and technology-led development. It derives its authority from the Minister responsible for Science and Technology to ensure that it reaches out to highest levels and all sectors of social and economic development in the country.

Most recently, the NCST has received funding for Health Research Capacity Strengthening under the HRCSI program. This program was responsible for the development of the National Health Research Agenda of which food safety and hygiene research are key components.

5.2.9 Perception of Current Management of Food Safety Control

Currently, the food safety and control responsibilities and roles are fragmented between the relevant Agencies and Ministries. Information from the Government key informants interviewed demonstrated the confused nature of the controlling body. For example, one third of respondents indicated that there was a national body for the control of food safety. This was indicated to be Malawi Bureau of Standards or the Pharmacies, Medicines and Poisons Board. The remainder saw there being a number of players involved in controlling food safety at a national level with no singular agency with oversight.

In terms of agencies in charge of food safety controls, members of the various Ministries all indicated Malawi Bureau of Standards, with 89% referring to Ministries of Health, and Agriculture (including fisheries), 78% referring to Ministry of Industry and Trade, and less than a third referring to the Departments of Tourism or Nutrition HIV/AIDS or the Pharmacies, Medicines and Poisons Board. This demonstrates the wide range of perceptions within Government alone on the current controls and is only compounded by the understanding of systems by the Private Sector.

These key informants gave the following reasons for existing food safety control problems:

- There is a lack of coordinating policy and regulatory framework to mandate specific Agencies and Ministries to undertake specific roles in food safety and quality control.
- There is significant overlap in the activities of Ministries and Agencies which leads to bad feeling between government employees and confusion for the private sector.
- Poor use of resources as a result of re-inspection of the same premises by different agencies for the same criteria.
- The current roles of the Malawi Bureau of Standards and their means of operation can be construed as a conflict of interest due to both the development and enforcement of standards.
- The current means of financing MBS through invoicing of companies to undertake inspections, and the procurement of samples for testing at the cost of the company could be construed as self-interested.
- Monitoring and enforcement from Ministries and Agencies is inconsistent and leads to private sector flouting regulation.
- Data and information relating to commercial food premises is poorly managed and not shared between Agencies and Ministries.
- Lack of consistency on the importation duties and taxes applied to food products when brought into Malawi between both products and companies thereby creating an unlevel playing field for trade.

Box 4: Feedback from Key Informant

There is need for improved coordination among key sectors involved in food hygiene and safety especially Ministries of Health, Agriculture, Tourism and Malawi Bureau of Standards
EHO working in food safety

5.3 Status of food safety policy, legislation and regulations

Food safety is both a national and international responsibility. As such, Malawi is subject to both national and international regulatory frameworks, through its membership of the United Nations, African Union, Southern African Development Community (SADC) and Common Market for East and Southern Africa (COMESA) and as a food-producing nation with a responsibility for public health and economic development.

5.3.1 International standards and protocols

The right to safe food finds its foundation in the Universal Declaration of Human Rights (1948). This has subsequently been emphasised in a number of UN Declarations including The Rome Declaration of World Food Security (1996), The World Declaration on Nutrition (1992), and the Beijing Declaration on Food Safety (2007). These outline the need for the global community to provide a more comprehensive and integrated approach to food safety while strengthening the various sectors involved. This is to be achieved through the formation of transparent regulation and improved food safety systems using risk based methods, effective tracing and recall systems and the ability to identify, investigate and control food safety incidents.

To achieve these objectives on an international level, two organizations play a key role, the Codex Alimentarius Commission (CAC) and the World Trade Organization (WTO).

5.3.1.1 Codex Alimentarius Commission

The CAC is a joint body created by WHO and FAO in 1963 to set and harmonise standards for consumers' protection and for fairer practices in trade. Malawi is an active member of the CAC with the National Codex Contact Point (NCCP) based at the Malawi Bureau of Standards (MBS).

Malawi has actively participated in CAC activities to date with support from the Codex Trust Fund to attend four meetings per year. The meeting is attended by the relevant member dependent on the subject of the meeting. However from 2013, funding will be reduced to allow attendance at only 2 meetings per year and from 2015 all funded attendance will stop. As such, the Government of Malawi will be required to fund all attendance to CAC meetings to ensure Malawi is actively and fully participating. Attendance at these meetings is essential to ensure the continued development of the Malawian regulatory framework in accordance with CAC guidance.

Malawi formed a National Codex Committee (NCC), which had a membership of 22. Chaired by the Ministry of Agriculture and Food Security, the committee included representation from Government (Ministries of Health, Agriculture, Malawi Bureau of Standards, Industry and Trade, Economic Planning and Development, Justice, Local Government and Malawi Revenue Authority, Department of Environmental Affairs, The Malawi Export Promotion Council and the Pharmacies, Medicines and Poisons Board), Academic Institutions (University of Malawi – Chancellor College and Bunda College), Private Sector Representation (Food Processors Association, Farmers Organizations, Grain

Traders and Processors Association of Malawi, Peoples Trading Centre, Malawi Tourism Association and Malawi Confederation of Chambers of Commerce and Industry), Non Governmental Organizations (CONGOMA) and Consumers (Consumers Association of Malawi). The NCC met on a quarterly basis and had five technical committees. However in 2009 a Southern African Development Community (SADC) strengthening project through the Ministry of Agriculture then established a second NCC. This has led to significant confusion in the management of the NCC, which has now failed to meet for three years. Such a multi and inter disciplinary group is essential in the oversight of international guidance and its application to Malawi and must be re-established as soon as possible. This, and the need for a continent-wide integrated approach may be supported through the establishment of the proposed Africa Union Food Authority (African Union 2013).

On a national scale (as outlined in Section 5.3.2) the Malawi Bureau Standards has sought to align all food standards with those of the CAC.

5.3.1.2 World Trade Organization

As the production and marketing of safe food is integral to trade agreements, the WTO play an important role in the implementation, regulation and transparency of food safety control measures. These are outlined in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), which is fully integrated with the CAC standards and guidance. The application of the SPS Agreement was approved by Malawi as part of SADC and COMESA in July 2008 where Malawi gave their commitment to ensure structures are in place to provide the necessary support and controls for food safety and quality. This is supported through the SADC Free Trade Area (2008) and affiliated COMESA Customs Union (2010) both of which are signed by Malawi and oblige Member States to pursue harmonisation of standards and technical regulations, and to accept each others conformity assessment results.

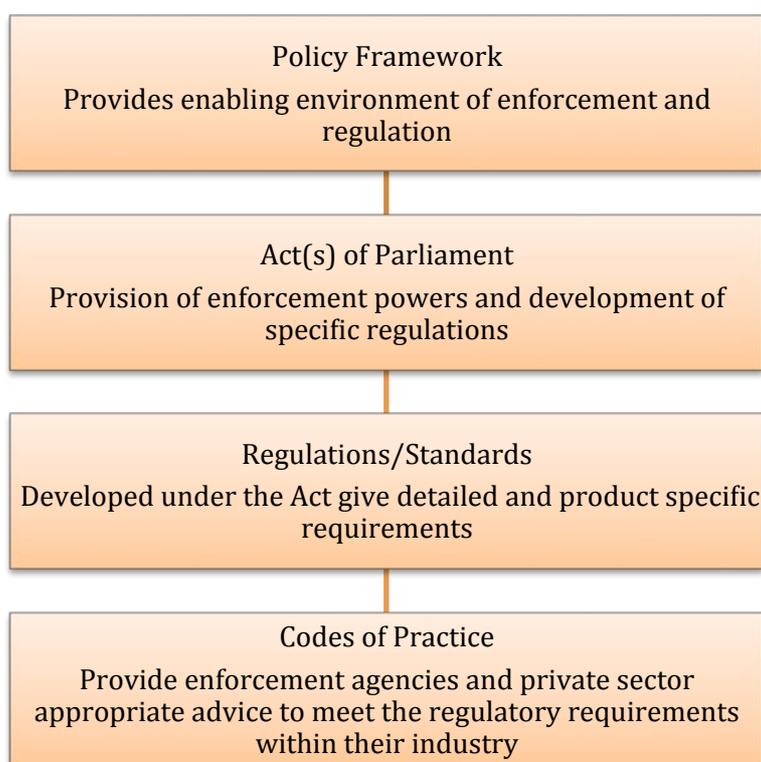
5.3.2 National Regulatory Framework

As outlined above, the Government of Malawi, as a member of various networks, has agreed to develop, implement and manage effective regulation for the control of food safety and quality. The Constitution of Malawi recognises that access to, and utilisation of nutritionally adequate and safe food in the right quantities is a right of each individual in the country. This is reflected in the Vision 2020 (1998) and the Malawi Growth and Development Strategy 2011 – 2016, which includes agriculture, food security, public health and industrial development as key priority areas. However the detail of how this will be achieved is to be outlined in policies, strategies and regulatory frameworks.

Food safety is a cross cutting issue in public health, trade and commerce, which are being managed and controlled by a number of different Government ministries and parastatal organizations. As such the depth of the regulatory framework is extensive, and as outlined by all respondents and ratified by review of current legislation, the regulation in place is fragmented and lacks any form of harmonisation. This is also compounded by the poor structure to the current regulatory framework, which has been developed in an adhoc manner, and in the majority of cases does not follow the standard flow expected for such

a framework as outlined in Figure 8. A summary review of existing policy, legislation and guidance is outlined in Tables 7 and 8.

Figure 8: Expected framework to be followed to develop national regulation.



5.3.2.1 Policy Framework

No integrated policy on food safety and quality exists at the time of this situation analysis. However, fragmented policies related to food safety and quality exist across various sectors. A number of these policies are currently in draft or are being updated (Table 7) and although they do not relate to food safety directly this does reflect a desire to improve standards for consumers, trade and public health.

With no overarching food safety policy framework encompassing all areas of food safety in this field, these policies sit with specific Ministries and departments therein, who operate in relative isolation from their counterparts showing minimal collaboration between policy documents. However, the development of the Quality Policy, which is now in its final stages, does have significant cross over with food quality issues, and this must be borne in mind in the development of any food safety specific policy frameworks in the future to ensure they are fully integrated. In addition, it is essential that other Policies are also consolidated and reviewed for consistency of approach across the cross-cutting fields.

The Department of Nutrition, HIV and AIDS have gone some way to streamline and improve the previously over burdened policy framework for nutrition, and have demoted the Infant and Young Child Nutrition and School Health and Nutrition Policies to strategies under the Nutrition Policy.

Table 7: Current Policies which relate to food safety and quality

| Policy Title | Year of Publication | Comments |
|--|----------------------------|--|
| Fertilizer, Farm Feeds, and Remedies Policy | | |
| Livestock Policy | 2006 | |
| Crop Production Policy | 2011 | |
| National Alcohol Policy | 2012 | Specifically aims to reduce under age drinking and control the production of alcohol in Malawi. |
| National Food Security Policy | 2006 | Control of food security with reference to the Nutrition Policy but little scope for food safety |
| National Fisheries and Aquaculture Policy | 2001 and update in draft | Updated draft has specific reference to the control of food safety in terms of fish and fisheries products |
| Nutrition Policy (and strategy) | 2007 | |
| Health Promotion Policy | 2013 | No specific mention of food safety but policy focuses on Malawi Growth and Development Strategy key areas including food security. |
| National Environmental Health Policy | Draft | Been in draft for a number of years and has specific reference to food safety as a priority area for EH development |
| National Quality Policy | Draft | Provides and overarching policy relating to quality. There is no specific reference to food although it is covered by the content. |

5.3.2.2 Legal and Regulatory Framework Acts of Parliament

There is no integrated legal framework for food safety and quality control, and specific sectoral legislation is outdated or inadequate. The main Acts related to food safety are outlined in Table 8. Domestication of international standards and requirements into national laws has been achieved for some areas through the gazetting of mandatory standards at Malawi Bureau of Standards.

In addition there are a number of product specific Acts and generic Acts which affect food safety as well as other products within the country. These include:

- Iodisation of Salt Act 52:02
- Consumer Protection Act 2003
- Competition and Fair Trade Act 48:09

- Control of Goods Act 18:08
- Business Licensing Act 46:01

All of these were enacted within the last ten years and show an increased awareness in the need to control products entering and being produced in Malawi. However, discussion with key informants indicated that these items have been enacted in a limited way as a consequence of limited capacity and resources. They also indicated a number of areas of duplication and contradiction when compared with specific MBS mandatory standards.

Table 8: Summary of key Acts affecting food safety in Malawi

| Name of National Act | Comments |
|--|--|
| Public Health Act 1948 | Mandates the Ministry of Health and associated environmental health officers at District level to protect public health through the provision of safe food. |
| Malawi Bureau of Standards Act 1972:2012 | Formed the MBS and provides it with a mandate to produce, enforce and provide advice on standards. |
| Fisheries Act 1997 | Currently under review and in draft form as the Fisheries and Aquaculture Bill 2013. This new piece of legislation will provide improved provision for the Department of Fisheries to mandate inspection officers to address issues of fish quality and safety under a more effective piece of legislation. |
| Meat and Meat Products Act 1976 Milk and Milk Products Act 1976 | Provide the Ministry of Agriculture with the mandate to inspect imports, exports and domestic provision of food animals, and animal derived foods. This includes the provision of licenses for meat and dairy processing plants. These pieces of legislation would benefit from the same process of review as undertaken with the Fisheries Act. |
| Pharmacy, Medicines and Poisons Act | |
| Local Government Act 1998 | Makes the provision for District Assemblies to enact and use bye-laws relating to food safety and control and for relevant members to undertake inspections using national standards. These bye-laws may vary from District to District, provide for licensing of food premises and many in some cases contradict the National Standards produced by MBS which align with international CAC standards. As a result businesses which operate in different geographical areas of the country may find themselves subject to different standards. |
| Hotels and Tourism Act | Mandates Tourism Officers to undertake inspections of restaurants and hotels in terms of the Tourism Regulations. The standards and powers within this legislation allow for the entry and inspection of premises with specific standards which both stand alone and are integrated with the MBS MS21:2002 |

However, what currently exists is a fragmented minefield of regulation and standards which businesses, enforcement agencies and consumers must

navigate. Discussion with private sector indicated that some confusion exists on the regulations and laws, which apply to their businesses. However, although they were keen that the systems be improved to provide greater transparency and coherence, they were quick to add that changes to the regulatory framework should not lead to an additional layer of bureaucracy, but consolidate and streamline current systems.

A number of draft Acts are under development within Ministries and Agencies that relate to food safety and quality. These include the following:

- A **Nutrition Bill** is currently in draft under the control of the OPC Department of Nutrition, HIV and AIDS. The draft attempts to incorporate both nutrition and food safety issues. However there is a distinct bias to the regulatory requirements for nutrition. The more pressing need for a specific food safety and quality control bill should be given which lays down the specific roles and responsibilities of enforcement and control and the formation of regulations. The subsequent regulations could then address the specific issues pertaining to nutrition which the Bill currently tries to address.
- A **Comprehensive Food Control Bill** was drafted under the auspices of the Malawi Bureau of Standards in 1991 – 92. The Draft took into consideration existing Malawian laws at the time, and was reviewed by the Food Control Task Force as part of an FAO project. The draft gave responsibility for the Act to the Ministry of Health, and constitutes the provision of a Food Control Advisory Board which would have a membership reflecting all Ministries and Agencies involved in food safety issues. It allowed for the provision of powers under the Act to be shared with relevant Ministries and Agencies to control all areas of food safety from farm to fork. Unfortunately this draft Act has not been taken forward in the 20 years since its inception.
- Draft **Fisheries and Aquaculture Bill** (2013) is currently under development and has specific reference in Part VIII to the Food Safety of Fish and Fisheries Products. This section refers to formation of a Fish Quality and Safety Unit, which would oversee the regulation of fish and fisheries products for both export and the domestic market. The Bill also allows the development of specific regulations, which would outline the standards required for processing establishments.
- The **Right to Food Bill** developed by civil society groups in Malawi coordinated under the National Taskforce on the Human Right to Food. It is conceived as an implementation mechanism to accompany the government's Food and Nutrition Security Policy. The Bill will encourage State accountability through the creation of an independent authority to monitor compliance with its human right to food obligations. The authority will also be mandated to conduct investigations into violations of the human right to food, to accompany recourse efforts on the part of victims and to develop public education materials about the human right to food. The Bill was circulated for comment in 2002 but is yet to be considered by the Parliamentary Committee on Agriculture (Rights & Democracy and Foodfirst Information and Action Network 2006).

Regulation and Mandatory Standards

Despite the authority for Ministries to develop and enact Regulations under specific Acts, there appear to be very few Regulations which have been produced to support food safety and quality. Rather, the majority of specific food safety and quality requirements are outlined within mandatory standards produced by the Malawi Bureau of Standards.

Overall, MBS has produced 123 food safety and quality related mandatory standards which are supported by 42 voluntary standards (9 of these are ISO standards) and 2 codes of practice. These were developed with the input of the Food and Agriculture Divisional Committee (FADC), which is under the MBS Board and Standards and Policy Advisory Committee. There are 11 technical committees under the FADC related to food, which are comprised of public and private sector representatives.

It is the role of MBS to develop and prepare standards, but not to ensure compliance with all of these standards, as this is the responsibility of the overseeing Ministry. Nevertheless, a review of these standards showed a significant amount of replication, which could benefit from review and consolidation to improve implementation of standards in both the public and private sector. For example, in the tea and fruit juice sectors there are a number of standards (Table 9), which could be consolidated, particularly in terms of the mandatory requirements. This would provide consistency and clarity for industry when complying with requirements.

Table 9: Summary of standards currently in place for Black Tea and Fruit Juices

| Standards for Black Tea | | | Standards for Fruit Juices | | |
|-------------------------|--|---------------------|----------------------------|-------------------------------------|-----------------------|
| Standard Number | Standard Name | Mandatory/Voluntary | Standard Number | Standard Name | Mandatory / Voluntary |
| MS43:2008 | Black tea: definition and basic requirements | Mandatory | MS57:1987 | Pineapple juice - specifications | Mandatory |
| MS410:1994 | Black tea methods of test | Voluntary | MS248:1991 | Orange juice - specifications | Mandatory |
| MS412 - 1/2:1994 | Black tea methods of sampling | Voluntary | MS295:1991 | Lemon juice – specification | Mandatory |
| MS459:1994 | Black tea – vocabulary | Mandatory | MS296:1991 | Passion fruit juice – specification | Mandatory |
| MS460:2008 | Black tea – preparation of liquor for use in sensory tests | Mandatory | MS297:1991 | Mango juice - specifications | Mandatory |
| | | | MS619:2000 | Fruit juices - specifications | Mandatory |

In terms of regulations, The Department of Tourism undertakes food safety assessments under the Tourism Regulations which were formed under the Tourism and Hotels Act. These regulations were found to compliment the MBS

mandatory standard MS21:2002 Code of Hygienic Conditions for Food and Food Processing Units.

Codes of Practice and Guidance

Specific codes of practice and guidance for both businesses and enforcement officers are limited at present. Reference from District Health Offices and Ministry officials was made on guidance for:

- Code of Marketing for Breast Milk Substitutes
- Cholera Manual for Health Workers
- MEHA Code of Professional Conduct
- Code of Marketing for Infant and Young Childs Foods
- School Health and Nutrition Guidelines.
- Guidelines For Food Inspection And Food Establishments Auditing

Nevertheless the inconsistency of response was indicative of the lack of standard approach to regulation, enforcement and consumer/industry advisory services.

When questioned at District level regarding codes of practice and guidelines for inspection practice, a lack of consistency and confusion was clearly evident. Guidance has been provided by the Ministry of Health in the form of Guidelines For Food Inspection and Food Establishments Auditing, however this document was not specifically referred to by any respondent.

Of the 25 Districts who responded, a wide range of answers were provided on the guidance available as outlined in Table 10:

Table 10: Responses from District Authorities on presence of guidance and codes of practice.

| Code of Practice or Guidance | Number of Districts | Percentage |
|--|---------------------|------------|
| Sampling procedures | 22 | 81% |
| Inspection checklists | 19 | 70% |
| Sealing, storage and transportation of samples | 17 | 63% |
| Advice to food industry and trade | 12 | 44% |
| Import and export inspections | 10 | 37% |
| Collection of evidence | 9 | 33% |
| Consumer complaints | 8 | 30% |

5.3.3 Gaps and Inconsistencies in Regulatory Framework

Key informants outlined limitations of regulations and standards as follows:

- Time period for standards to be gazetted and regulations to be brought into statute is too long.
- Mandatory standards in Malawi often vary from those required by international trade and therefore private sector pays little attention to them if product is destined for export.

- Limited capacity at MBS and appropriate Ministries can hinder the development of appropriate standards for Malawi.
- MBS has in some cases developed standards as requested by specific Ministries, only to find the Ministry in question does not have the capacity to implement the standard and expects MBS to take this responsibility.

Strengths of current regulations and standards system:

- The majority of the standards developed and published in the last 15 years are in line with the CAC and therefore internationally accepted.
- Private sector is consulted in the development of standards and feels they can approach MBS for alterations to standards where appropriate to comply with current trends.

Overall, it was felt that the development process for standards and regulations must not simply reflect that from other countries but address the specific needs of Malawi as it develops both public health and trade connections. However it must be borne in mind that any variation from the CAC accepted standards must be justified and supported with appropriate evidence.

5.4 Status of food inspection services

5.4.1 Inspecting Agencies

The situation analysis determined that food safety and quality inspections are primarily carried out by a number of official bodies leading to confusion and overlap for a number of food processing industries and catering premises.

Data collated from key informants indicated that food safety inspections are conducted or supported by:

- Malawi Bureau of Standards
- District Health Offices (Environmental Health)
- City Assemblies (Environmental Health and Market Supervisors)
- Agriculture Offices (Veterinary Officers)
- Department of Tourism (Tourism Officers)
- District Assembly (District Trade Officers)

5.4.1.1 *Malawi Bureau of Standards*

The MBS currently have approximately 60 technical officers who carry out food inspections across Malawi. These include standards officers, quality monitoring officers and where appropriate laboratory technicians. All officers have a minimum of a degree qualification however this degree may be in a number of areas including agriculture, engineering, food science and technology, chemistry and physics. Although their role should be concentrated in their area of training and expertise it was indicated that they might undertake inspections in any area of MBS certification .

Inspections by these individuals are conducted in premises which are certified or seeking certification under the relevant standard for their food product or premises. As such, although officers are primarily based in Blantyre, Lilongwe and Mzuzu offices they may travel to other parts of the country for inspection purposes.

5.4.1.2 *District Assemblies and District Health Offices*

At the District level, food safety is managed by decentralised entities in both the Assembly offices and the Health Office. Department of Environmental Health primarily conducts inspections in its capacity to protect public health.

Each District Health Office has an allocated environmental health officer responsible for food safety. However these officers are also responsible for other environmental health activities and therefore do not concentrate all of their time on this activity. Districts gave varied responses on who conducts food safety inspections, in most cases inspections were undertaken by either environmental health officers or assistant environmental health officers who hold a degree or diploma in environmental health respectively.

Overall 291 environmental health staff were reported to be undertaking food safety inspections at present. Ratios of inspecting officers to population varied from 1:85,500 in Blantyre District, to 1:1,159 on Likoma Island which demonstrates an inconsistency in the distribution of officers across the country.

District Assemblies were also reported to have trade officers and market supervisors who both play a role in food safety and inspection. Trade officers were reported in some districts. Previously employed by the Ministry of Industry and Trade, these individuals are now directly employed by the Assembly with a focus on market access.

5.4.1.3 City Assemblies

Malawi has four City Assemblies, namely Blantyre, Lilongwe, Mzuzu and Zomba. Within these offices, environmental health officers are employed to undertake food inspections. As with District Health Offices, these officers have obtained a minimum of a diploma in environmental health.

Table 11. Provision of officers for food inspections for City Assemblies

| City Assembly | Number of Food Inspectors | Ratio to population served |
|----------------------|----------------------------------|-----------------------------------|
| Blantyre | 1 | 1: 728, 285 |
| Lilongwe | 5 | 1: 156, 272 |
| Mzuzu | 3 | 1: 56, 300 |
| Zomba | 4 | 1:23,100 |

Of particular concern is the low ratio of officers in Blantyre City for inspection when considering this is the commercial capital and second most populated city in the country.

5.4.1.4 District Agricultural Offices

The District Agricultural office is responsible for a number of services including the provision of veterinary officers for animal health and meat inspection. The number of veterinary officers and assistants was not made available during the situation analysis although their presence was reported in all responding Districts (n = 25 respondents). The Districts who responded reported an average of 3 (assistant) veterinary staff.

There appears to be a significant overlap in the activities of veterinary officers and environmental health officers at district level, which was reported by 60% of Districts.

5.4.1.5 Department of Tourism

The Department of Tourism has a total of 34 inspecting officers across the country (Table 12). Inspecting officers have a minimum of a Bachelors degree with supplementary training on the job and through Malawi Institute of Tourism and other institutions in South Africa and Botswana when needed.

It was reported that Tourism Officers meet regularly to discuss challenges in their day-to-day activities and devise ways to address these.

Table 12: Distribution of inspecting officers for Ministry of Tourism

| Region | Location | Number of Tourism Officers |
|-----------------|----------------------------|-----------------------------------|
| Northern | Mzuzu (regional office) | 4 |
| | Mzimba | 1 |
| | Nkhata Bay | 1 |
| | Karonga | 1 |
| Central | Lilongwe (regional office) | 8 |
| | Mchinji | 1 |
| | Salima | 1 |
| Southern | Blantyre (regional office) | 10 |
| | Mangochi | 2 |
| | Mulanje | 1 |
| | Zomba | 1 |
| | Mwanza | 1 |

5.4.1.6 Department of Fisheries

The Department of Fisheries indicated that they have inspectors in a number of areas:

- Fish market assistants at Zomba, Limbe and Blantyre Markets who are responsible for ensuring the fish sold for human consumption is of an acceptable standard. However currently they have no powers to address any non compliance.
- Fisheries Inspector Unit, which is based at Lake Malawi but focuses on the fishing boats rather than the quality of the fish being landed and sold. In the 1990's there were 5-7 trained fish inspectors but at the moment there is only one remaining.
- Border Fish Inspectors are currently being dispatched across Malawi. These were trained through the SMART Fish program (EU funding), which provided training on fish quality inspection at border crossings.

Training in fish processing is also being undertaken in partnership with the World Fish Centre.

As Government and NGOs continue to increase the number of fishponds across the country, it is essential that the Government ensures the presence of an effective country-wide team of fisheries inspectors who are competent in terms of fish quality and safety.

5.4.1.7 Others

Respondents also highlighted the following as having roles in food safety inspections:

- Malawi Revenue Authority officers at Border posts to test and impound food products.
- Police officers in Districts who can assist with inspection and entry.

Overall, there is significant confusion, and in some cases antagonism, between inspecting officers as to their roles and responsibilities which is compounded by a lack of human resources to provide an effective service.

5.4.2 Inspecting Officer Roles and Powers Enforcement

Key informants were asked to outline the roles of the various inspecting officers in terms of food safety.

5.4.2.1 Responsibility for premises

Firstly, there was inconsistency at District level about whether the District Health Office was responsible for food safety inspections in specific premises. Table 13 summarises feedback from the 25 Districts who responded to the questionnaire. Although there is a consensus on the inspection of slaughterhouses, markets and eating places, other areas such as school feeding stations, boarding schools, hospitals and prisons seem to be largely ignored. This is of particular concern as these food premises are feeding the most vulnerable groups in society and should be subject to strict inspections on a regular basis.

This problem is compounded by a number of factors:

- Unclear delineation of roles between officers and as such an eating place/restaurant may be inspected by the District/City Assembly, District Health Office, Department of Tourism, and Malawi Bureau of Standards or none of them at all.
- Lack of consistency in approach in how inspections are conducted with organizations having their own guidelines or no guidelines from which to operate (Table 11).

With this in mind it is imperative that a national framework is developed which clearly delineates the responsibilities for inspection between the appropriate organizations. This should be supported by a national database of food premises which will allow for effective networking and information sharing between organizations, while keeping the premises and product specific information confidential (i.e. not a public database). Together these could effectively reduce duplication of efforts, make best use of resources and increase transparency and business confidence in the enforcement system.

5.4.2.2 Powers of Entry and Enforcement

The various officers receive their powers of inspection from a number of different regulatory frameworks as outlined in Section 5.3.

The most clear-cut and effective powers are outlined in the Malawi Bureau of Standards Act and the Hotels and Tourism Act. As detailed above the Public Health Act and bye-laws are the main frameworks used in day-to-day activities of District and City Authorities which are not specifically aligned to food safety or are inconsistent in their approach.

| Premises | % |
|------------------------|------|
| Slaughterhouses | 100% |
| Markets | 100% |
| Eating places | 100% |
| Grocery shops | 96% |
| Bakeries | 92% |
| Fish/meat shops | 80% |
| Informal traders | 76% |
| Food processing plants | 72% |
| Milk shops | 64% |
| Liquor shops/bars | 12% |
| School feeding kitchen | 8% |
| Boarding schools | 8% |
| Hospital/prison | 4% |
| Border post | 4% |

Table 13:
District interpretation of their responsibilities in terms of inspection

5.4.3 Inspection methods and equipment

As outlined above inspection methods vary between the organizations involved. This lends little consistency of approach for the companies receiving inspections particularly when inspected by more than one organization.

Feedback from the private sector highlighted frustrations with the current inspection and food safety control procedures. These included:

- Lack of control on illegal imports or non-transparent clearance of goods which does not allow large companies to be competitive in pricing.
- Officers removing what were deemed to be an excessive number of product samples for testing of imported products which have been produced in internationally certified systems.
- Lack of consistency in inspection approach between companies, with higher expectations on large production units compared to smaller counterparts and informal traders despite standards being the same.
- Some local products not provided with a best before or use by date for which retailers must adhere.
- There is a need for inspectors to “talk one language” as they are all implementing the same standards.
- Need education from MBS and other organizations on what their role is and what their powers are – not sure that the inspectors themselves know how to handle problems they find effectively
- Concern that no one is overseeing MBS and therefore they can do what they want.
- Lack of consistency in labelling requirements between products and producers.

The method by which inspection frequency is determined is at the discretion of the enforcing organization. As such, Malawi has not instigated risk assessment as an inspection framework for premises to date either nationally or within any of

the inspecting organizations. With the low number of inspectors available it would make a better use of resources if inspection frequency was based on risk to health from the premises. However, there are a number of issues which may prevent this approach being implemented, not least the current MBS systems. MBS is primarily self-funded through invoicing of companies for 4 inspections per year. Should this system be changed to a risk-based scheme this may have an impact on income to the parastatal organization and affect it's ability to operate. As such, it will be imperative that a clear distinction is drawn between inspections/audits for certification purposes, and inspections to ensure public safety from food poisoning, which would address this concern.

Inspection methods used by officers of all organizations continue to follow proforma checklists which follow specific standard requirements. As outlined in Table 11, there is significant confusion with food inspection officers on the existence of guidance and codes of practice for inspection, sampling, etc. There is no evidence that agencies use a risk-based method to assess public health risk during inspection. This should be introduced through effective training of inspecting officers and provision of support materials. By integrating this system with a supporting database the inspection frequency could be effectively managed and would allow more efficient use of inspector time and resources.

Responses from all key informants indicated a lack of key equipment is available for officers to undertake effective food safety and quality inspections. MBS was the most effective reporting that they had cameras and sampling equipment to ensure proper sealing of food samples and maintenance of the cold chain. However no respondent indicated the presence of protective clothing or probe thermometers at the time of interview.

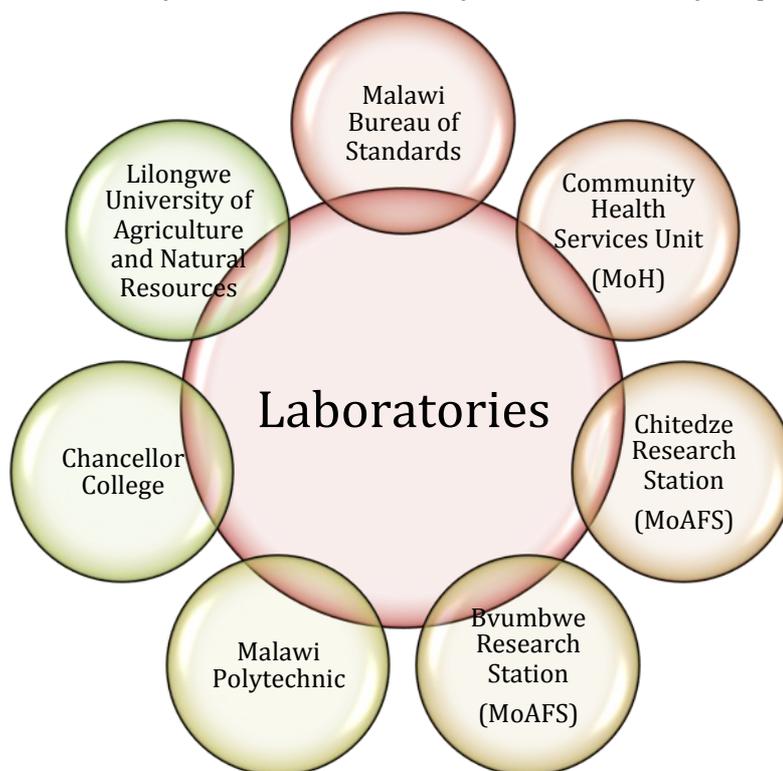
5.5 Status of food control laboratories and surveillance

5.5.1 Overview of Laboratories and Services

In terms of food safety and quality, laboratory services in Malawi are needed for three main purposes namely, (1) routine surveillance of food products and disease patterns, (2) examination and analysis of samples tied to outbreak situations, and (3) commercial testing of foods for domestic and international markets.

The situation analysis identified a number of laboratories currently available for food testing in Malawi (Figure 9), which are based in Government and academic institutions.

Figure 9: Laboratories identified in the Situation Analysis, which can test food products



These are located in the Central and Southern Regions of Malawi, and details of the available tests available at each are outlined in Table 14 where available.

5.5.1.1 Routine surveillance of food products and disease patterns

Routine testing is undertaken to assess nutritional quality of foods (PHL), contamination with aflatoxins (Chitedze) and the compliance of foods with national standards (MBS). Despite the routine procurement of samples, the national surveillance system is informal. For example, failed samples with MBS are reported to the Quality Assurance team for follow up with a producer or importer, whereas a failed sample from the PHL is reported to the Epidemiology Unit for action. Routine sampling and testing is also hampered by the lack of reagents and equipment, which were reported by all laboratories for both lab based and field testing of food products, e.g. salt iodine content.

Table 14: Laboratory services currently available in Malawi

| Organization/Ministry | Laboratory | Main function | Quality Assured and Accredited |
|--------------------------------|--|---|---|
| Ministry of Industry and Trade | Malawi Bureau of Standards | Both chemical analysis and microbiological examination of food. | Systems are in place to monitor samples but no certification has been achieved to date – in progress. |
| Ministry of Health | CHSU Public Health Laboratory | Refer to Figure 6 The laboratory conducts chemical analysis and microbiological examinations of foods | The PHL is enrolled with the Global Foodborne Infections Network External Quality Assurance program as well as WHO sponsored systems for both micro and chemical tested although is not currently accredited. |
| Ministry of Agriculture | Chitedze laboratory | Mycotoxin monitoring laboratory | None |
| | Bvumbwe laboratory | | |
| University of Malawi | Chancellor College | | |
| | Polytechnic – Physics and Biochemical Sciences | Chemical analysis and microbiological examination of food conducted as part of under/postgraduate research. | Samples cross checked with results from MBS but no formal quality assurance or certification |

5.5.1.2 Examination and analysis of samples tied to outbreak situations

Both investigating officers and laboratory technicians reported the capacity and use of laboratory services to examine and analyse samples involved in outbreak situations as limited. In both cases, the lack of standard operating procedures for sampling and transport were outlined as a challenge. District based officers complained that the time taken for the results of samples to reach them can mean the testing has become obsolete as control measures have been implemented in the interim, and in many cases the outbreak is past before results are known. However, laboratory technicians also complained that when they receive samples from District health, or other relevant staff, there is little to no indication of the nature of the outbreak or the tests they would like to have conducted, which leads to confusion and delays within the laboratory. The need for standard guidelines in this area is imperative. Nevertheless, any investigation will continue to be hindered by the limitations of the tests and laboratories available (Tables 15 – 16).

5.5.1.3 Commercial testing of foods for domestic and international markets

The Country Economic Memorandum (2010) (World Bank 2010) report outlined the limitations of the current laboratory services in terms of Standardisation, Quality Assurance, Accreditation and Metrology (SQAM). The infrastructure for these requires upgrading and on-going maintenance if Malawi is to meet international standards and increase competitiveness of food products in the international market. Currently, the majority of companies who export food products rely on laboratories in South Africa and Kenya, incurring high costs for product testing and quality assurance. These findings were supported by a survey conducted by the SADC SQAM Project in 2008, which observed that the MBS needed laboratory equipment to function effectively. However this equipment could not be provided until the infrastructure was upgraded to provide a sustainable foundation. This development and support is being provided through the GoM-EU-UN funded Capacity Building Towards Trade and Private Sector Development Agreement (2011), which will run for seven years.

5.5.2 Quality Assured Testing

Laboratories offer a range of services under the auspice of protecting public health and as a commercial operation. A range of both microbiological examination and chemical analysis are available (Table 15-16), however at this time none of the existing laboratories have an accredited quality assurance system in place for any of their tests. Key informants outlined the importance of identifying the national priority tests needed for surveillance and commercial testing purposes. These can then be the focus of certification schemes to ensure quality assured testing, allowing the best use of resources and time to be able to offer services.

The Public Health Laboratory did advise that it is a member of a number of external quality assurance organizations through the Global Foodborne Infections Network and the World Health Organization, particularly in relation to microbiological testing, and MBS are in the process of receiving certification for key tests under the SQAM program, which will be progressed over the next 5 years.

Table 15: Chemical services available in Malawi Laboratories

| Chemical | Does Laboratory offer the service | | | | | | |
|---|-----------------------------------|-----|----------|---------|--------|------|--------|
| | MBS | PHL | Chitedze | Bvumbwe | Chanco | Poly | LUANAR |
| Pesticide residues | √ | √ | | | | √ | |
| Additives | | | | | | | |
| Heavy metals and other chemicals e.g., zinc copper, lead, mercury | √ | | | | | √ | |
| Toxins of fish and shellfish? | √ | | | | | | |
| Toxic plants and mushrooms? | | | | | | | |
| Mycotoxins | √ | | √ | | √ | √ | |
| Antibiotics | | √ | | | | | |
| Hormones | | | | | | | |
| Radioactive contaminants | √ | | | | | | |
| Vitamin A | √ | | | | | | |

Table 16: Microbiological services available in Malawi Laboratories

| Bacteria | Does Laboratory offer the service | | | | | | |
|---|-----------------------------------|-----|----------|---------|--------|------|--------|
| | MBS | PHL | Chitedze | Bvumbwe | Chanco | Poly | LUANAR |
| <i>Bacillus antiracis</i> | | √ | | | | | |
| <i>Bacillus cereus</i> | √ | | | | | | |
| <i>Brucella abortus</i> | | | | | | | |
| <i>Campylobacter jejuni</i> | | √ | | | | | |
| <i>Clostridium botulinum</i> | | | | | | | |
| <i>Clostridium perfringens</i> | √ | √ | | | | | |
| <i>Escherichia coli</i> | √ | √ | | | | √ | |
| - enterotoxigenic (ETEC) | | | | | | | |
| - enteropathogenic (EPEC) | | | | | | | |
| - enteroinvasive (EIEC) | | | | | | | |
| - others specify: | | √ | | | | | |
| <i>O157</i> | | | | | | | |
| <i>Listeria monocytogenes</i> | | √ | | | | | |
| <i>Mycobacterium bovis</i> | | | | | | | |
| <i>Salmonella typhi</i> | √ | √ | | | | | |
| <i>Salmonella (non-typhi)</i> | | √ | | | | | |
| <i>Shigella</i> | | √ | | | | | |
| <i>Staphylococcus aureus (enterotoxins)</i> | √ | √ | | | | | |
| <i>Vibrio cholerae 01</i> | | √ | | | | | |
| <i>Vibrio cholerae non-01</i> | | √ | | | | | |
| <i>Vibrio parahaemolyticus</i> | | √ | | | | | |
| <i>Yersinia enterocolitica</i> | | √ | | | | | |
| Viruses | | | | | | | |
| Hepatitis A virus | | | | | | | |
| Norwalk agents | | | | | | | |
| Rotavirus | | | | | | | |
| Others specify: | | | | | | | |
| Protozoa | | | | | | | |
| <i>Entamoeba histolytica</i> | | √ | | | | | |
| <i>Giardia lamblia</i> | | √ | | | | | |
| Helminths | | | | | | | |
| <i>Taenia saginata and T. solium</i> | | √ | | | | | |
| <i>Trichinella spiralis</i> | | √ | | | | | |
| <i>Trichuris trichiura</i> | | √ | | | | | |
| Others, please specify | | | | | | | |

5.5.2 Available Laboratory Resources

All laboratories gave an overview of the equipment available for chemical analysis and microbiological examination. In general terms, laboratory equipment was in working order, however there were regular reports of poor maintenance and the lack of service contracts to ensure equipment was

effectively maintained and calibrated. In other instances, equipment was donated for specific programs through multilateral donors, which allowed the laboratories to benefit from equipment and training, but again service contracts were of concern for the long-term maintenance and benefit of such equipment.

A full report of laboratory equipment and services is currently being undertaken by a consultancy team as part of the Standardization, Quality Assurance, Accreditation and Metrology (SQAM) Infrastructure program to enhance Malawi's capacity for product certification, which is critical for the promotion of exports in line with the Government's Economic Recovery Plan and the National Export Strategy. However for summary in this report the current services available in Malawi are outlined in Tables 15 and 16.

Overall, respondents indicated that the facilities, equipment and human capacity to undertake a wide range of analysis are extremely limited. The analysis conducted appears to be related to donor driven programs rather than specific widespread public health concerns. As such the capacity to deal with food poisoning outbreaks of contaminated/adulterated food concerns is severely hindered in day-to-day food safety management.

The launch and development of both the Public Health Institute (PHI) and the Laboratory Association of Malawi (LAM) in 2013 are efforts to address some of these key challenges in the provision of laboratory services in Malawi. In particular, LAM aims to address current limitations through improved communication between laboratories, support to laboratories for certification of specific tests, bulk procurement of consumables and cost sharing for curative and routine maintenance of equipment to improve resource management. If LAM manages to achieve these aims it will have a significant effect on laboratory services in Malawi.

Key informants from District Health Offices also requested that hospital laboratories be considered for upgrade and provision of equipment and consumables to be able to effectively conduct health examinations for all food handlers as required by the current regulations. Colleagues also recommended that to address the problems with transport and control of samples, that the same laboratories should be upgraded to allow food samples to be examined both routinely and in the case of a possible foodborne outbreak (Box 5).

5.5.3 Laboratory efficiency and communication

At present the laboratories listed in this report, although aware of each other's activities, do not appear to be linked in any way in terms of surveillance and data sharing. Improved linking between these laboratories would allow knowledge exchange and information sharing to ensure that data is effectively managed and used to identify public health incidents, and support resource management. This is also integral to the development of a food safety surveillance system. It is hoped that this will be a key priority of LAM and the PHI.

Box 5: Comments from District respondents regarding laboratory services

Routine medical examination of food handlers is a good area that is hazy as it requires a lot of effort to address. We tried but failed as the hospital could not provide all the laboratory supplies required for the service..... It is my opinion to consider putting it carefully in the Acts and standards being developed in the country.
EHO working in food safety

District hospital laboratories should have the capacity to test food products or items suspected of being contaminated with a foodborne disease causing agent. Currently the trend is that our laboratories test only human excreta to determine the causative agent.
EHO working in food safety

Both laboratory based and private sector respondents indicated that the efficiency of laboratory services needed to be improved. Laboratory managers and technicians indicated that although they may be categorized as national reference laboratories, they “cannot respond on most issues due to lack of finances”. This included response to food poisoning outbreaks. It was also highlighted that supervision of field officers who conduct analysis, e.g. testing for iodine in salt, receive minimal supervision and in many cases do not have the reagents they need to undertake testing.

The capacity to ensure direct communication to District Health staff was also outlined as a limitation. For example, test results may take so long to get to a District Health Office that the food has already been sold irrespective of the results.

Private sector key informants also expressed frustrations with communication and efficiency of laboratories when sending both compulsory and voluntary samples. As such many companies send their samples to external laboratories for testing. It was reported that results can take from 3-6 months during which time the company is not supposed to sell the food, which in some cases is not feasible or economically viable for the business. Similarly, private sector expressed frustration with laboratory services when trying to develop new products. Due to delays in testing and communication of results it was felt that current services could be stunting commercialization and innovation within the food industry.

5.6 Information Education and Communication programs

The Situation Analysis explored the existing food safety IEC activities in Malawi including extension and advisory services for the food sector as provided by the government, industry, trade associations, and educational institutions. This section also addresses the current training programs available for food safety in Malawi and specific private sector support provided through donor led programs.

5.6.1 Organizations involved with community and private sector IEC

Responsibility for food safety communications activities in Malawi lies with the following players:

- Malawi Bureau of Standards
- Consumers Association of Malawi (CAMA)
- Ministry of Health (including Environmental Health, Nutrition and Health Education Unit)
- Ministry of Agriculture and Food Security (Communications Section)
- Office of President and Cabinet – Department of Nutrition, HIV and AIDS
- Donors and NGOs including WHO, UNICEF, SSDI who are involved in nutrition and water, sanitation and hygiene programs.

However, despite the number of stakeholders involved, key informants indicated that food safety public education campaigns are not consumer driven, they are usually reactive top-down mass media campaigns targeted at mainly rural communities. The main topics covered in the last two years include improving nutritional status, hygiene issues, iodine in salt, and vitamin A in sugar, and did not strive for overall consumer education in terms of food safety and consumer rights.

Box 6: Feedback from Key Informant

“(In Malawi) there are unsustainable education campaigns by different players, the public don’t know about food safety issues and they are not aware of their right to complain or where to complain.”

5.6.1.1 Consumer Association of Malawi

The main voice for consumers in Malawi lies with CAMA whose focus is to engage with concerned stakeholders including vendors, private sector and regulators. This includes working closely with organizations such as MBS to ensure that laws and technical regulations (mandatory food standards) are enforced and complied with as appropriate. The organization describes its objectives as:

- To complement government agencies to create independent consumer awareness
- To protect and advocate on behalf of consumers through the Consumer Protection Act.

CAMA’s involvement with MBS was confirmed by both organizations however they also reported that in reality consumers are not sure of their rights or where to complain. They also participated in other national networks such as the National Fortification Alliance.

To date CAMA's food safety IEC activities have focused on: nutrition, salt and sugar. CAMA also indicated that they worked with the Ministry of Education in the development of basic food safety awareness information as part of primary and secondary school curriculum.

5.6.1.2 Ministry of Health

The Health Education Unit (HEU) regards itself as a key government department responsible for the production of IEC materials in Malawi, however HEU is rarely involved in food safety issues except reactively during food related disease outbreaks. The epidemiology department is the co-ordinating department during an outbreak and calls together Ministry of Health, District Assemblies, Water Boards, Christian Health Association of Malawi (CHAM) and the HEU. Subsequently, the HEU is then responsible for drafting relevant IEC materials and public health messaging.

HEU does not have a specific desk for food safety so it resides with the Deputy Director, who has a background in environmental health. Food safety communication activities are reactive, for example the Deputy Director was a stakeholder in MoH/Environmental Health Unit meeting to develop a manual on food safety and its subsequent content contributions and editing.

HEU also works with the Ministry of Information on IEC materials but not on food safety issues. It was reported that the Ministry of Agriculture also has an active communications unit but this has not been validated. It is worth noting that HEU does not interact with CAMA on food safety only tobacco-related health issues.

HEU has the expertise in producing IEC materials however there is a lack of funding for new campaigns and food safety expertise is limited in this department. As identified in *The Capacity Mapping Report of the Health Education Services, Ministry of Health, January 2013* concluded: "The strength of Health Education Services is that it has an institutional presence both at the national level and within all the districts in the country. However there are key challenges that need to be addressed to reposition the HEU as the leader in health promotion in Malawi. Most of the officers at the HEU lack specialized training and this can undermine their effectiveness to plan and implement evidence-based interventions." Recommendations have been made to address these issues through the new Health Promotion Policy.

The **Environmental Health Unit** has a specific desk officer for food safety who has been the coordinator for the development of two training manuals. The *Food safety and hygiene training manual (2008)* and the *Food Safety And Hygiene Training Manual For Informal Food Sector (Vending Community)* both in partnership with the WHO. These manuals have been distributed to environmental health officers at District level to train informal traders and food handlers. However to date the implementation of the manual has been limited and only City Assemblies such as Blantyre are currently running food safety and hygiene training courses albeit intermittently.

5.6.1.3 **Malawi Bureau of Standards**

MBS undertakes consumer awareness programs targeting the general public, students etc. through the radio, TV, newspapers and meetings. MBS also produces fliers and brochures encouraging consumers to consume products with an MBS mark, to check expiry/best before dates when buying food products etc.

MBS also intermittently runs food safety and hygiene training programs for food handlers and business owners.

5.6.1.4 **Department of Nutrition, HIV and AIDS**

This department within OPC has been responsible for the coordination and integration of nutrition activities across all Ministries within the Government of Malawi. This has included working with key donors on the production and dissemination of targeted nutrition messages using radio, TV, newspapers and meetings.

5.6.1.5 **Ministry of Agriculture and Food Security**

Under the Department of Extension Services, the Communications Unit with the Food and Nutrition Unit undertake mass media education and training programmes pertinent to the work of the MoAFS.

Table 17: Examples of previous education campaigns and IEC materials

| Type of IEC material (i.e. leaflet, video, poster) | Focus (topics addressed) | Target Audience | Organization(s) responsible (for production/delivery) | Date produced |
|--|--|--|---|----------------|
| Leaflets and brochures | Generic food safety | Consumers | WHO | On going |
| Calendars | <ul style="list-style-type: none"> . The importance of selling tested and certified products . Dangers of selling substandard products . The need to embrace culture of standards | <p>Manufacturers</p> <p>Manufacturers, traders</p> <p>The general public</p> | MBS | December, 2012 |
| Radio Advert | The need to check expiry dates and certification of products when buying. | Consumers | MBS/ Go bright Media | 2010/2011 |
| HEU band | Generic food safety messages | Consumers in Chikwawa, Nsanje and Blantyre | HEU with external funding | 2011/2012 |
| Short films (HEU mobile van unit) | Generic food safety messages | Consumers | HEU funded by UNICEF | 2008/2009 |

5.6.1.6 Other Organizations

As outlined above many of the IEC and training campaigns are donor driven or supported which can mean the development of isolated IEC campaigns or the use of consultants and experts for the training of specific members of the food safety sector.

5.6.2 Consumer complaints

The MBS has a consumer complaints scheme through which concerned stakeholders can lodge their concerns about the quality of products on the market. This scheme enables the MBS to get an impression of the performance of food products beyond the production or certification point. MBS is also an inquiry point on SPS regarding food safety so any grievances (local or international) related to food products manufactured in Malawi can be lodged and channelled to appropriate authorities.

Based on information from the MBS consumer complaints scheme, most of the concerns raised by consumers have been on “foreign matter” found in locally produced products or substandard products (e.g. poorly labelled/expired imported products being found on the market).

CAMA reported that complaints are received about low quality food and drink but economically most consumers don’t have the ability to choose alternatives. Most complaints received are related to drinks but this is hard to follow up if the drink has already been opened.

Although the Consumer Protection Act has provided an effective framework currently it is too expensive to put into practice, particularly at district level. Key informants suggested that there needs to be an awareness raising exercise among communities on the contents of the Consumer Protection Act and their rights and the process of complaint therein.

MBS reported that it “undertakes various actions in accordance with the law such as confiscating and disposing of the products, suspending production of the products if they are locally manufactured, until the shortfalls are redressed and verified by the MBS, and issuance of imported bans or rejection orders on imported products.”

In summary, the opportunities for and methods in which customer complaints are addressed in Malawi appear to be disjointed and uncoordinated.

5.6.3 Human resources and training requirements

Training in food safety and hygiene is required on two levels. Firstly, enforcement personnel who undertake inspections and provide advice to food businesses are required to have an effective and competent working knowledge of food safety and hygiene principles as well as regulatory frameworks, and enforcement procedures for farm to fork. Secondly, food handlers and business owners are required to have an effective and practical understanding of food safety and hygiene issues for their business in order to have effective controls and management systems in place.

5.6.3.1 Enforcement personnel

As outlined previously in this report, there is a wide range of personnel across multiple Ministries and Agencies who are responsible for and involved with food safety. The trainers, inspectors and enforcement officers have a diverse range of qualifications and training which contributes to the lack of consistency of approach and standards. MBS, Ministry of Health and Department of Tourism have attempted to address these issues with the development of guidelines and standard forms for inspection and auditing although their use does not appear to be universal at present (Table 18). In addition the Department of Tourism indicated that staff undertaking food safety inspections had attended additional training through the Malawi Institute of Tourism, or external bodies based in Botswana.

Box 7: Feedback from Key Informant

Forums must also be created to refresh food inspectors with new skills and also share best practices in as far as food safety and quality is concerned in Malawi.

EHO working in food safety

At present a range of opportunities do exist through government, private and academic institutions (Table 18). However, these are theory-based courses only and no organization indicated any requirement for practical or competency-based training before personnel are allowed to undertake enforcement visits.

Inspecting officers from all responding organizations indicated a need for further training in food safety including refresher and practical training on inspection and auditing procedures (Box 7). Consumer representation and private sector also outlined the need for improved professionalism and consistency of approach from enforcement agencies.

Table 18: Current qualifications of personnel undertaking food safety inspection and enforcement in Malawi

| Organization | Position | Minimum Qualification |
|---|--|---|
| Malawi Bureau of Standards | Quality Officers | Bachelors degree in Agriculture, Food Safety and Technology, Engineering, Chemistry or Physics |
| District Health Office and City Assemblies | (Assistant) Environmental Health Officer | Diploma or Bachelors degree in Environmental Health |
| District Agriculture Offices | (Assistant) Veterinary Officer | Diploma |
| Fisheries Office | Fisheries officer | Certificate in Fisheries Management |
| District Assembly | Trade Officer | Relevant Bachelors degree |
| Department of Tourism | Tourism Officer | Bachelors degree with supplementary training in food safety from Malawi Institute of Tourism as required. |

It is therefore recommended that personnel involved with inspection at any level be subject to additional food safety specific training through a certified institution. Such training should include work based learning elements and require a competency assessment prior to authorisation as an enforcement officer for any agency. This would support the need for consistency of approach across the relevant organizations.

Table 19: Training courses currently available for food safety and quality in Malawi (not considered exhaustive)

| Institution | Course | Number of Years |
|---|---|------------------------|
| University of Malawi - Polytechnic | BSc Environmental Health | 4 years |
| | BSc Food Science and Technology | 4 years |
| | MSc Environmental Health | 1 year |
| University of Malawi - Chancellor College | BSc Chemistry | 4 years |
| | BSc Biology | 4 years |
| University of Malawi - College of Medicine | BSc Laboratory Technology | 4 years |
| Lilongwe University of Agriculture and Natural Resources | Diploma in Dairy Management | 3 years |
| | BSc Food Science and Technology | 4 years |
| | BSc Nutrition and Food Science | 4 years |
| | BSc Animal Science | 4 years |
| | BSc Horticulture | 4 years |
| | MSc Horticulture | 1 year |
| | MSc Food and Nutrition | 1 year |
| Malawi College of Health Sciences | Diploma Environmental Health | 3 years |
| Malawi Institute of Tourism | Diploma in Hospitality & Tourism Management Three years | 3 years |
| | Certificate in hotel management | 1 year |
| | Certificate in Food Production | 1 year |
| | Certificate in Food and Beverage Services | 1.5 years |
| Livingstonia University | BSc Public health | 4 years |
| Mzuzu University | BSc Hospitality Management | 4 years |
| | BSc Tourism | 4 years |

5.6.3.2 Private Sector training

Training of food business operators and food handlers in Malawi is currently not a statutory requirement. However, in order to demonstrate good practice and due diligence, businesses must ensure that food handlers are operating with competence and are not causing food poisoning.

In addition to the programs outlined in Table 19, a number of organizations offer a range of short courses for food handlers in Malawi, including food safety and hygiene, HACCP and food safety management systems. Organizations offering courses include Malawi Bureau of Standards, City Assemblies, academic institutions (e.g. University of Malawi – Polytechnic) and private consultants. These courses can range from basic to advanced levels and appear to be offered intermittently or when specifically requested by a company.

Private sector respondents indicated that they struggle to find personnel with appropriate food safety and quality qualifications in Malawi as they often choose to work in other countries or do not wish to live outside the main urban areas. Therefore they often have to employ those with degrees in applied sciences such as physics who do not have the specific skills required. As such it is believed there is a demand for specific quality assurance training at Masters level. In terms of lower level food handlers, private sector also indicated a high demand for more frequent and high quality food safety and hygiene short courses.

The *Food safety and hygiene training manual (2008)* and the *Food Safety And Hygiene Training Manual For Informal Food Sector (Vending Community)* both developed by Ministry of Health in partnership with the WHO are available however these have not been widely adopted and used by District Health Offices at this time to train formal and informal food handlers. However these could be supplemented with the development of Malawi specific materials such as the Safer Food for Better Business (Food Standards Agency n.d.) materials available online.

In terms of private sector support, multilateral donors have implemented a number of capacity building programs. These have primarily focussed on bringing skills and support to the food processing industry (small to medium enterprises) in Malawi to improve SPS standards and implement Hazard Analysis of Critical Control Points (HACCP) programs to increase their capacity for international trade.

For example, the EU currently have a seven year funded program *Capacity Building Towards Trade and Private Sector Development (2011)* which specifically targets strengthening existing SPS infrastructure, supporting small to medium enterprises to meet quality standards and to enhance the capacity of MBS in terms of SQAM, including laboratory certification and product certification schemes.

The EU has developed effective donor coordination with the World Bank, USAID, UKAID, UNDP and the African Development Bank for this program (Donor Group on Trade and Private Sector Development). However an overall assessment of

donor support to the private sector has shown a considerable amount of overlap in activities. This is not surprising considering the numerous agencies and ministries involved in food safety, all of whom work directly with donors. For example, Ministry of Health are working with the WHO in development of food safety materials but are not included in the EU steering group for the capacity building program. Likewise, UNIDO are implementing a program under the *Global Food Safety Initiative* in partnership with private sector for *Sustainable Supplier Development* through consultants, which does not seem to be linked to the SQAM program despite obvious overlaps in activities and objectives. To improve communication it is recommended that the Technical Working Group for Trade and Industry be used as an effective conduit for sharing information in relation to food safety, as it incorporates all stakeholders (Government, Donors, civil society, parastatals, etc.) and would allow direct dialogue between Ministries at Sector Wide Approach level under the planned Joint Sector Strategy.

The need for appropriate training programmes in the agricultural sector must also be considered here to ensure the safety and value of food throughout the farm to fork chain. A number of courses of different levels are offered through LUANAR as well as agriculture based donors and non governmental organisations. Again this approach must be consolidated and streamlined to ensure training and capacity building are consistent in their approach. This can also be achieved through the appropriate Technical Working Groups.

5.6.3.3 Public education

In terms of consumer education, this primarily comes in the form of mass media using radio, TV, newspapers and community meetings, and has focussed on general hygiene practices, general nutrition guidance, iodisation of salt, and vitamin A in sugar. The copyright and templates of these materials tends to stay with the funding body and copies are not provided or logged in the HEU for future reference and use.

The need to ensure that curriculum content on food safety and hygiene is developed and delivered was also highlighted as a need in primary and secondary education.

In specific areas of the country, development and capacity building programs are being implemented by a wide range of donors and partners. Although these may not be specifically categorised as food safety, there can be elements of food safety and quality inherent in the program development and implementation (Table 20). These may be countrywide or district specific, however once again improved coordination is required between implementing agencies with the partner ministries, and a central contact point within Government would facilitate this.

Table 20: Example of donor funded programs in Malawi which affect food safety and hygiene (USAID)

| Prime Partner | Activity Title | Description/Objective | Geographical focus |
|---|---|--|---|
| Catholic Relief Services/WALA Consortium | Wellness and Agriculture for Livelihood Advancement | Improved maternal & child health & nutrition status; Improved livelihood status; capacity to withstand shocks & stresses | Balaka, Machinga, Nsanje, Mulanje, Chikhwawa, Zomba, Chiradzulu, Thyolo |
| Feed the Children | Tiwalere OVC project | Improve the nutritional status of children in CBCC, including OVCs and the households that care for them | CBCCs in Central & Northern Malawi; full community package in Dowa, Lilongwe, Salima, Ntchisi, Nkhota-kota, Chitipa |
| Development Alternatives Inc. | Feed the Future/Integrating Nutrition into value Chains | Creation of market opportunities through improving the competitiveness of value chains and linking the poor into the opportunities generated | Mchinji, Lilongwe, Dedza, Ntcheu, Machinga, Mangochi, Balaka |
| UNICEF | Micronutrients | Prevention of iodine deficiency disorders through salt iodisation | All districts; Industry |
| Bunda College | Long term Education Support | MSc. Degree in Food and Nutrition at Bunda College of Agriculture (7-10 students in FY11) | GOM officials |
| Tufts University | Capacity Building | Nutrition curriculum review; development of curriculum for postgraduate diploma in dietetics; Malawi-specific food composition tables | Bunda College |

6.0 Summary of Recommendations

As highlighted in the Executive Summary, the food safety and quality systems in Malawi currently suffers from a number of limitations:

- Uncoordinated, outdated or incomplete food laws and regulations
- Absence of a national food control strategy
- Poorly defined and overlapping mandates of relevant agencies
- Limited infrastructure, equipment and skilled personnel at all levels
- Inadequate resources for effective food inspection and enforcement
- Limited knowledge about, and ability to comply with, food safety standards

Therefore, there are a number of recommendations on how to address these issues and provide a more structured and aligned national system for food safety and quality management. Many of these recommendations, although under different subheadings are inextricably linked, and this should be taken into consideration then mapping the way forward for food safety in Malawi. Food safety and quality has multi-sectoral ramifications, and it is therefore imperative that any strategy development must be jointly owned, implemented and monitored by all the sectoral ministries, civil society organizations and stakeholders involved in food safety and quality issues. In addition, implementation of recommendations to improve food safety and quality control will require a diversity of technical knowledge and skills among service providers and beneficiaries.

6.1 Cross cutting issues

As stated above, a number of the recommendations are linked. However there are cross cutting issues, which affect all areas of development. The most important of these is the current lack of coordination and alignment in the regulatory framework, food control systems and food safety education programs, and the identification of an appropriate lead agency to drive this agenda.

In order to address these issues it is recommended that a multi-sectoral task force be formed, and mandated to discuss and agree unilaterally on the formation of a centralised parastatal organisation responsible for the oversight of food safety and quality in Malawi. For example this task force may use and already existing group such as the National Quality Policy working group, or Malawi Programme for Aflatoxin Control or Trade and Industry Technical Working Group. This parastatal may be the development of a new organisation, (e.g. a Food Control Agency) or involve the overhaul of an existing authority such as MBS. It is recommended that such a body must be stand alone and objective in its oversight and mandate. Such a body may not be responsible for provision of inspection and laboratory services, but rather act as an overarching independent body nationally responsible for developing consistency of approach, improved services and effective educational programs.

The formation of such a body would allow the smooth and coordinated development of the structures and support for the formation of an effective food safety and quality control program in Malawi. In order to achieve political will and support, it is recommended to use the success of the MAPAC programme. This multi-sectoral group has led to Malawi being identified as a pilot country to work with the Partnership for Aflatoxin Control in Africa (PACA) on the development of a multidisciplinary approach to control aflatoxins across the country. At the recent COMESA/PACA meeting held in Malawi (March 11 – 13th 2014, Lilongwe) on Aflatoxin Challenge in Eastern and Southern Africa, the key importance of aflatoxin control being part of a wider food safety control programme and structure was emphasised (PACA/COMESA 2014). This issue must be taken into consideration as this programme moves forward in Malawi, and can potentially be used to generate the political will to put food safety as a priority in the public health and trade agenda.

Recommended responsibilities for such a body are detailed within the specific recommendations outlined below:

6.2 Food Law, Regulation and Standards

The regulatory framework for food safety and quality is currently uncoordinated, and incomplete in terms of generic requirements and enforcement procedures. The lack of any overarching policy relating to food safety compounds the lack of direction and consolidation, which is needed for an effective framework to be formed. Some progress has been made in the development of draft legislation such as the National Quality Policy and the Nutrition Bill 2013. Although, neither of these documents has a specific focus on food safety, any food safety related Policy and Bill must ensure effective integration with these. In addition, Malawi Bureau of Standards has developed and gazetted a number of standards which reflect international standards under the CAC, ensuring that the regulatory framework for which they are responsible is up to date in particular sectors. Therefore recommendations are as follows:

- Develop a Food Safety Policy (Quality elements are addressed in the National Quality Policy which must be clearly integrated) and Strategy for Malawi which will include the development of the recommended national food safety control body, e.g. Food Control Agency. This Policy must take into consideration all key players in the sector and integrate with all relevant existing policy documents outlined in this report.
- Review all existing draft bills for proposed food safety laws. These should be consolidated and assessed in line with CAC recommendations to form one statutory recommendation to go forward as a Food Safety Bill. The proposed Bill must contain all statutory and enforcement procedures and make allowance for the provision of Regulations to address specific food safety control needs as they arise. The proposed Bill must all clarify the roles of specific Ministries and Agencies in food safety control and allow for the review of all existing food safety related legislation.
- Build capacity within the Food Control Agency for the effective review and development of regulations and standards in partnership with relevant

ministries and agencies. The review must avoid the mix of old laws and new regulations as these can lead to inconsistent application of standards across products, risks and countries of origin.

- Streamline the system of regulation and standards development in line with that of the MBS to ensure effective consultation.
- Mandate MBS to reform the National Codex Committee with original members to ensure it is functioning for input to all relevant development and review of regulation.
- Ensure that funding is ring-fenced for Malawi to participate in the Codex Alimentarius Commission meetings to ensure that we continue to participate effectively in this international body, which will form the basis of the majority of legislative review.

6.3 Food Safety Control Management

The key challenges identified in the management of food safety control were:

- Lack of a national database/register of all food premises
- Poor communication and information sharing between enforcement agencies
- Lack of capacity in terms of equipment, consumables and human resources in laboratory services
- No clear delineation between inspecting agencies and their responsibilities and criteria leading to gaps and overlaps in enforcement
- Lack of consistency in approach to inspection and inspection standards.

With this in mind, it is recommended that a national database of food businesses based upon current registration of businesses by MBS, Department of Tourism, Department of Veterinary Services and City/District Assemblies be designed, developed and implemented. This database should contain not only registration of premise but also include a remit for recording outcomes of inspections. As such the benefits to such a system would include:

- A comprehensive list of all food premises in the country ensuring effective registration and control
- Consolidation of data and reports for food premises
- Knowledge exchange and information sharing across all food safety control stakeholders
- Reduced duplication of effort thereby improving resource management, and private sector frustration
- Clearer delineation of roles and responsibilities
- Improved communication between stakeholders.
- Be a confidential system that is not open to the public.

6.3.1 Inspection services

In terms of food safety control through inspection services, the following actions are recommended:

- The delineation of inspection roles between Ministries and Agencies responsible for food safety control. This will be an integral aspect of the

review of the regulatory framework, the development of a central food control agency and formation of a national database. Overlap in inspection roles should also be addressed at City/District level with the formation of Food Safety Committees that contain representation of all stakeholders involved in food safety enforcement.

- Inspection frequency is currently identified in different ways by each of the enforcement agencies. As such inspections can be intermittent. In order to protect public health, it is recommended that inspection frequency be determined on a risk based system, whereby those food premises which pose an increased risk to public health are inspected more frequently. This system can be built in to the national database and reporting system.
- Ensure consistency of approach to inspection across the Ministries and Agencies responsible for food safety control. Current inspection methods and criteria are varied, leading to confusion within the private sector. Current guidelines for inspection are in place with some authorities. However consistency between these documents, and awareness and use of these guidelines by inspecting officers is not consistent. As such, national guidelines and codes of practice should be developed for conducting food safety and quality inspections, and their circulation must be supported by an integrated training and awareness campaign. Risk based inspection methods must be integral to this training and development. Guidance on effective inspection methods are available from FAO (2008) *Risk-based food inspection manual*.
- Inspecting officers have a wide range of qualifications from Diplomas to Degrees in a variety of specialisms. As such, to ensure consistency of approach and professional conduct it is recommended that food inspecting officers must undertake a practical competency examination prior to being approved. Such a test could be conducted through the national food agency or through professional organizations such as the Malawi Environmental Health Association.
- Although MBS currently has HACCP and ISO standards in place for food safety, they are unable to certify these systems due to lack of capacity and accreditation from ISO. As such companies wishing to seek certification must incur the cost of audits from South African Bureau of Standards. Provision should be made to build capacity within MBS for accredited officers to audit and inspect systems for international certification . This will potentially increase the number of accredited businesses within Malawi thereby improving trade opportunities outside the country.
- Recommendations of the anticipated World Bank and SQAM reports on the structure and capacity building program for MBS will also affect the way forward on these issues.
- Trans-boundary communications must be improved with neighboring countries to address private sector concerns with regard to law and order of their products during transport to relevant ports.

6.3.2 Laboratory Services

Recommendations in terms of the laboratory services must take into consideration the outcomes and recommendations of the current SQAM Market assessment and the World Bank report on MBS, and the planned activities under

the GoM-EU-UN SQAM Program. They must also take into account the development of the Laboratory Association of Malawi and the Public Health Institute, both of which could improve laboratory services through their mandates. As such, overall the recommendations for laboratory services are as follows:

- There is a need for the laboratories at CHSU and MBS to be more fully equipped in terms of equipment, human capacity and consumables to function as an independent National Public Health/Reference Laboratories. To achieve this in a sustainable way Ministry of Health and MBS must also commit to the day-to-day running costs to ensure the smooth and effective provision of services. This can be assisted with the support of the Laboratory Association of Malawi and the Public Health Institute.
- There are currently no certified laboratories or specific tests within laboratories in the country, although this is being addressed at both MBS and PH laboratories through various programs outlined in the report. Priorities for certification should be identified in a national survey to determine private and public sector needs. At present there is little confidence from private sector on the quality of laboratory services and as a result, a large number of companies send samples outside the country for analysis. The certification of specific laboratory tests must be expedited to provide this service in country for both commercial and statutory sample testing and raise the confidence of industry in the in-country capabilities.
- There are currently a number of laboratories throughout the country based in public, private and academic sectors. However there appears to be little collaboration and communication between them. Improved linking between these laboratories would allow knowledge exchange and information sharing to ensure that data is effectively managed and used to identify public health incidents, and support resource management. This is also integral to the development of a food safety surveillance system and should be supported through the Laboratory Association of Malawi and the Public Health Institute.
- Consideration should be given to resource provision and capacity building at district level for the analysis and examination of basic food samples, perhaps using rapid test kits, and outbreak related samples as part of foodborne disease management and disease surveillance.

6.4 Surveillance of Foodborne Diseases

Malawi currently conducts surveillance for the priority diseases outlined in the IDSR. However, under the International Health Regulations (2005), it is mandatory for Malawi to report events of international importance that involve contaminated food and outbreaks of foodborne diseases. Although the Epidemiology Unit currently runs an effective IDSR system, it does not currently reflect this. However, a review of the IDSR Technical Guidelines to include food and waterborne disease is currently under development. Despite this, outbreaks appear to be reported and addressed on an ad hoc reporting basis, to the Ministry of Health and Epidemiology Unit therein.

The limitations to the current system are inextricably linked to the limitations of the current laboratory services and as such any recommendations here are also dependent on the development of improved laboratories. Improvements to the system are also anticipated with the formation of the Public Health Institute in 2013. The consolidation of the Epidemiology Unit and Public Health Laboratory under one organization should improve communications and systems. The PHI should also be improving the links with academia and the National Commission for Science and Technology. With this in mind, recommendations are as follows:

- Ministry of Health should complete the review the IDSR Technical Guidelines to integrate the monitoring and reporting of foodborne disease outbreaks into the formalised system. This guidelines must be disseminated effectively to all levels, which is accepted as a main challenge to ensure effective implementation.
- Guidelines should be produced and relevant persons trained on how to identify, manage and contain and foodborne outbreak. WHO (2008) *Foodborne disease outbreaks: Guidelines for investigation and control could be used to develop these for Malawi*.
- Effective cooperation between the Epidemiology Unit, laboratory services, research unit and academic institutions (including the National Commission for Science and Technology) to ensure that all data collected through surveillance and research is consolidated and used to inform planning and resource allocation. This should be assisted with the formation of the Public Health Institute.

6.5 Information, Education, Communication and Training

This area contains a number of areas including public and consumer awareness, food handler and business training, and training of enforcement and training officers.

6.5.1 Public Education

Currently, public education on food safety issues has been limited, with concentration on specific areas such as general hygiene, nutrition, vitamin A in sugar and salt iodisation. It is recommended that a more targeted and general approach be taken to public information dissemination campaigns through mass media:

- The current Health Education Unit (Ministry of Health) should collate all existing food safety education materials (electronic, paper, radio, television, etc.) and form a repository for reference within the unit library.
- Mass education campaigns should be coordinated through the Food Control Agency to ensure the participation of all sectors and agencies. This should also include the key involvement of the Health Education Unit (Ministry of Health) in both development and circulation to ensure consistency of approach, management of materials and widespread dissemination.
- General food safety education and information, for example using the WHO *5 Keys to Safer Food* materials (WHO 2012)
- Consumer education on consumer rights with particular reference to the Consumer Protection Act.

6.5.2 Private Sector Training

In terms of private sector training there are three identifiable areas:

- Training of farmers in Good Agricultural Practice to ensure safety and value of food from farm to fork,
- Training of companies in food safety standards, such as HACCP, with a view to increasing trade,
- Training of food handlers to ensure the protection of public health through good food safety practices.

In terms of food businesses developing food safety standards, this has primarily been targeted training provided by donor agencies to increase trade opportunities for Malawi. There is currently no legal requirement for a food handler to have undergone food safety and hygiene training before commencing work. In addition, food handler training is offered intermittently by a number of different organizations within the country including City Assemblies, MBS and academic institutions. However there is no control over the content or quality of these courses. As such recommendations are as follows:

- Support the assistance of donors to improve food safety standards in Malawi, however these should be effectively coordinated through groups such as the Technical Working Group for Trade and Industry to ensure inclusivity. The Donor Group for Trade and Private Sector Development who should also extend their membership and reduce crossover.
- Donor support should consider training of the trainers in addition to targeting assistance to specific companies to improve sustainability and extend training to other food businesses. It is appreciated that this is being done by some projects such as the GoM-EU-UN SQAM program.
- Adapt and develop generic programs such as Safer Food for Better Business (Food Standards Agency n.d.) to assist food businesses to develop food safety management systems.
- Under the regulatory review consider the requirement for all food handlers to have a minimal level of training in food safety, e.g. basic food hygiene certificate.
- Continue the development of training materials and programs targeting informal food traders as these form a significant public health risk in terms of foodborne disease.
- The quality and content of food safety training courses, and the specific trainers should be monitored and if possible accredited/approved by the Food Control Agency or relevant professional body, e.g. Malawi Environmental Health Association, to ensure the quality and consistency of training across the country.
- Food safety training programs should be conducted on a more regular basis.

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Annexes

Annex 1

List of stakeholders invited to the inception report meeting and invited to participate as key informants.

Annex 2

List of key informants who provided feedback to the Situation Analysis

Annex 3

List of stakeholders who attended the draft report presentation.

Annex 1 - List of stakeholders invited to the inception report meeting and invited to participate as key informants as organisations and departments

| Type of Organization | Organization | Department | Division |
|----------------------|---|----------------------------|------------------------------------|
| Multilateral/Donor | WHO | | |
| | FAO | | |
| | EU | | |
| | USAID | | |
| | DfID | | |
| Government of Malawi | Ministry of Health | Preventive Health Services | Environmental Health |
| | | | Epidemiology |
| | | | Public Health Laboratory |
| | | | Health Education Unit |
| | Ministry of Health | Clinical Services | Nutrition |
| | Malawi Bureau of Standards | Standards Development | |
| | | Quality/Technical Services | |
| | | Laboratory Services | |
| | Ministry of Agriculture and Food Security | Agricultural Research | Chitedze/Bvumbwe Research Stations |
| | | Planning | Food Security |
| Extension Services | | Nutrition | |

| Type of Organization | Organization | Department | Division |
|-------------------------------------|--|---|----------------------------------|
| | | Fisheries | |
| | | Veterinary Services | Animal Health |
| | Ministry of Industry and Trade | Industry | |
| | Ministry of Tourism, Culture and Wildlife | Tourism | |
| | Office of President and Cabinet | DoNHA | |
| | | Presidential Initiatives | Hunger and Poverty Reduction |
| | National Commission of Science and Technology | Health Research Strengthening Capacity Initiative | |
| | City/District Assemblies | | |
| | Malawi Investment and Trade Centre | | |
| Office of the President and Cabinet | Presidential Initiative for Poverty and Hunger Reduction | | |
| Consumers | Consumer Association of Malawi | | |
| Academic | LUANAR | Bunda College | Animal Science |
| | | | Forestry and Horticulture |
| | | | Home Economics |
| | UNIMA | Polytechnic/Chancellor College | Physics and Biochemical Sciences |
| | | | Environmental Health |
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Annex 2 - List of key informants who provided feedback to the Situation Analysis

Key informants

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| Private Sector | Food processors and exporters | Eastern Produce Satemwa Tea Universal Industries Illovo Sugar Company | | Chris Payne (General Manager) Alexander Cathcart Kay (Managing Director) Emmanuel XXXXXXXX (XXX) Patrick Mitchell (Managing Director) |
| | Food retailers and importers | INNSCOR/COMOX Peoples Trading Shoprite | | Skallas Smit (Managing Director) Dalitso XXXXXXXX (XXXXXX) Ronnie van der Boon (Divisional Buyer) |
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| Other Associations | Malawi Environmental Health Association | | | Mr Young Samanyika President y_samanyika@yahoo.com |

Annex 3 - List of Stakeholders who attended the draft report presentation

| Name | Position | Organisation | E mail |
|---------------------------|--|---|--|
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| Milika Kalyati | Economist (trade) | EU | milika.kalyati@eeas.europa.eu |
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