



## Food Safety and Plant Health in Ghana Analysis of the Sanitary and Phytosanitary Status of the Vegetable Sector

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# Food Safety and Plant Health in Ghana

## Analysis of the Sanitary and Phytosanitary Status of the Vegetable Sector

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#### Abstract (English)

Ghana is a signatory of the WTO agreement on Sanitary and Phytosanitary (SPS) measures. This international agreement sets out a framework for food safety as well as plant health. While food safety is important for both national as well as international trade, phytosanitary compliance can especially be a big obstacle for international trade. The current weakness of the sanitary and phytosanitary compliance system for Ghanaian vegetables might hamper development of the sector in the years to come. This study assesses the current food safety and plant health status of the vegetable sector in Ghana, determines bottlenecks and provides recommendations for improvement of the food safety and phytosanitary system of the vegetable sector in Ghana.

#### Abstract (Dutch)

Ghana is een van de ondertekenaars van de WTO-overeenkomst inzake sanitaire en fytosanitaire (SPS) maatregelen. Deze internationale overeenkomst voorziet in een kader voor de voedselveiligheid, alsmede de gezondheid van planten. Terwijl de voedselveiligheid belangrijk is voor zowel nationale als internationale handel, kan fytosanitaire naleving vooral een groot obstakel zijn voor de internationale handel. De huidige kwetsbaarheid van het sanitaire en fytosanitaire nalevingssysteem voor Ghanese groenten zou de ontwikkeling van de sector in de komende jaren kunnen belemmeren. Deze studie analyseert de huidige voedselveiligheid en fytosanitaire status van de groentesector in Ghana, bepaalt knelpunten en geeft aanbevelingen voor verbetering van het voedselveiligheid en fytosanitaire systeem van de groentesector in Ghana.

Keywords: GhanaVeg, Ghana, Sanitary, Phytosanitary, Food safety, Plant health, vegetables



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# Abbreviations & Acronyms

BMGF . . . . .	Bill & Melinda Gates Foundation	IPPC . . . . .	International Plant Protection Convention
CAC . . . . .	Codex Alimentarius Commission	ISO . . . . .	International Organization for Standardization
CDI . . . . .	Centre for Development Innovation	IWMI . . . . .	International Water Management Institute
CEPS . . . . .	Customs, Excise and Preventive Service	MLGRDE . . . . .	Ministry of Local Government Rural Development and Environment
CPA . . . . .	Consumer Protection Agency	MEST . . . . .	Ministry of Environment, Science and Technology Innovation
CSIR . . . . .	Council for Scientific and Industrial Research	MoF . . . . .	Ministry of Finance
DAES . . . . .	Directorate of Agricultural Extension Services	MoFA . . . . .	Ministry of Food and Agriculture
DCS . . . . .	Directorate of Crop Services	MoH . . . . .	Ministry of Health
EKN . . . . .	Embassy of the Kingdom of the Netherlands	NRGP . . . . .	Northern Rural Growth Programme
EPA . . . . .	Environmental Protection Agency	NPASP . . . . .	Northern Presbyterian Agricultural Services and Partners
EU . . . . .	European Union	PPRSD . . . . .	Plant Protection and Regulatory Services Directorate
FBO . . . . .	Food Business Operators	SPS . . . . .	Sanitary and Phytosanitary
FDA . . . . .	Food and Drugs Authority	SWOT . . . . .	Strengths, Weaknesses, Opportunities and Strengths analysis
FRI . . . . .	Food Research Institute	VEPEAG . . . . .	Vegetable Producers and Exporters Association of Ghana
GACC . . . . .	Ghana Airport Cargo Centre	WIAD . . . . .	Women In Agricultural Development
GAIDA . . . . .	Ghana Agro Input Dealers Association	WRI . . . . .	Water Research Institute
GAP . . . . .	Good Agricultural Practices	WTO . . . . .	World Trade Organisation
GAVEX . . . . .	Ghana Association of Vegetable Exporters	WUR . . . . .	Wageningen University and Research Centre
GIDA . . . . .	Ghana Irrigation Development Authority		
GMP . . . . .	Good Manufacturing Practices		
GSA . . . . .	Ghana Standards Authority		
HACCP . . . . .	Hazard Analysis and Critical Control Points		
IDA . . . . .	Irrigation Development Authority		





# Summary

## BACKGROUND

The Embassy of the Kingdom of the Netherlands (EKN) in Ghana supports the horticultural sector. The embassy has prioritized commercial agriculture in its 4-year Multi-Annual Strategic Plan (2014–2017). As a transition country Ghana is expected to move more in the direction of a ‘regular’ trade partner than a development cooperation partner. In this line, the EKN has initiated the GhanaVeg program to support Ghana’s vegetable sector and to establish “a sustainable and internationally competitive vegetable sector that contributes to inclusive economic growth and has the capacity to continuously innovate in terms of products and services”. An important aspect of the program is to stimulate production for both the local as well as the export market.

This report is the result of a consultancy study conducted under the consultancy fund facility of GhanaVeg. The consultancy fund is intended to investigate pertinent issues that are crucial to a vibrant and economically viable vegetable sector. One of these issues is the compliance to (inter)national food safety and plant health standards in the production and marketing of fresh vegetables, the topic of this study. Therefore a sanitary and phytosanitary analysis study for the Ghanaian vegetable sector was carried out by researchers of the Centre for Development Innovation (CDI), Wageningen University and Research Centre in the Netherlands. A local Ghanaian consultant also contributed to the development of the report.

## OBJECTIVE

This study assesses the current food safety and plant health status of vegetables in Ghana with specific attention to pesticides, microbial hazards and phytosanitary issues, identify bottlenecks and proposes recommendations on how to improve the food safety and phytosanitary status of vegetables chains.

## METHODS

For this study the following methods were used to meet the study’s objective:

- Desk study
- Stakeholder interviews
- Validation workshops
- SWOT Analysis

## FINDINGS

Ghana is a signatory to the WTO agreement on Sanitary and Phytosanitary (SPS) measures. This international agreement sets out a framework for food safety as well as plant health. While food safety is important for both national and international trade, phytosanitary compliance can especially be a big obstacle for international trade.

The general ‘view’ is that vegetables produced in Ghana have been excessively treated with pesticides. Exports of vegetables from Ghana to the EU are at times rejected due to the presence of organisms that occur on the EU list of harmful organisms. In 2014 this resulted in a voluntary export ban of several high-value vegetables. To have an operational sound SPS compliance system in place both the public and private sector have to take their responsibility.

## Legislation, Policy & Governance

Currently the legislative framework for food safety and plant health is partly outdated and partly overlapping. In addition the institutional framework, especially for food safety, is relatively fragmented. There appears to be limited coordination and communication between the responsible institutions, and there are overlaps and gaps in institutional responsibilities and mandates, reducing the overall efficiency and effectiveness of the system. The situation could be ameliorated through the development of an agreed national SPS strategy and policy.

Although on paper a Food Safety Action Plan and National Food Safety Policy are already described, so far these have not been implemented.

It is suggested that the legislation, policy and governance framework is reviewed, renewed and adapted to the current situation, with a clear definition of the roles, mandates and responsibilities between the various institutions, and possibilities for mutual collaboration, communication and coordination.

### *Institutions & Regulators*

Government funding for public sector institutions that have SPS related responsibilities and mandates has been insufficient in recent years. Capacity is lacking both in number as well as in knowledge level of staff. Limited operational resources are hampering execution of duties. Especially at regional level it is challenging for government staff to adequately perform the duties and responsibilities with the limited resources available. There are significant challenges with respect to the food safety, disease and pest surveillance control systems as well as the related capacity for risk analysis, especially with regard to on-farm production, processing and distribution. Importantly, no annual food safety monitoring plan is in place for monitoring microbial or chemical contamination of fresh produce and no domestic food safety standards for vegetables are defined. Capacities and resources for physical inspection of food items at border posts are inadequate, and inspection and sampling procedures at border posts are weak. Visual inspection is mostly the only way consignments can be checked.

A national food safety monitoring plan should be put in place, along with national food safety standards. Correspondingly, there is a need for a realistic and prioritized budget so that key mandates, responsibilities and tasks related to SPS can be adequately executed. Especially with respect to the on-farm inspections of producers of fresh vegetables on good agricultural practices and pesticide residues. Furthermore, the study recommends to support the capacity of staff through regular refresher training programs.

### *Vegetable producers*

Unawareness about pesticide use and other SPS related issues was found to be highest among the many smallholder farmers. While exporting companies of fruits are implementing quality and safety assurance in various degrees and are increasingly complying to international requirements, and as such prove to have the capacity to comply to international requirements, domestically a demand driven compliance to standards is not yet operational. The vegetable producers for export crops are aware of the international legislation but of the two vegetable associations interviewed, GAVEX and VEPEAG, only one farmer (herbs) was GlobalGAP certified. The majority of farmers are practicing preventive/calendar spraying with often too high dosages and mixing of several pesticides together. It was observed that there is limited use of protective equipment during pesticide application, pre-harvest intervals are not adhered to and counterfeit, banned or unregistered pesticides are reported to be used by farmers. Most of the problems of excessive and improper use of pesticides results from the lack of knowledge or awareness among farmers, which in turn is a result of lack of sufficient training, advice and provision of information. Furthermore, the use of pesticides appears to be increasing as there is less availability of labour and overall labour costs are rising. Domestic market is highly fragmented and characterized by informal marketing channels and traceability is lacking. Peri-urban farmers often have to make use of low quality (waste) water sources for irrigation, which is likely to lead to microbial contamination.

Farmers producing for export and exporting companies are increasingly complying with quality and safety standards due to international market requirements. This is confirmed by the low number of official notifications by the EU in the last few years. This system can be used as a good example for the domestic market. It is advised that farmers will have to deal with pesticides in a more responsible manner, making use of Integrated Pest Management (IPM) and Good Agricultural Practices (GAP), however they need to be supported in this.

Introduction of a traceability systems designed so it can include the smallholder farmers would assist in quickly identifying the source of problems related to food safety and plant health compliance. Opportunities should be explored for a national demand driven quality standard (like the Ghana Green Label).

#### *Input suppliers & service providers*

Besides the official registered and licensed input dealers, there seems to be quite a number of unlicensed dealers active, especially in rural areas and on open markets, where fewer inspections take place. Especially, the unlicensed dealers appear to sell a number of counterfeit, banned and unregistered products. Furthermore, the marketing and advertisement of pesticides in Ghana is forceful, strongly promoting the advantages of pesticides for improving yields. Presently government extension services have difficulties in reaching substantial numbers of farmers regularly and extension staff lacks regular (refresher) trainings on GAP and the safe and judicious use of pesticides. Furthermore, agricultural research and education in Ghana are not in line with the demands from the market or needs from practice. GhanaAir and the airport authorities in Accra are investing in new premises including inspection facilities. This opens up opportunities for traders as well as for the inspection services for improved border inspection procedures.

Input suppliers and service providers are an important link in the value-chain especially for the provision of inputs and knowledge. It is recommended that these stakeholders receive support so that they can take their responsibility in promoting the safe and judicious use of pesticides. Especially the extension staff needs to be strengthened for this purpose as they can play a positive role in supporting farmers with knowledge and advice on pesticide use, IPM and GAP. In addition, the government will probably need to inspect the agro-dealer shops more frequently so that the products sold are in line with the regulations. Furthermore, research and education need to be linked up with practice. A positive development is that GhanaAir and

the airport authorities in Accra are investing in new cargo traffic premises including inspection facilities.

#### *Markets, Traders & Consumers*

At the moment there is limited demand from the domestic market for safe food. As no national food safety monitoring plan is in place for vegetables, and no domestic food safety standards are defined, the consumer currently has no source of information to verify if the food they buy and consume is safe. There appears to be limited market differentiation, as consumers are not given the option to distinguish and choose between cheaper but potentially unsafe food or more expensive but certified safe food. With regard to phytosanitary inspections, there are discrepancies between the export inspections at the Ghanaian border and the import inspection in the EU. While phytosanitary export certificates are issued by the competent authority in Ghana, the EU border inspections intercept a large number of consignments resulting in a high proportion of official notifications.

In the absence of a domestic demand driven compliance system for quality and safety standards, supermarkets can take the lead in demanding for qualitative and safe food, with additional awareness raising campaigns for their customers and among consumers. With regard to phytosanitary issues, the phytosanitary inspection should be strengthened and cooperation should take place between PPRSD, producers and traders. Furthermore, it is suggested to organize a public-private dialogue.

#### *Conclusion*

The current limitations in the sanitary and phytosanitary compliance system for Ghanaian vegetables could hamper the growth of the sector in the years to come. This relates both to the trust of domestic consumers in the food safety of the vegetables they consume as well as the trust of the EU market in compliance to SPS standards. Public and private sector stakeholders will need to work together to regain this trust.

# 1. Introduction

Trade is a driver of development. As such, in a country like Ghana, where agriculture is a mainstay of the economy, increase in agricultural trade and exports can contribute to development (Day et al., 2012). However, there are risks associated with trade of food and agricultural products.

The hazard of food entering the (national and) international market lies in the fact that consumers (or animals) potentially can be exposed to risks arising from additives, contaminants, toxins or disease causing organisms in food. Examples are food-borne diseases like bacteria (e.g. salmonella), mycotoxins (e.g. aflatoxin) and viruses (e.g. Hepatitis), or food contaminated with chemical residues (e.g. pesticide residues, heavy metals) which end up in the food during the cultivation and production process. Compliance to food safety measures and monitoring of the quality and safety of the food entering the market is therefore of utmost importance. When quality falls short and food safety is at stake, action should be taken immediately to protect the health of humans as well as animals.

Besides food safety, plant health is another important aspect as it is especially important to protect plant life and biodiversity and to prevent or limit damage to a country from the entry, establishment or spread of new pests. As from the side of producers, diseased and infected plants can result in both yield and post-harvest losses and with the strict phytosanitary standards of export markets, it can affect marketing of products, sustainable trade relations and access to high-end markets, and can therefore result in loss of revenues.

The World Trade Organisation's (WTO) agreement on Sanitary and Phytosanitary (SPS) measures allows countries to use SPS measures to protect their animal, plant and human life and health, provided they do not constitute an unjustifiable restriction to trade (the so called barriers to trade).

SPS measures include laws and regulations, inspection and certification procedures, treatments, and a range of technical activities. Measures that conform to international standards are regarded to be non-restrictive, but importing countries can impose higher standards if supported by scientific justification. If such standards cannot be met, market access is lost. The international SPS standard-setting bodies for food safety and plant health are the Codex Alimentarius Commission (CAC) (Box 1.1) and the International Plant Protection Convention (IPPC) (Box 1.2) respectively.

Capacity to comply with standards is the result of an enabling policy, the institutional environment, and various private and public sector actors effectively performing the SPS management functions.

## Box 1.1 *The Codex Alimentarius*

The Codex Alimentarius Commission (CAC), established by FAO and WHO in 1963, develops harmonised international food standards, guidelines and codes of practice relating to foods, food production and food safety in order to protect the health of consumers and ensure fair practices in the food trade.

Codex standards are based on the best available science assisted by independent international risk assessment bodies or ad-hoc consultations organized by FAO and WHO. While being recommendations for voluntary application by members, Codex standards serve in many cases as a basis for national legislation.

<http://www.codexalimentarius.org>

The reference made to Codex food safety standards in the World Trade Organizations' Agreement on Sanitary and Phytosanitary measures (SPS Agreement) means that the Codex has far reaching implications for resolving trade disputes concerning food safety and consumer protection.

[http://www.wto.org/english/tratop\\_e/sps\\_e/sps\\_e.htm](http://www.wto.org/english/tratop_e/sps_e/sps_e.htm)

This reduces SPS risks, and creates confidence in trading partners. The result is an increased international agri-food trade.

## 1.1 Background

The Embassy of the Kingdom of the Netherlands (EKN) in Ghana supports the horticultural sector. The Embassy has prioritized commercial agriculture in its 4-year Multi-Annual Strategic Plan (2014–2017). As a transition country Ghana is expected to move more in the direction of a ‘regular’ trade partner than a development cooperation partner. Already a number of Dutch horticultural companies are active in Ghana (East-West Seed, EOSTA, Wienco). In this line, the EKN has developed the GhanaVeg program to support Ghana’s vegetable sector and to establish “a sustainable and internationally competitive vegetable sector that contributes to inclusive economic growth and has the capacity to continuously innovate in terms of products and services”. An important aspect of the program is to stimulate production for both the local as well as the export market.

GhanaVeg has a consultancy fund facility to investigate pertinent issues that are crucial to a vibrant and

### Box 1.2 *The International Plant Protection Convention (IPPC)*

The International Plant Protection Convention (IPPC), that came into being in 1951 at the 6th Conference of the Food and Agriculture Organization of the United Nations (FAO), is an international agreement on plant health, that deals with plant health standards. It aims to protect cultivated and wild plants by preventing the introduction and spread of pests.

The Secretariat of the IPPC is provided by the Food and Agriculture Organization of the United Nations. The Commission on Phytosanitary Measures is the governing body of the IPPC, which oversees the implementation of the Convention. Regional Plant Protection Organizations (RPPO) are inter-governmental organizations functioning as a coordinating body for National Plant Protection Organizations (NPPO) on a regional level.

<https://www.ippc.int>

economically viable vegetable industry. One of these issues is the compliance to (inter)national food safety and plant health standards in the production and marketing of fresh vegetables, the topic of this study.

This study assesses the current food safety and plant health status of vegetables with specific attention to pesticides, microbial hazards and phytosanitary issues, identify bottlenecks and will propose recommendations on how to improve the food safety and phytosanitary status of high vegetables chains. This study will strike a balance between public and private sector responsibilities with the ultimate aim of supporting the vegetable sector.

## 1.2 Objective

This study has the following objectives:

1. Analyse the current sanitary and phytosanitary status of the (high-value) vegetable sector in Ghana;
2. Identify bottlenecks, gaps and causes for non-compliance to sanitary and phytosanitary standards;
3. Propose practical recommendations for improvement of food safety and plant health in (high-value) vegetable chains.

## 1.3 Approach

The approach for this study was to conduct an analysis of the food safety and plant health status of the Ghanaian vegetable sector, within a limited time period, in order to assess the current status, determine gaps and bottlenecks and to come up with recommendations.

For this purpose three regions were selected (Greater Accra, Northern region, Brong Ahafo) and visited for in depth interviews with relevant stakeholders and field visits to collect the necessary information for the analysis. For two of the regions the interviews and field visits were concluded with a validation workshop (Northern Region and Brong Ahafo), in which local stakeholders participated, to present and discuss the justness of the findings of the consultancy team. In addition a desk study was conducted to gather any relevant additional literature. The initial results of this study were presented at the GhanaVeg Business

Platform Meeting on September 18th in Accra, Ghana. Because there seems to be little or no quantitative data available regarding SPS issues in Ghana, this research is mainly based on qualitative information.

A detailed list of interviewed stakeholders can be found in Annex 1. The list of workshop participants in Northern Region and Brong Ahafo can be found in Annex 2.

Based on the findings a SWOT analysis was done. This and the input from the various stakeholder workshops and the business platform resulted in a set of recommendations.

## 1.4 Team

This study has been carried out by a team consisting of three persons: Irene Koomen and Edwin van der Maden, both from the Centre for Development Innovation, Wageningen UR, and Joshua Glover-Tay, a local Ghanaian agribusiness consultant. ■

**Table 1.1** Overview of field visits and stakeholder interviews per region

Stakeholder	Greater Accra Region	Northern Region	Brong Ahafo Region
<i>Vegetable Producers</i>			
Farmers	X	X	X
<i>Input Suppliers</i>			
Agro (chemical) input suppliers	X	X	X
<i>Service Providers</i>			
Extension (MoFA)		X	X
<i>Traders &amp; Buyers</i>			
VEPEAG	X		
GAVEX	X		
AGPC Cargo Centre	X		
Freshman/Shoprite (supermarket)	X		
<i>Regulators &amp; Government</i>			
PPRSD (MoFA)	X	X	X
GIDA (MoFA)	X		
Crops (MoFA)	X	X	X
WIAD (MoFA)		X	X
NRGP (MoFA)		X	
IDA (MoFA)			X
FDA (MoH)	X	X	X
GSA (MoTI)	X		
EPA (MEST)	X		X
<i>Others</i>			
Water Research Institute	X		
University of Ghana	X		
IWMI	X		
Consumer Protection Agency (CPA)	X		



**Figure 1.1** *Validation workshop Tamale, Northern Region*



**Figure 1.2** *Validation workshop Sunyani, Brong Ahafo Region*



**Figure 1.3** *GhanaVeg Business Platform Meeting September 18th, 2014*



## 2. SPS in Ghana

Ghana is a signatory to the WTO agreement on Sanitary and Phytosanitary (SPS) measures. This international agreement sets out a framework for food safety as well as plant health. While food safety is important for both national and international trade, phytosanitary compliance can especially be a big obstacle for international trade. For an effective national and international trade in high-value vegetables it is paramount that produce complies with national legislation and international standards.

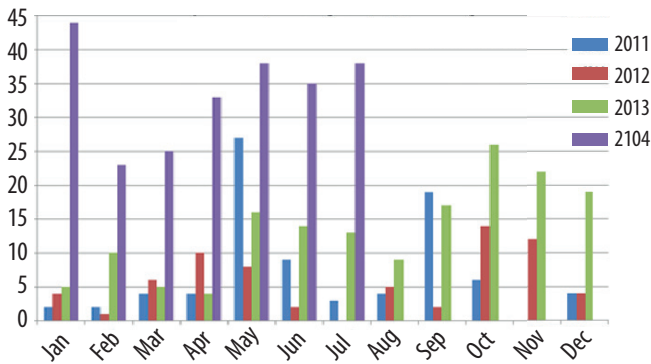
The general 'view' is that vegetables produced in Ghana have been excessively treated with pesticides. This is confirmed by several studies where use of pesticides by farmers (Fianko et al., 2011; NPASP, 2012) and residue levels in fruit and vegetables both were found to be high. Between 10 and 33% of fresh fruit and vegetables bought at a variety of markets in Ghana, had pesticide residues above the Maximum Residue Levels (MRL) (Bempah et al., 2013; Bempah et al., 2011; Bempah & Donkor, 2011; Kotey et al., 2008). Pesticide

residues, including DDT, were found in the breast milk and blood of vegetable farmers. At the same time, consumers might be aware of the risk of chemical contamination on fresh vegetables but have little awareness of the potential health problems associated with banned and excess use of pesticides and presence of pesticide residues in fruit and vegetables. Another food safety hazard is irrigation water from sources with microbial contamination (Amoah et al., 2006; Donkor et al., 2010). The occurrence of pathogens in the form of faecal coliforms and helminth eggs, on and in the internal parts of vegetables is usually associated with contaminated irrigation water or soil and could pose risk to consumers such as food borne diseases i.e. diarrhoea. Samples of lettuce, cabbage and onion bought in the markets in Accra, Kumasi and Tamale all accrued levels of contamination, both faecal coliforms and helminth eggs, above the WHO recommended maximum (Amoah et al., 2006).

**Table 2.1** *Public and private food safety and quality standards.* Source: Mei Soon & Baines (2013)

	Public Mandatory	Private
National	Collective	Company assurance standards
	HACCP	<ul style="list-style-type: none"> <li>• Pre-farm gate</li> <li>• Freshcare Code of Practice (Australia)</li> <li>• New Zealand GAP</li> <li>• Hygiene codes</li> </ul>
International	Codex Alimentarius	<ul style="list-style-type: none"> <li>• Good Agricultural Practices</li> <li>• Good Manufacturing Practices (GMP)</li> </ul>
	EU Regulations	<ul style="list-style-type: none"> <li>• SQF Code 7th Edition</li> <li>• GlobalGAP</li> <li>• ISO 9000; ISO 22000 (voluntary)</li> <li>• BRC Global Standard</li> <li>• Dutch HACCP</li> <li>• International Food Standard</li> <li>• SQF Code 7th Edition</li> <li>• ISO 9000; ISO 22000 (voluntary)</li> </ul>



**Figure 2.1** *Interceptions of harmful organisms in fruits & vegetables imported into the EU.* Source: EUROPHYT 2014

So far, no national certification or quality control system has been effectively put in place, neither by the government nor the retail sector. Attempts to introduce GhanaGAP have so far not been a major success; the system is still in development (see draft standard for a “Ghana Green Label”, Annon, 2013). Experience from other economies shows the difficulties in implementing such a system for the domestic market (i.e. IndoGAP in Indonesia, Zulkarnian et al., 2011). Although for the export sector certification labels are already abundant (GlobalGAP, BRC), however compliance in Ghana is relatively low and can mainly be found in the fruit sector. Table 2.1 provides examples of the relevant systems.

Export of vegetables from Ghana to the EU is at times hampered by the presence of organisms that occur on the EU list of harmful organisms. Between 2008 and 2011 the number of notifications had doubled from around 40/year to about 80/year (FVO, 2012). In 2013 the notifications doubled again to 160/year and in 2014 the number of notifications reached a number of 236 by the month of July only (EUROPHYT, 2014; Figure 2.1). The alleged weakness of the Ghanaian SPS compliance system became apparent when in August 2014 the EU officially notified Ghana on numerous interceptions of horticultural products from Ghana at EU borders due to presence of harmful organisms (Figure 2.2). Without improvement of compliance to the SPS standards, the EU would have to impose certain restrictive measures on horticulture imports

from Ghana. As a result MoFA responded with placing a three-month voluntary ban on the export of vegetables to the EU to avoid potential EU sanctions and to address, improve and ensure the compliance to the SPS standards.

**Figure 2.2** *Several headlines in the news on the Ghana ban on export of vegetables to EU*

## Ministry supports EU ban on Ghanaian vegetables

By: Dominic Moses Awiah | Monday, 04 August 2014 10:53 | Category: General News

## Agric ministry bans vegetable exportation to EU market

Source: Ghana | Myjoyonline.com  
Date: 17-08-2014 Time: 01:08:16 pm



General News of Thursday, 31 July 2014

## EU bans vegetables from Ghana

## Ghana faces EU vegetable ban

Found falling foul of EU quality standards, Ghanaian vegetable growers are set to miss out on a key export market

## EU tightens checks on vegetable exports from Ghana

ON 28 AUGUST 2014.

MoFA announced that once corrective measures would be implemented and the situation of compliance to SPS standards improved, the ban will be lifted. The lifting of the ban occurred early October 2014, however very little has changed structurally since then. In the meantime this has had a major impact on Ghanaian exporters that rely on exports of vegetables to the EU, as they depend on placing their produce on the European market for their revenues and possibly may lose their market share, quality credibility and solid trade links such as partners and clients due to the temporarily ban. Farmers and companies wanting to resume export need to receive training and farms will be monitored very carefully before export licences will be issued.

The main reason for the recent notifications were the interceptions based on the presence of trips, white fly and fruit fly in vegetables. The vegetables most intercepted were ridged gourd and eggplant (EUROPHYT, 2014; Table 2.2).

To have an operational sound SPS compliance system in place both the public and private sector have to take their responsibility. The public sector is responsible for legal and regulatory matters, while food business operators (FBO) are for putting safe food on the market.

While there are reports on injudicious use of pesticides in the vegetable sector (see NPASP, 2012), there have been few notification from the EU in recent years. Since the beginning of 2012 till date (October 2014) only 4 alerts are reported in the

**Table 2.2** *Interceptions of harmful organisms in fruits & vegetables imported into the EU, affected vegetables and detected harmful organisms*

Source: EUROPHYT 2014

Vegetable	Interceptions	Organism	Interceptions
Ridged Gourd	128	Trips	156
Eggplant	57	Silverleaf Whitefly	37
Jute Mallow	13	Fruit Fly	27
Sweet Potato	12	Others	16
Clove Basil	4		
Bottle Gourd	3		
Cassava	3		
Bitter Leaf	3		
Others	13		

RASSF database (RASSF, 2014). These alerts concern didecyldimethylammonium chloride in organic bananas (ref. 2012.0981), triadimefon in yam (ref. 2012.1342), abamectin in okra (ref. 2013.AGC) and carbendazim in white yams (ref. 2013.1684). There have been no notifications or alerts for microbial contamination or heavy metals in that period. ■

# 3. Conceptual Framework SPS

## 3.1 SPS Framework

In order to make the SPS system clear and understandable and how SPS compliance can contribute to development, a framework based on the value chain approach provides more insight. The framework, as described by Day et al. (2012, Figure 3.1), shows how SPS functions and compliance contribute to achieving development goals. In the sections below, the framework is discussed and explained in more detail. This framework is also used later on in this report to structure the findings of this analysis. In Annex 3 a further description of SPS functions and responsibilities is given.

## 3.2 Policy and Governance

Policy and governance is the context within which SPS compliance takes place. Policy broadly includes national, regional, sectorial and SPS specific policies and strategies, as well as legislation, regulations and

other instruments by which policy is put into practice. In this way policy and governance create the environment in which actors have to operate.

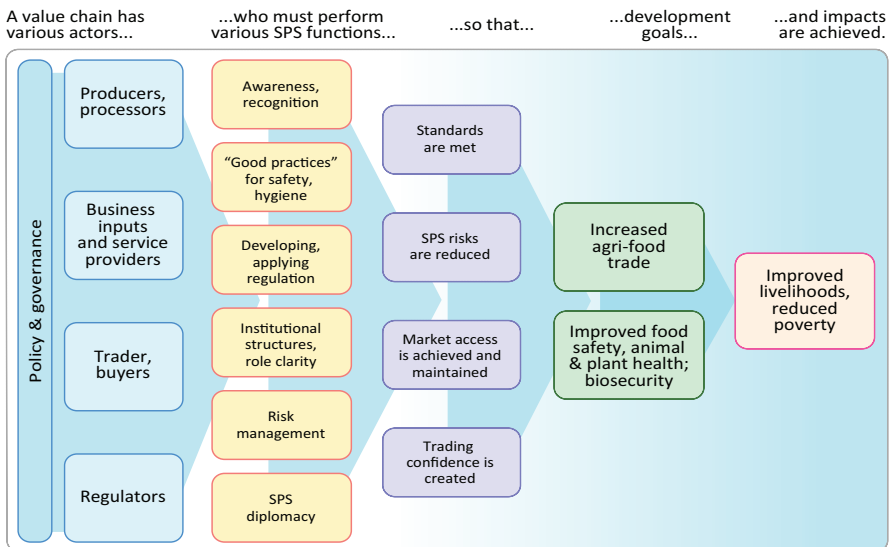
## 3.3 Value-Chain Actors

The value-chain approach can be helpful in evaluating the SPS compliance system, and identify where possible bottlenecks or shortcomings in compliance take place. There are a number of different actors in a value-chain, each of whom may have a role to play in SPS compliance. For this study, four main groups are identified.

### 3.3.1 Regulators

Regulators are the key actors in SPS compliance. They may set national standards, and be responsible for ensuring that all necessary local or international standards are met. Generally, they are responsible for certifying that exported consignments comply with SPS requirements.

**Figure 3.1** *Conceptual framework SPS.* Source: Day et al., 2012



Regulators are also responsible for biosecurity in relation to the country's imports. These organisations with their appropriate mandates and authority, as well as the necessary organisational and technical capacity, are critical for effective management of SPS issues in trade.

### 3.3.2 Producers and Processors

Producers and processors of food and agricultural products have a direct role in implementing various SPS measures, which are related to their practices, i.e. good agricultural practices (GAP) and good manufacturing practices (GMP). In Ghana, as in many developing countries, the producers or primary processors are often small-scale enterprises, who often have low levels of education and are not always aware about the importance of good agricultural practices and compliance with SPS standards. Organising these small enterprises to operate in a way that contributes to overall SPS compliance is often a challenge.

### 3.3.3 Business Inputs & Service Providers

Business inputs and service providers cover a wide range of actors who are essential for value-chains to function, but who do not necessarily handle the product themselves and are thus not directly involved with compliance to SPS standards. However, despite

this fact, they can play a significant role in SPS compliance. Examples of such actors are:

- Transporters
- Input suppliers
- Public and private extension
- Research organisations
- Accreditation and certification organisations.

### 3.3.4 Traders & Buyers

Traders and buyers are, in general, less concerned with implementing SPS measures, but may influence what SPS measures may or may not be acceptable. Traders will have to ensure that their products meet the SPS requirements of the national and international markets in order to do business. As such they can demand from producers to deliver certain standards and quality. In some cases compliance to even higher private standards may be required, which address a range of issues apart from SPS hazards, as well as allowing product differentiation or branding as a marketing strategy. Buyers and consumers as the final customers in the value-chain have the power to demand for safe and quality food, which producers, traders and retailers have to comply to in order to be able to market their products. ■

# 4. Analysis of the current SPS status

This chapter gives an overview of the current sanitary and phytosanitary status of the Ghanaian vegetable sector. The analysis provided here is based on the visits to the three regions, Greater Accra, Northern and Brong Ahafo, the interviews conducted with relevant stakeholders, and the outcomes of the validation workshops in two of the regions, supplemented with additional information from the desk study.

## 4.1 Legislation, Policy & Governance

The World Trade Organisation's (WTO) Sanitary and Phytosanitary (SPS) Agreement, of which Ghana is a signatory, sets the international standards which Ghana has to comply with in terms of scope and contents of its national food safety and plant health policy. For food safety this refers to the Codex Alimentarius and for plant health to the International Plant Protection Convention (IPPC) (see Box 1.1 & 1.2, Chapter 1). This imposes an obligation on Ghana, as a member of the WTO, to progressively adopt these international standards on food safety and plant health as the basis of its national requirements, policies and regulations.

In Ghana, the Plant Protection and Regulatory Services Directorate (PPRSD) under the Ministry of Food and Agriculture (MoFA) is the mandated National Plant Protection Organization (NPPO) and is therefore responsible for implementation of the International Plant Protection Convention (IPPC). The Food and Drug Authority (FDA) under the Ministry of Health (MoH), as the lead organisation, and the Ghana Standards Authority (GSA) under the Ministry of Trade and Industry (MoTI) together with MoFA are responsible for implementation of the Codex Alimentarius and together make up the national Codex committee. All international Codex meetings are attended by representatives from the national committee. With regards to residues the Codex standards are followed but GSA is yet to adapt them first as Ghanaian standards.

**Table 4.1** Ghanaian legislation on SPS

Topic	Legislation
Food safety	<ul style="list-style-type: none"> <li>Public Health Act, 2012 (Act 851)*</li> <li>Tourism Act, 2011 (Act 817)</li> <li>Local Government Act, 1993 (Act 462) and Establishment Instruments for Metropolitan/Municipal/District Assemblies</li> </ul>
Food standards	<ul style="list-style-type: none"> <li>Standards Authority Act, 1973 (N.R.C.D 173)</li> <li>Ghana Standards (Certification Marks) Rules, 1970 (L.I. 662)</li> <li>Ghana Standards (Certification Marks) (Amendment Rules), 1970 (L.I. 664)</li> <li>Ghana Standards Board (Amendment) Decree, 1979 (A.F.R.C.D. 44)</li> <li>Ghana Standards Board (Food, Drugs and Other Goods) General Labelling Rules, 1992 (L.I. 1541)</li> <li>Weights and Measures Decree, 1975 (N.R.C.D. 326)</li> <li>Weights and Measures (Amendment) Law, 1992 (P.N.D.C.L. 301)</li> </ul>
Controlling pests affecting plants	<ul style="list-style-type: none"> <li>Environmental Protection Agency Act, 1994 (Act 490)</li> <li>Plants and Fertilizers Act, 2010 (Act 803)</li> </ul>
Customs	<ul style="list-style-type: none"> <li>Customs, Excise and Preventive Service (Management) Act, 1993 (P.N.D.C.L. 330)</li> </ul>

\* Replaced the Food and Drugs Law (1992)

With respect to legislation in the field of SPS on national level, Ghana has several pieces of legislation in place. An overview is given in Table 4.1. The Draft National Food Safety Policy (MoH, 2013) describes the various laws and legislations in more detail. It appears that Ghana has fulfilled its obligation to adopt the standards under the SPS Agreement into the legislation and procedures, however they seem to fall short in the effective implementation.

### Finding 1.1

*The legislative and institutional framework for SPS in Ghana is characterized by outdated and overlapping legislation, and fragmented and poorly coordinated institutions, with overlaps, ambiguity, indistinctness and gaps in institutional responsibilities and mandates*

Currently the legislative framework for food safety and plant health is characterized by, in many instances, outdated (quite a number legislative documents are from the 1970's) and overlapping (especially for the food standards) legislation. The risk is that the legislation is currently not adequate enough to respond to the more complex food chain, with longer distances between producers and consumers, and more diversified markets with more demanding consumers. Several legislations and regulations are being revised at present in order to update them to current developments. However many are still in draft and the ones pending for Parliament approval, do not yet adequately address to the current weaknesses. Detailed reviews and revisions are therefore needed before these laws and regulations are approved (Food Safety Task Force, 201x).

In addition, the institutional framework for food safety and plant health is characterized by fragmented and poorly coordinated institutions, with overlaps, ambiguity, indistinctness and gaps in institutional responsibilities and mandates, this applies particularly to inspection and enforcement tasks. As an example, various of the institutes, i.e. GSA, WRI were all carrying out projects looking at pesticide MRLs of fresh produce in the market. FDA, who is supposed to coordinate the food safety activities, was unaware of these activities and results and had not as yet taken the lead in coordination of MRL analyses countrywide. The regulatory framework needs to be adjusted in such a way that it clearly and unambiguously stipulates the mandates of the institutions involved as the interviewees from the government authorities clearly indicated that coordination is clearly lacking.

### Finding 1.2

*The current institutional framework does not clearly make a separation between 1) standard setting and advisory roles vs. standard enforcement roles and 2) risk assessment vs. risk management functions*

The current institutional framework does not clearly make a separation between 1) standard setting and advisory roles vs. standard enforcement roles and 2) risk assessment vs. risk management functions. Due to reasons of transparency, independency and conflict of interest clear differences should exist between these roles and functions. The already available Revised Food Safety Action Plan (Food Safety Task Force, 201x, Annex 4) provides some recommendations for institutional adjustments regarding this separation of roles and functions.

As most of the representatives from the public institutes acknowledged, presently collaboration, coordination and communication among the different government institutions is limited. This does not contribute to overcoming some of the above stated problems related to the regulatory framework. No clear agreements are communicated between institutions on responsibilities and mandates, especially not in case of overlap and ambiguities.

Besides limited horizontal communication between the different institutions, there is also insufficient vertical communication within government departments, as at district levels there is much uncertainty, confusion and lack of clarity about the exact tasks to be carried out following the responsibilities and mandates set by national policy and legislation and there is insufficient understanding of the legal framework and the required enforcement that goes with it. From interviews with local government officials it became clear that there are no clear procedures formulated and communicated on implementation of national policies and legislation at district level.

The different institutions will be discussed in more detail in section 4.2

### Finding 1.3

*There is no establishment of a common agreed (national) SPS strategy and policy*

Because SPS management, standards, measures and compliance are a complex and department transcending system, there is need for a national food safety and plant health strategy and policy, which is established and agreed upon among the various government institutions involved. Compliance to the international phytosanitary regulations starts in farmers' fields,

as such as the MoA, and especially the extension system, but also the farmers need to be aware of the importance of controlling quarantine pests and need knowledge on how to do so. Communication and information flow between the departments involved in production and those in export and trade is paramount. Food safety in Ghana, as it is in most countries, is the responsibility of both the MoH and MoA often each with different priorities. Additionally when it concerns pesticides the Ministry of Environment as well as the Ministry of Health are also involved in the registration process for pesticides. Without clear coordination between all these various departments, communication between the public and private sector easily becomes blurred. One example we came across is that under the EU market grade standards, PPRSD is working towards compliance as EU competent authority for several fruits, as well as okra, chillies and eggplant. PPRSD explained that as part of the requirement is that a food safety certificate accompanies the phytosanitary certificate at export. None of the other public bodies, nor the export associations were aware of this additional requirement apart from the head of laboratories at GSA.

In order to come to such a common agreement on an SPS strategy and policy and to keep it up to date, inter-institutional discussion and coordination is needed. However, at the moment there is no clear platform or framework for the various public sector institutions and government departments involved with SPS issues to discuss on topics of collaboration, coordination, defining clear roles and responsibilities, and develop a common strategy and policy on food safety and plant health.

Nevertheless, a (revised) Food Safety Action Plan (developed by MoFA in cooperation with the World Bank; Food Safety Task Force, 201x, Annex 4) and a draft National Food Safety Policy (developed by the MoH and prepared by a national food safety policy drafting committee; Ministry of Health, 2013, Box 4.1) are already available and provide good guidance towards designing a public sector structure that can execute the necessary tasks under SPS and as such support the sector. However, currently it seems that these plans are only on paper, as none of the recommendations appear to be followed up and are not yet being implemented.

**Box 4.1** *Draft National Food Safety Policy.* Source: Ministry of Health (2013).

*VISION*

The vision of the National Food Safety Policy is a well-coordinated and structured food safety system that clearly outlines the roles of all relevant stakeholders for the management and control of food safety.

*GOAL*

The goal of the National Food Safety Policy is to bring coordination into the regulation of food safety and define the role of stakeholders to ensure public health and trade in food.

*POLICY OBJECTIVES*

- To establish a mechanism for coordinating food safety related activities in Ghana by ensuring harmonisation and institutional cooperation among relevant stakeholders;
- To continuously review or amend when necessary existing legislation and regulations on food safety to promote harmonization and synergy of legislation;

- To enact new laws deemed necessary to promote food safety;
- To strengthen the food borne diseases surveillance system including early warning and crises management mechanisms;
- To coordinate and strengthen existing laboratories and establish new laboratories deemed necessary to ensure food safety;
- To ensure the provision of appropriate facilities and infrastructure for effective food safety management;
- To strengthen the mechanism for the provision of food safety information, education and communication;
- To develop human capacity along the food safety value chain;
- To encourage the use of Food Safety Management systems.

### Finding 1.4

*Regional government projects are mainly funded by external parties and only to a limited extent by the central government*

It was observed that at regional level most problem assessing, system improving or capacity building projects in the field of agriculture are funded by external donors (e.g. foreign embassies, foreign government departments, NGOs). At present the central government allocates limited budget to support regional tasks and mandates. As a result, because external funded projects are in general short term in nature, finite and implemented by a wide range of organisations with own objectives and agendas, there is limited continuity, limited structure, regional approach, and fragmentation of activities. Increased coordination between the different development projects, and allocation of more additional budget from central to regional level for regulatory tasks, more sustainable results could be achieved. It was observed for instance that regional officers had not transport or resources to buy fuel, to make the necessary visit to farms.

## 4.2 Institutions & Regulators

There are several Ghanaian public sector institutions that all have certain responsibilities and mandates with regard to SPS. In Table 4.2 an overview is given of the most important institutions and their responsibilities and mandates with regard to food safety and plant health.

### Finding 2.1

*Lack of resources & capacity to effectively undertake the various SPS mandates & responsibilities, e.g.*

- *Lack of sufficient staff;*
- *Lack of regular (refresher) training for staff;*
- *Lack of resources;*
- *Lack of law monitoring, inspection & enforcement;*
- *Limited (regional) laboratory facilities for analysis and few laboratories are ISO 17025 certified at present.*

At all levels, but especially at regional and district level, it was observed that government funding for public sector institutions involved with SPS responsibilities and mandates has been insufficient in recent years. All public sector institutes that were interviewed stated that currently, only budget is allocated to the

institutes as well as to the regions to keep the various departments operational. From this budget salaries are being covered, however there is very limited budget available for investment in new staff, capacity development of staff (i.e. regular (in-service) training and refresher programs), Operational items e.g. transport, equipment, laboratory facilities, or budget for additional activities i.e. for surveys have to be sourced externally and then funding comes in on a project basis (see Box 4.2). At regional and district level it is challenging for government staff to adequately perform their duties and responsibilities with the limited resources available. Comprehensive extension, monitoring, inspection, and enforcement are, because of the limited resources, not always a first priority. Therefore significant weakness and gaps exists in the food safety, disease and pest surveillance control systems and the related capacity for laboratory analysis and risk analysis.

### Box 4.2 Lack of capacity - the case of AEA – Farmer ratio

During visits to regional and district extension departments, a subject much discussed was the low number of Agricultural Extension Agents (AEA) in relation to the number of farmers. In general it can be concluded that approximately the AEA – Farmer ratio is about 1:3000. It seems that in the past this number once has been about 1:500 at its best. As a result the impact of extension on farmers is relatively low.

A reason for the high ratio is that currently the Ministry of Agriculture is no longer hiring recently graduated agricultural extension students, while this used to be the case. At the moment only AEAs who retire are replaced, but no additional AEAs are being hired. Furthermore, at the moment AEAs are not provided with regular training and refresher programs to keep them up to date with the latest developments and innovations, and they are lacking equipment and facilities to properly perform their duties.

Government extension services, which can provide vital training and advice to farmers are inadequate to reach sufficient farmers regularly. MoFA lacks adequate resources to undertake sufficient training of farmers.



**Table 4.2** Ghanaian public sector institutions involved in SPS.

Institution	SPS relevant Responsibilities & Mandate	Ministry		
		FS*	PS*	
Plant Protection & Regulatory Services Directorate (PPRSD)	<ul style="list-style-type: none"> <li>Competent Phytosanitary Authority – managing diseases and pests, especially quarantine, of all crops including exports and imports</li> <li>Regulates the quality and safety of plant protection products; especially inputs like pesticides and fertilizer and the associated challenges after their application on crops.</li> <li>Competent authority for registration of fertilizers</li> <li>Conformity inspection at KIA of EU SPS requirement</li> <li>Training of farmers when related to quarantine pests and safe application of pesticides</li> </ul>	(x)	x	MoFA
Directorate of Agricultural Extension Services (DAES)	<ul style="list-style-type: none"> <li>Responsible for the overseeing of agricultural technology diffusion through the management of an extension delivery service in the country</li> </ul>	x	x	MoFA
Directorate of Crop Services (DCS)	<ul style="list-style-type: none"> <li>To promote the production and facilitate the processing, distribution and marketing of food, industrial and export crops; quality planting materials and the efficient use and management of soil and water resources for sustainable agriculture production</li> <li>Responsible for the development of the Green label – good agricultural practice development for fruit &amp; vegetables, including development of standard operating practices (SOPs)</li> </ul>	x	x	MoFA
Women in Agricultural Development (WIAD)	<ul style="list-style-type: none"> <li>Nutrition improvement</li> <li>Food safety along the agricultural value chain</li> <li>Value addition to agriculture produce</li> <li>Gender mainstreaming</li> </ul>	x		MoFA
Ghana Irrigation Development Authority (GIDA)	<ul style="list-style-type: none"> <li>Provide efficient technical services in irrigation infrastructure development to enhance water and soil conservation best practices</li> <li>Assist farmers and other clients in irrigation and other agricultural water management technology transfers</li> <li>Provide Consultancy Services in irrigated agriculture</li> </ul>	(x)		MoFA
Food and Drug Authority (FDA)	<ul style="list-style-type: none"> <li>Competent regulatory Authority for monitoring quality and Food safety compliance of food and drugs to both operating domestic and international standards for all food types including fruits and vegetables in the fresh, semi-fresh and processed forms covering domestic, exports and imports products. This includes: <ul style="list-style-type: none"> <li>Food premises inspection &amp; registration</li> <li>Food post market surveillance</li> <li>Food safety and quality management</li> <li>Food standards and legislation research</li> </ul> </li> </ul>	x		MoH

\*) FS = Food Safety tasks; PH = Phytosanitary tasks; if between (brackets) it indicates that this is a minor task.

Institution	SPS relevant Responsibilities & Mandate	FS	PS	Ministry
Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> <li>Competent National Agency charged with the responsibility for regulating the procurement, importation, storage, sales, distribution, disposal and application of all pesticides or plant protection products (PPP) covering all crops including cocoa in a manner that they do not harm the environment, pose health hazard and safety risk to human beings, crops, animals, plant and fish products for consumption. This includes:               <ul style="list-style-type: none"> <li>Pesticide registration &amp; licensing</li> <li>Inspection &amp; monitoring of (agro)chemicals</li> <li>Management of hazardous chemical waste disposal and obsolete (agro)chemicals</li> <li>Post registration enforcement</li> <li>Analysis of pesticides</li> </ul> </li> </ul>	x		MEST
Council for Scientific and Industrial Research (CSIR)	<ul style="list-style-type: none"> <li>Responsible for the overseeing of agricultural technology diffusion through the management of an extension delivery service in the country</li> <li>There are 13 research institutes of which FRI &amp; WRI are relevant for SPS</li> </ul>	x		MEST
Food Research Institute (FRI)	<ul style="list-style-type: none"> <li>Advise Government on national food Policy</li> <li>Support the food and agricultural sectors</li> <li>Conduct applied research into problems of:               <ul style="list-style-type: none"> <li>Food processing, preservation and utilization</li> <li>Storage, marketing and distribution</li> <li>Food safety &amp; quality assurance</li> <li>National food and nutrition security</li> <li>Micro, small, medium &amp; large-scale industrial food processing</li> </ul> </li> </ul>	x		CSIR, MEST
Water Research Institute (WRI)	<ul style="list-style-type: none"> <li>Conduct research into water and related resources, including contamination of water</li> <li>Generates and provides scientific information, strategies and services toward the rational development, utilization and management of the water resources of Ghana in support of the socio-economic advancement of the country, especially in the agriculture, health, industry, energy, transportation, education and tourism sectors</li> </ul>	x		CSIR, MEST
Ghana Standards Authority (GSA)	<ul style="list-style-type: none"> <li>Competent Authority for standards and method development, testing and analysis</li> <li>Demand-driven analysis of all products, both non-food and foods products; including fresh fruits, vegetables and their processed products covering domestic, exports and imports</li> <li>Conducts pesticide, microbiological, heavy metals, histamine and mycotoxin analysis on food and food products on client own samples delivered to the Authority</li> <li>Conformity assessment. Tasks include:               <ul style="list-style-type: none"> <li>Standards development</li> <li>Certification services</li> <li>Inspection services</li> <li>Laboratory services</li> </ul> </li> </ul>	x	(x)	MoTI
Customs, Excise and Preventive Service (CEPS)	<ul style="list-style-type: none"> <li>Collecting import &amp; export duties and taxes</li> <li>Prevention of smuggling</li> <li>Enforcement of laws on import and export restrictions and prohibitions</li> </ul>	x	x	MoF

Especially with regard to on-farm production, processing and distribution the food safety and plant health inspection is not sufficient to control the market and guarantee safe food.

With regard to laboratory capacity, the laboratories at GSA currently are the only ISO 17025 certified laboratories for handling MRL analyses as well as microbial contamination. GSA does handle samples on an ad-hoc (project) basis but commercial samples, i.e. by exporters, are rarely received. FDA is in the process of furnishing new laboratories for food safety analysis which in time will also become ISO 17025 certified. However, currently they do not process fresh produce for food safety analysis. Throughput time of samples is often more than a week. The laboratories at PPRSD currently lack sufficient equipment.

It was observed that the various laboratories, because of the funding on a project basis, as explained above, do carry out analysis outside their mandate as well. The WRI, apart from carrying out analyses on pesticides and microbial contamination of water, also performs MRL analyses on vegetables on a project basis. Private laboratories are also present in Ghana, however, their role did not become clear from the interviews conducted.

### 4.2.1 Food safety

Regarding food safety, both the FDA and GSA have certain responsibilities with inspection of food safety at border posts. The Import and Export Control Department (IECD) of the FDA is mandated to regulate the import of both food and drugs products in accordance with the Public Health Act, while the Destination Inspection Department (DID) of the GSA inspects quality and safety of imported products in accordance with the Exports and Imports Act.

With regard to pesticides, both EPA and PPRSD have certain responsibilities with inspection and monitoring of agrochemicals. PPRSD has a supervising responsibility for registration, inspection and monitoring of dealers and applicators of pesticides, while the EPA has the mandate for inspection and enforcement of pesticide equipment, storage, disposal, sales, use and is supposed to undertake analysis of pesticide samples.

The EPA lacks the capacity to work in the rural areas among farmers and because of lack of staff at district level, the EPA has mostly delegated its post-registration inspection and monitoring task of agrochemicals at district level to the PPRSD. However, the PPRSD in turn is lacking the capacity to properly implement this additional task and has no mandate for enforcement.

One clear gap in food safety inspection is the inspection of producers of fresh agricultural products (farmers) on good agricultural practices. It seems that none of the public institutes involved with inspection tasks acknowledges this inspection responsibility and this is therefore also not executed.

### Finding 2.2

*There is no continuous (national) monitoring plan for food safety in place; and no domestic food safety standards (for vegetables) are defined*

A food safety monitoring plan is essential to ensure that food which consumers buy and consume is safe at all times. The food safety status should be monitored regularly along the value-chain (i.e. producers, processors, markets, products) in order to know if food is safe to consume and to take immediate actions when the acceptable safety levels are exceeded. A national monitoring plan can also assist in setting priorities based on a risk profile. This requires sufficient data to design risk profiles in the first place.

There appears no routing tests are being conducted on food available in the Ghanaian markets, as at the moment in Ghana there is no national food safety monitoring plan in place for monitoring microbial or chemical contamination of fresh produce. Only a few scattered studies have been conducted on food safety and once in a while data is collected on project by project basis. But also these data could not be made available as they are reported in reports which are hard to obtain or at times only stored on a researcher's computer.

There seems to be controversy and lack of clarity over exactly which public institute is responsible for food safety sampling, testing and monitoring. Some FDA officials say they are only responsible for processed food and wonder if MoFA might be responsible.

Interviews with other officials reveal that they think either the FDA or the GSA are responsible. During the interview with a FDA official from the regional office in Tamale, an attempt was made to get clear whose responsibility it is to test and monitor pesticide residues in food products. Therefore, a phone call was made to the head of the laboratory in Accra and then it was confirmed that it is actually the mandate of the FDA to test for pesticide residues. However, it did not become clear if this testing for pesticide residues is only for processed foods or also includes fresh vegetables and if the responsibility includes regular monitoring. Lack of resources was mentioned as a reason for not performing this task at the moment (also see Finding 2.1). Furthermore, it was mentioned that the GSA sometimes conducts random sample analysis, but not according to a fixed monitoring plan.

At national level FDA indicated that FDA has the overall mandate for food safety, being fresh or processed food, and the other institutes are supposed to report to the FDA. But it is this lack of clarity which partly explains why routine tests are not conducted. The various institutes all seem to think that the other institutes are responsible (also see Finding 1.1).

Furthermore, besides the absence of a food safety monitoring plan, there are also no domestic food safety standards for vegetables defined. Ghana follows the Codex Alimentarius standards for MRLs as well as microbial contamination. However the Codex standards need to be translated into national standards to provide clear guidance as to the acceptable levels of risks. On the basis of this monitoring and enforcement can be implemented.

#### 4.2.2 Phytosanitary

Phytosanitary issues are especially applicable to imports and exports, as plants or plant products may carry pests and diseases that are harmful to humans or animals and may cause damage to a country from the entry, establishment or spread of pests.

#### Finding 2.3

*Inspection and sampling procedures at border posts are inadequate; and control and inspection are mainly visual without underlying laboratory confirmation or analysis*

It appears that capacities and resources for physical inspection of food items at border posts are inadequate. From interviews with PPRSD representatives it was mentioned that it is difficult to take representative samples of a consignment, as often only the outside of a consignment is accessible. The inspectors do not have equipment at their disposal to take samples from within the consignments. Moreover, especially at in-land border posts, consignments and samples are only visually inspected, as no laboratory facilities are available on site. Sending samples to the central laboratory in Accra will take too much time, as the turnaround time for receiving an analysis report will be about two weeks. For perishable goods this is unacceptable.

The situation is not much better at the Kotoka International Airport. Also here consignments are only visually inspected and inspectors are not equipped to take representative samples. Besides, the logistic procedure for inspections needs improvement as consignments are placed outdoor on a platform for SPS and narcotic inspections, resulting in an interrupted cold chain where products are exposed to (hot) weather conditions (Figure 4.1). A good development is the completion of a cargo traffic facility including a cold store (GACC, Ghana Air), which could potentially solve some of the problems (Figure 4.2 and [www.gaccentre.com](http://www.gaccentre.com)).

Proper inspection and sampling procedures are important for both import and export of goods, especially before export in order to prevent rejection of consignments at destinations. Pre-export inspection currently is insufficient, which was confirmed by the recent EU notification on numerous interceptions of horticultural products from Ghana at EU borders due to presence of harmful organisms (see Chapter 2).

**Figure 4.1** *Current cargo facilities at Kotoka International Airport***Figure 4.2** *Plant quarantine office (L) and development plan for the new cargo traffic facility GACC at Kotoka International Airport (R)*

### 4.3 Vegetable Producers

For Ghana three main types of vegetable producers can be characterized, namely: peri-urban farmers, smallholder farmers and medium-large-sized famers. Smallholder farming households cultivate most of the traditional agricultural production in Ghana. About 90% of the farms are less than 2 ha in size (MoFA, 2010). Especially amongst the many smallholder farmers in the horticultural sector, pesticide use but also very limited awareness on SPS related issues is high. Various studies have highlighted the injudicious use of pesticide by farmers on vegetables (Fianko et al., 2011, NPASP, 2012, Ntow et al., 2006).

Farmers mix many pesticides in one tank (Danso et al., 2002, Amoah et al., 2006), use pesticides not registered on the particular crop (Amoah et al., 2006), and MRLs above the legally permitted level are found in crops such as lettuce, cabbages, tomato etc. (Amoah et al., 2006, Botwe et al., 2011)

Peri-urban farmers are mostly migrant, poor and land-less farmers found in the cities or urban areas cultivating mainly vegetables or short duration crops. The land or fields used for cultivation may be by the roadside, waste-land or any available strip of land in residential areas.



They mainly supply fresh vegetables to the local community through female traders who sell these vegetables on the urban domestic markets. Good sources of quality irrigation water is a major challenge for these farmers, as for irrigation they often are dependent on the water sources available in the urban areas, such as stagnant or drainage water or water in waste channels. As such this can lead to microbial contamination of the vegetables grown.

Smallholder farmers cultivate on relatively small fields (< 2 ha) of family owned or hired land in non-urban rural areas. The smallholder farmers have little access to markets and market information and production is highly fragmented, however they are the main

suppliers of traditional vegetables for traders on the domestic and regional export markets (e.g. market queens). Their production is characterized by variable quality, non-uniformity and irregular supply. This group of producers of vegetables also include out-growers, from which medium and large sized farms source additional produce.

Medium-large-sized farmers produce for the urban, regional as well as the export markets. Most of the larger exporters source produce from a number of smallholders, which hampers traceability. Depending on the export market they are aiming for, companies may have quality certifications in place (e.g. GlobalGAP).

**Figure 4.3** Example of peri-urban farmer (L) and a waste water as source for crop irrigation (R)



**Figure 4.4** Tomato farmers are filling up a box at their field to be picked up by a trader



However, in the vegetable sector certified companies are limited to a few, as their main market is the Ethnic market in the UK where GlobalGAP certification is not a requirement. Furthermore, many customers in the UK are the sister company of many of the exporters in Ghana. Despite the underdeveloped infrastructure for export, especially with respect to the cold chain, they are able to ensure fair quality for the ethnic markets like the United Kingdom. However, because of problems they are facing in the value-chain, their supply of fresh produce is not always regular.

### Finding 3.1

*Exporting companies of fruits are widely implementing quality & safety standards, such as GlobalGAP, to qualify to market demands in target countries and prove to have the capacity to comply to these requirements; domestically a demand driven compliance to quality and safety standards is absent.*

As with regard to compliance to food safety and plant health standards there is a distinct difference between producers for domestic and (high-end) export markets. The difference mainly lies in the demand from the end market for safe and healthy food and the required level of international safety, quality and phytosanitary standards. The fruit sector however has shown to be able to meet the standards of international markets and has proven that there is capacity within the horticultural sector to comply to GAP standards. The vegetable producers have in general not gone for GlobalGAP certification since their target markets (i.e. the Asian vegetable export to the UK) has as such not demanded GlobalGAP yet. The exporters explained that they are fully aware that in future GlobalGAP is a must.

Domestically a demand driven compliance to good agricultural practices is absent. While for the international market in many cases it is a requirement (GlobalGAP), and strict quality and safety (SPS) standards are applicable to international trade, domestically no quality and food safety standards for vegetables are in place. At the moment domestically there is no incentive for adopting standards or voluntary compliance to good agricultural practices.

### 4.3.1 Food Safety

On regional level non-compliance to SPS is mainly concerned with problems related to food safety issues, especially pesticide use. During interviews with local smallholder farmers and visits to their fields, several observations were done on irregularities and misuse of pesticides. The validation workshops in the region confirmed the evidence gathered from interviews in the field and literature sources

#### Finding 3.2

*Majority of the farmers are still using pesticides excessively and improper, e.g.*

- *Mostly calendar spraying is practiced*
- *Pests are diagnosed incorrectly, limited scouting by farmers*
- *Too high dosages and too high frequency of pesticide applications;*
- *Different pesticides are mixed together;*
- *Pesticides are used for the wrong purpose/crop;*
- *Pre-harvest intervals are not adhered to;*
- *Unregistered and counterfeit pesticides are still available in the market;*
- *Limited knowledge and awareness level among farmers on pesticides in general;*
- *Illiteracy among farmers is relatively high, this results in the inability to interpret the label.*

First of all, majority of the farmers are practicing preventive calendar spraying to control pest and diseases, meaning they spray chemicals according to a fixed schedule, without scouting the field for the presence and level of pest and diseases infestation before spraying. As a result pesticide use is higher as compared to a more integrated way of pest and disease management. This may also affect the level of pesticide residues on vegetables, however it should be mentioned that there is no direct prove of this for the regions we visited, as official monitoring data are not available, but scientific studies have found the MRLs on various vegetables to be above acceptable levels (e.g. Amoah et al., 2006, Botwe et al., 2011, NPASP, 2012).

Farmers often do not adhere to recommendations on the label of the pesticide product: no personal protection equipment are used, higher or wrong dosages are used, different pesticides are mixed together and pesticides are not always used for the crops they are intended and registered for (see Box 4.3). Pre-harvest intervals usually are ignored or are not taken into account. The pre-harvest interval is the interval of time between the last application of pesticide and the safe harvesting of edible crops for immediate consumption. Again this may affect the level of pesticide residues on vegetables.

From the interviews with local extension agents it became clear that still counterfeit, banned and unregistered products are used by farmers, which are mostly provided to them by unregistered dealers. Products with French labels are circulating in the market, and the interviewed agrodealer, Agrimat, recently experienced counterfeit pesticides which were sold in identical bottles and with identical labels as their own brand of pesticides. This resulted in a court case which eventually was won by Agrimat. The banned and unregistered products often are cheaper and sometimes more toxic and thus more effective but also more hazardous. Especially in rural areas, where less inspections take place, farmers are not much informed about what chemicals are legal to use and not much information is available on the negative impact of such illegal products.

### Box 4.3 *Legal pesticide, but illegal use?*

It seems that applying pesticides intended for cash crops like cocoa on vegetables or other food crop is regularly taking place in Ghana. Such pesticides are used irrespectively of whether they are approved for vegetable production or not and as such might lead to unsafe produce entering the market.

One of the reasons why pesticides intended for cocoa often are used on vegetables is because such pesticides are subsidized and thus access to them is easier and less costly. Furthermore, because of their mode of action these products are very effective against a wide range of pests and are therefore popular among farmers. The loophole here is that it is legal to buy these products in the store but it is illegal to apply it on fresh food crops, for which they are not registered. This makes it difficult to control.

Furthermore, when false labelling is used, it makes it even more difficult for farmers to verify what kind of chemicals they are buying.

Most of the above problems of the excessive and improper use of pesticides result from a lack of knowledge and awareness among farmers, which in turn arises from lack of sufficient training, advice and information provided to them. MoFA and its extension service provides only limited training and advice to farmers, this is insufficient to capacitate them with regard to judicious use of pesticides (see Box 4.2).

**Figure 4.5** *Farmer showing the pesticide product he uses on his vegetable crop (L) and a farmer spraying his tomato crop without protection (R)*





**Box 4.4** *Measuring by smelling*

Due to lack of training, information and knowledge farmers sometimes develop their own techniques, based on experience and experimentation. Regarding the determination of the dose of pesticide to be used, a story from an extension agent revealed that some farmers will determine the dosage of pesticide based on the strength of the scent of the mixture, instead of simply using a measuring cup. Through experiments with different dosages and the result it gave on the crop, in combination with the strength of the scent of the mixtures, they seem to be confident in determining the right pesticide dosages to use.

Farmers have limited access to sources of information and training, thus lacking knowledge on good agricultural practices and the implications for food safety. In general the knowledge of farmers on judicious pesticide use is low. The application is often based on experience from own experiments. To illustrate this, we have heard stories that some farmers determine the dosage of pesticide based on the strength of the scent of mixture, instead of simply using a measuring cup (see Box 4.4). A related problem, however, is reliance on often unqualified, sometimes unlicensed dealers who sell the wrong pesticides for the wrong crops and cannot advise the farmers properly, especially in the more rural areas. An additional reason is the relatively high illiteracy rate among farmers, making it difficult for them to interpret the label on the pesticide product. Especially for this group training and advice is critical.

Alternatives to synthetic pesticides, such as bio-pesticides or biological control agents are available. However, for the majority of farmers these are far too expensive. Furthermore, farmers are not always willing to embrace alternatives due to a risk averse attitude towards new agricultural technologies and practices.

**Finding 3.3**

*Use of pesticide is increasing, as labour availability is reducing and build-up of pest resistance to pesticides occurs more often*

Besides the improper use of pesticides by farmers, it also became clear that the use of pesticides in terms of amount is increasing. It seems there is less availability of labour and the cost for labour is increasing, as a result of which farmers rather choose to use herbicides instead of manual labour for weeding. Extension officers mentioned that pest resistance build-up might also be a reason why farmers apply more and more pesticides to compensate for the reduced effectiveness of certain pesticide products. However, no reliable data on pesticide use by vegetable farmers are available.

**Finding 3.4**

*Peri-urban farmers often make use of low quality water for irrigation, which is likely to lead to microbial contamination of the vegetables grown*

As already mentioned, for peri-urban farmers quality irrigation water is a major challenge as for irrigation they often are dependent on the water sources available in the urban areas, such as stagnant or drainage water or water in waste channels. As such this highly likely leads to microbial contamination of the vegetables grown. Peri-urban farmers that were interviewed would gladly collaborate with the authorities to improve this situation and grants are available to improve irrigation system. However, they explained that major administrative hurdles hampered their plans to improve the irrigation at the site.

**Finding 3.5**

*A traceability system for vegetables is lacking*

Traceability is a vital component of the supply chain process. A traceability system should enable the possibility to identify the source of all inputs such as raw materials, additives, other ingredients and packaging on the basis of one step forward and one step back at any point in the supply chain. Traceability enables the possibility to target products involved in food safety problems, thereby minimising disruption to trade and reducing potential public health risks. When food safety or related problems occur, traceability allows to act fast and decisively to quickly and effectively resolve problems.

In the Ghanaian vegetable sector a system of traceability is lacking. This mainly is a result of the fact that there are no specific requirements imposed for the traceability of products, the domestic market is highly fragmented and characterized by informal marketing channels, and produce is often sourced from multiple sources.

The importance of a good traceability system has once again become clear by the recent EU notification on numerous interceptions of horticultural products from Ghana at EU borders due to presence of harmful organisms. Despite the fact that this is a problem of plant health instead of food safety, when a well-organised traceability system would have been in place, the problem to some extent could have been traced back to the source to take corrective measures. However, at the moment the PPRSD is still struggling to resolve the problem, as they do not know where to locate the cause of the problem.

## 4.4 Input Suppliers & Service Providers

Input suppliers and service providers cover a wide range of actors who are essential for value-chains to function. A clear distinction can be made between agricultural input dealers (e.g. agro-chemicals, seeds) and other service providers (e.g. research, transport, extension, accreditation & certification, advisory services).

### 4.4.1 Input Dealers

Agro-chemical input suppliers in Ghana mainly provide pesticides and fertilizers to farmers and additionally have some seeds, equipment and machinery in their products range.

To start and open an agro-chemical shop you need to: 1) register at the PPRSD and get a license for sales of fertilizers; 2) register at the EPA and get a license for sales of pesticides; 3) need to prove you have been trained in pesticides; 4) become member of the Ghana Agro Input Dealers Association (GAIDA). The licenses should be renewed every year and the PPRSD should regularly carries out inspections of the shops, for which they are delegated to by the EPA. However in practice this procedure is rarely enforced.

### Finding 4.1

*Unregistered pesticide dealers are active and sales of counterfeit pesticides is taking place, especially in rural areas*

Besides the officially registered and licensed input dealers, there also seems to be quite a number of unlicensed dealers, especially in rural areas and on open markets, where fewer inspections by the PPRSD take place. Some unregistered dealers also sell directly to farmers by visiting villages or practice table-top selling. Especially the unregistered dealers sell counterfeit, banned and unregistered products, which are cheaper and sometimes more toxic and thus more effective but also more hazardous. It is not entirely clear how these products end up on the market. They are likely smuggled into the country, either with or without false labels. Control at the border for illegal agro-chemical products seems to be insufficient to prevent illegal products entering the country. Products with French labels are found on the market, indicating that these were probably illegally imported from neighbouring countries. One of the agrochemicals traders interviewed once experienced that his brand of pesticides was counterfeited. This resulted in a court case before the counterfeit pesticides were removed from the market. The presence of counterfeit pesticides in the market was also confirmed by a study executed on behalf of the BMGF entitled Counterfeiting in African Agriculture Inputs – Challenges & Solutions (source: Presentation of Summary of Findings by the Monitor Deloitte Team). Based on estimates from CropLife the study reported that 30% of pesticides on sale in Ghana are either unlicensed or smuggled. The estimated value lost to the agro-dealers due the sales of counterfeit herbicides alone was estimated to be between USD 12 million and 21.5 million.

Another major problem with unlicensed dealers is that they are unlikely to have the requisite knowledge to correctly inform farmers what are the appropriate pesticides to use, and how to use them safely. Yet, due to low presence of extension (see Box 4.2), many farmers now rely on agro-chemical dealers, either registered or unregistered, for advice on pesticide use rather than extension officers.

**Figure 4.6** Local registered pesticide stores in Tamale (L) and Sunyani (R)

Marketing and promotion of pesticides in Ghana is done on a large scale. Pesticides are advertised on television, radio and billboards, claiming the advantages of using pesticides for improving yields. The larger agro-chemical dealers facilitate weekly radio shows where pest and disease related topics are discussed and farmers can call in to ask questions and obtain advice. Sometimes they cooperate with MoFA extension or EPA in providing trainings to farmers on the use of pesticides. It should however be noted that with regard to these activities conflicting interests can be at play and advice is not always independent.

CropLife, the global association of pesticide manufacturers and dealers does have a branch in Ghana. As far as could be discerned it is not a very active branch and as such has little impact with its good stewardship programme in Ghana.

#### **Finding 4.2**

*Domestic seed production and certification for the vegetable sector is not yet developed, regulated and monitored*

Currently the domestic seed production and certification for the vegetable sector is not well developed, and thus the availability of good quality, hybrid and seed borne disease free starting material and seed stock is limited. Imported, and thus more expensive, seed is readily available. Most farmers, however, still extract seeds from their harvest to be used to start a new crop.

One interviewed farmer, who was extracting seeds, was complaining that the yields of his tomato crop was gradually going down over the years.

#### **4.4.2 Service Providers**

Service providers are an important link in the value-chain as with regard to provision of knowledge. Especially extension services can provide vital training and advice on pesticides to farmers.

#### **Finding 4.3**

*Government extension services are inadequate to reach sufficient farmers regularly; extension staff do not receive regular (refresher) trainings on good agricultural practices and safe and judicious use of pesticides*

At the moment government extension services are inadequate to reach sufficient farmers regularly (see Box 4.2). Besides, from the interviews it seems that very little of the extension officers' time is spent on pesticide topics and extension staff do not receive regular (refresher) trainings on good agricultural practices and safe and judicious use of pesticides. MoFA lacks adequate resources to undertake sufficient training of farmers (see also Finding 2.1). The PPRSD also trains agro-dealers at regional level to promote their knowledge and ability to give advice, but the budget for this is very limited.

Based on only one discussion at the University of Ghana the impression was that the linkage of the university with the practical needs of the vegetable sector, both with respect to teaching and research, is weak. Most of the research conducted, both at the university and CSIR institutes, is not based on demands from the market, but is of fundamental nature. The main reason that was mentioned was the lack of funding.

With regards to transport it could not be ascertained if transport was of good quality (i.e. cooling). Transport is mainly organised by traders and exporters. It is known that a potential weak point in the transport in case of fresh produce is (maintaining) the cold chain during transport. At the airport there are facilities for cargo traffic including cooling facilities. The current problems with these have been discussed under 4.2.2. The positive aspect is that GhanaAir and the airport authorities are willing to invest in new premises including inspection facilities.

Quality certification for export is mostly done through internationally accredited auditing companies, from outside or based in Ghana (such as SGS Ghana). These third party certification services are reliable and engender trust at the level of buyers, however their services are costly and are therefore a major constraint for smallholder farmers wanting to export.

## 4.5 Markets, Traders & Consumers

The domestic retail food market in Ghana consists of traditional open-air markets (69%), small convenience stores and groceries (30%), and supermarkets (1%) (Ashitey and Rondon, 2012). At the traditional open-air markets mostly locally produced vegetables are sold, with sometimes a limited selection of imported products. Growth is expected in the supermarket sub-sector, as improved living standards and a growing expatriate population are the main drivers behind an increasing demand for high-value food products. Ghana already has several large retailers operating in the country, such as the South African supermarket chain Shoprite. Other upcoming chains are Palace, Game (Walmart), Marina and Yoo!Mart. The products sourced by supermarket chains are partly still imports from e.g. Europa, while locally consistency in supply and quality is lacking.

Until some years ago vegetable exports from Ghana were gradually growing, capturing a sizeable portion of the ethnic vegetable niche market in the UK and EU. This as a result of its clear advantage in terms of airfreight costs compared to current East African suppliers. However, despite to some commercial success, today's market is just a fraction of what it was, although it maintains a respectable share of the ethnic market especially when it comes to Ghanaian chilli.

**Figure 4.7** *Open air food stall (L) and supermarket (R) in Accra*



**Figure 4.8** *Open air vegetable market in Techiman*

Moreover, the relative productivity of most crops remains low as the limited skill base and unavailability of high quality seed stock depresses yields (see Finding 3.2), to the point of making some crops unprofitable despite the airfreight cost advantage. One such product is okra, a major staple on the UK market, but for which Ghana has never captured substantial market share due to the currently used seed stock's vulnerability to various viruses (see also Saveedra et al., 2014). Other issues are the high labour costs, poor infrastructure for logistics and poor SPS compliance.

### 4.5.1 Food Safety

Food safety is especially an issue to be addressed for the domestic and regional export markets. Farmers who produce for high-end export market in e.g. the EU have to comply to the strict food safety requirements that apply for these markets in order to do business. However, because in Ghana and at regional level there are no or limited food safety standards defined, there is no national monitoring plan for vegetables in place and inspection is very low, there is no incentive for farmers who produce for the domestic or regional markets to take account of food safety issues.

#### Finding 5.1

*Limited consumer awareness and available information about food safety due to e.g.*

- *Absence of data on pesticide residues and microbial contamination in vegetables; if data are collected,*

#### Box 4.5 *Less quality, but safer food?*

A good example of how consumers decide whether food is safe for consumption or not, following the fact that no source of information is available to base decision on, is the fact that some consumers will buy lower quality products. Products with physical damage or traces of infestation by insects are believed to be safer to eat, as it is assumed that less pesticides have been used during cultivation. It appears that due to the absence of information, consumers try to make choices based on (not always the right) logical reasoning such as physical appearance.

*then only on project by project basis and reports not available in the public domain;*

- *No domestic food safety standards for vegetables are defined;*
- *There is no (scientific) evidence for consumers to understand possible food safety hazards.*

Because currently there is no national food safety monitoring plan in place (for vegetables), and no domestic food safety standards for vegetables are defined, samples for analysis of food on the market are not taken on a regular basis. Only a few scattered studies have been conducted on food safety and once in a while data is collected on project by project basis. However these reports are not easy accessible or not available to the public.



For export PPRSD together with the traders is working towards becoming an EU competent authority for 8 crops (pineapple, papaya, mango, banana, chilli peppers, aubergine, okra and tomatoes). According to PPRSD this implies that before export these products need to be tested for MRLs and be accompanied by a Food Safety Certificate. However, it appeared from discussion with the exporters that they were not (yet) aware of this requirement.

Currently the consumer has no source of information available to verify if the food they buy and consume is safe (see Box 4.5). Besides, there is no market differentiation as consumers are not given the option to distinguish and choose between cheaper but potentially unsafe food or more expensive but certified safe food.

With the expected growth of the supermarket retail sector, the rise in middle class consumers and increasing demand for high-value and safe food products, it would actually be an interesting marketing opportunity for supermarkets to introduce a 'safe-food' label. At the moment such a label is not available. MoFA has been working on the "Ghana Green Label", a GAP system that should be easier to adhere to than GhanaGAP and GlobalGAP, however it will be difficult, without a clear demand from retailers and consumers, to implement such a system for the domestic market. Private labels would be a possibility for supermarkets who would like to differentiate on basis of quality and safety.

Freshmark, a processor that cuts and packs solely for the Shoprite supermarket did not have any HACCP or GMP certificates. Also here there was no requirement from the retailer and as such no incentive to become certified.

### **Finding 5.2**

*A demand driven compliance to Good Agricultural Practices for safe food is absent*

In line with the above it can be stated that at the moment there is limited demand from the domestic market for safe food. Successful introduction of Good Agricultural Practices, Green Label or any kind of 'safe-food' label will have to be introduced from a

demand from the market. Supermarkets could take a lead in this, while as mentioned there may be an interesting marketing opportunity in it for them. Furthermore, the export sector has proven that there is capacity within the Ghanaian horticultural sector to comply with GAP standards.

### **4.5.2 Phytosanitary**

With regards to phytosanitary issues it is mainly the export traders that are concerned with this. As described in Chapter 2 currently there are major challenges with compliance and Ghana receives multiple notifications specifically on high-value export vegetables.

#### **Finding 5.3**

*Export traders are fully aware of the need to phytosanitary inspections. However the discrepancy between the export inspections at the Ghanaian border and the import inspection in the UK (a large number of consignments are rejected) leads to frustration on the side of the exporters.*

The traders of high-value vegetables, mainly with destination of the United Kingdom are aware of the phytosanitary requirements and perceive SPS measures as one of the major bottlenecks for trade. However, after previous incidents, temporarily ban of aubergines and garden eggs (in 2010) they worked together with PPRSD to solve the issue together with their out-growers. Defra (UK) advised them on how to tackle the occurrence of trips. However the fact that the PPRSD can release an export certificate for a consignment while still the UK can find incidences, is a big frustration for the exporters. The reason why this occurs is most likely because of the limited resources and capacity of PPRSD at present. However, inspection procedures at point of import were also questioned, exporters complained that while the Ghanaian border inspection issued phytosanitary certificates the EU border inspection, mainly the UK, found faults with the consignments. It should be noted here that without good training and facilities for instance the eggs of trips might not be detected.

## 4.6 Summary of Findings

Below a summary is given of the findings of the sanitary and phytosanitary analysis of the vegetable sector in Ghana as described in this Chapter.

### 1. Legislation, Policy & Governance

- Finding 1.1 The legislative and institutional framework for SPS in Ghana is characterized by outdated and overlapping legislation, and fragmented and poorly coordinated institutions, with overlaps, ambiguity, indistinctness and gaps in institutional responsibilities and mandates
- Finding 1.2 The current institutional framework does not clearly make a separation between 1) standard setting and advisory roles vs. standard enforcement roles and 2) risk assessment vs. risk management functions
- Finding 1.3 There is no establishment of a common agreed (national) SPS strategy & policy
- Finding 1.4 Regional government projects are mainly funded by external parties and only to a limited extent by the central government

### 2. Institutions & Regulators

- Finding 2.1 Lack of resources & capacity to effectively undertake the various SPS mandates and responsibilities, e.g.
- Lack of sufficient staff
  - Lack of regular (refresh) training for staff
  - Lack of resources
  - Lack of law monitoring, inspection & enforcement
  - Limited (regional) laboratory facilities for analysis and few laboratories are ISO 17025 certified at present

#### *a. Food Safety*

- Finding 2.2 There is no continuous (national) monitoring plan for food safety in place; and no domestic food safety standards (for vegetables) are defined

#### *b. Phytosanitary*

- Finding 2.3 Inspection and sampling procedures at border posts are inadequate; and control and inspection are mainly visual without underlying laboratory confirmation or analysis

### 3. Vegetable Producers

- Finding 3.1 Exporting companies of fruits are widely implementing quality & safety standards, such as GlobalGAP, to qualify to market demands in target countries and prove to have the capacity to comply to these requirements; domestically a demand driven compliance to quality & safety standards is absent

#### *a. Food Safety*

- Finding 3.2 The validation workshops in the region confirmed the evidence gathered from interviews in the field and literature sources, that the majority of the farmers are still using pesticides excessively and improper, e.g.
- Mostly calendar spraying is practiced
  - Pests are diagnosed incorrectly, limited scouting by farmers
  - Too high dosages and too high frequency of pesticide applications
  - Different pesticides are mixed together
  - Pesticides are used for the wrong purpose/crop
  - Pre-harvest intervals are not adhered to
  - Unregistered and counterfeit pesticides are still available in the market
  - Limited knowledge and awareness level among farmers on pesticides in general
  - Illiteracy among farmers is relatively high, this results in the inability to interpret the label

- Finding 3.3 Use of pesticide is increasing, as labour availability is reducing and build-up of pest resistance to pesticides occurs more often
- Finding 3.4 Peri-urban farmers often make use of low quality water for irrigation, which is likely to lead to microbial contamination of the vegetables grown
- Finding 3.5 A traceability system for vegetables is lacking

#### 4. Input Suppliers & Service Providers

##### *a. Input Dealers*

- Finding 4.1 Unregistered pesticide dealers are active and sales of counterfeit pesticides is taking place, especially in rural areas
- Finding 4.2 Domestic seed production and certification for the vegetable sector is not yet developed, regulated and monitored

##### *b. Service Providers*

- Finding 4.3 Government extension services are inadequate to reach sufficient farmers regularly; extension staff do not receive regular (refresher) trainings on good agricultural practices and safe and judicious use of pesticides

#### 5. Markets, Traders & Consumers

##### *a. Food Safety*

- Finding 5.1 Limited consumer awareness and available information about food safety due to e.g.
- Absence of data on pesticide residues and microbial contamination in vegetables; if data are collected, then only on project by project basis and reports not available in the public domain
  - No domestic food safety standards for vegetables are defined
  - There is no (scientific) evidence for consumers to understand possible food safety hazards
- Finding 5.2 A demand driven compliance to Good Agricultural Practices for safe food is absent

##### *b. Phytosanitary*

- Finding 5.3 Export traders are fully aware of the need to phytosanitary inspections. However the discrepancy between the export inspection at the Ghanaian border and the import inspection in the UK (a large number of consignments are rejected) leads to frustration on the side of the exporters



## 5. SWOT Analysis

The following SWOT analysis summarises the most important features of the sanitary and phytosanitary system of the vegetable Sector in Ghana.

	Strengths	Weaknesses
General	<ul style="list-style-type: none"> <li>Ghana is a signatory of the WTO Sanitary and Phytosanitary (SPS) Agreement</li> <li>Agriculture is a mainstay of the economy in Ghana</li> <li>Exporters of fruits are complying to SPS standards and have the capacity to do so</li> <li>A Green Label (a simplified GAP standard) is under development</li> <li>There are certified (ISO 17025) laboratories present (GSA) and being developed (FDA)</li> </ul>	<ul style="list-style-type: none"> <li>Legislative framework for SPS is outdated and is characterized by overlap</li> <li>Institutional framework for SPS is fragmented and poorly coordinated and shows overlap and ambiguities in responsibilities and mandates</li> <li>Collaboration, coordination and communication among the different government departments on SPS is limited</li> <li>No (national) SPS strategy and policy</li> <li>Lack of resources, resource allocation and capacity to effectively undertake SPS mandates and responsibilities</li> <li>Poor extension impact due to low agricultural extension agent – farmer ratio (1:3000), limited resources to visit farmers in the field and limited regular (refresher) trainings for extension</li> <li>Many smallholder farmers are involved in vegetable production</li> <li>Domestic seed production and certification for the vegetable sector is not yet sufficiently developed, regulated and monitored</li> <li>Poor functioning of the export market through limited coordination of activities between the public and private sector</li> <li>Disjointed private sector, weak associations</li> <li>Current vegetable production is focussed on the lower end of the market i.e. the wet markets</li> <li>Domestically a demand driven compliance to quality and safety standards and good agricultural practices is absent</li> <li>Domestically there is no incentive for adoption of quality &amp; safety standards</li> </ul>
Food safety	<ul style="list-style-type: none"> <li>A (revised) Food Safety Action Plan and a (draft) National Food Safety Policy are available (however not yet implemented)</li> <li>There is awareness about food safety concerns</li> </ul>	<ul style="list-style-type: none"> <li>Food safety inspection of producers of fresh agricultural products (farmers) on good agricultural practices does not take place</li> <li>No continuous (national) monitoring plan for food safety in place</li> <li>No domestic food safety standards (for vegetables) are defined</li> <li>Limited post-registration inspection of pesticides</li> <li>Majority of the farmers are still using pesticides excessively and improper</li> <li>The use of pesticides is increasing</li> <li>Lack of knowledge and information about responsible pesticide use among farmers</li> <li>Unregistered pesticide dealers are active and sales of counterfeit pesticides is taken place, especially in rural areas</li> <li>A traceability system for vegetables is lacking</li> <li>Limited consumer awareness and available information about food safety</li> <li>Lack of data and information on food safety of vegetables</li> <li>Low quality water for irrigation for peri-urban farmers</li> </ul>
Phytosanitary	<ul style="list-style-type: none"> <li>On notification or incidents action and follow-up are initiated by PPRSD</li> </ul>	<ul style="list-style-type: none"> <li>Inspection and sampling procedures at border posts are inadequate</li> <li>Control and inspection are mainly visual without underlying lab reference or analysis</li> </ul>

	Opportunities	Threats
General	<ul style="list-style-type: none"> <li>• There is potential in Ghana for commercial vegetable production and export possibilities</li> <li>• There is a growing demand, both domestic and export, for quality vegetables</li> <li>• Awareness and concern about food safety risks among consumers is increasing</li> <li>• Foreign retailers are entering the domestic market</li> <li>• High cost of vegetable imports will motivate local sourcing and demand for safe produce</li> <li>• Investment in new infrastructures at the airport for service and handling of produce are underway</li> <li>• Value addition is increasing (and an increasing demand for food safety)</li> <li>• Availability of logistics for freight to other Sub Saharan Africa countries</li> <li>• Job creation for the youth</li> </ul>	<ul style="list-style-type: none"> <li>• Domestic competition from imports who can comply to quality and safety standards</li> <li>• International competition on the export market from producers who can comply to quality and safety standards</li> <li>• Frequent notifications and export bans can result in (export) firms going out of business (resulting in reduction in income and employment for the country)</li> </ul>
Food safety	<ul style="list-style-type: none"> <li>• Uptake of the Green Label or a comparative standard can guarantee a good market segment for locally produced quality vegetables</li> <li>• GAP certified vegetables might enter a higher market segment in the EU market than currently</li> </ul>	<ul style="list-style-type: none"> <li>• Foreign retailers will not source vegetables locally because of envisaged food safety problems</li> <li>• Domestic, middle class consumers avoid buying local vegetables</li> </ul>
Phytosanitary	<ul style="list-style-type: none"> <li>• Compliance with phytosanitary standards will make Ghana a reliable partner in vegetable trade</li> </ul>	<ul style="list-style-type: none"> <li>• The EU closes the border to import of vegetables from Ghana, due to high number of notifications</li> <li>• Voluntary bans result in loss of market window to other countries</li> </ul>

# 6. Recommendations

Based on the analysis of the current SPS status in the previous chapters, we propose the following recommendations for improvement of food safety and plant health in Ghanaian vegetable chains.

Some of the recommendations can be facilitated by GhanaVeg, other recommendations should be implemented by the responsible government bodies or private parties.

## 6.1 Legislation, Policy & Governance

It is suggested that the legislation, policy and governance framework is reviewed, renewed and adapted to the current situation, with a clear definition of the roles, mandates and responsibilities between the various institutions, and possibilities for mutual collaboration, communication and coordination.

1. Review the legislative framework and make adjustments according to the present situation to come to a common agreed national SPS strategy and policy;
2. Appointment of institutions with the ultimate mandate, responsibility and coordination for the themes of plant health (PPRSD) and food safety (FDA) and the necessary framework to implement this mandate (as a follow-up to the action points from the (revised) Food Safety Action Plan and the (draft) National Food Safety Policy);
3. To establish a platform and framework for collaboration, coordination and communication among institutions and with sufficient involvement of the private sector;
4. To make adjustments in the governance framework in such a way that there is a clear separation between standard setting and advisory roles vs. standard enforcement, and risk assessment vs. risk management functions.

## 6.2 Institutions & Regulators

A national food safety monitoring plan should be put in place, along with national food safety standards. Correspondingly, there is a need for a realistic and prioritized budget so that key mandates, responsibilities and tasks related to SPS can be adequately executed. Especially with respect to the on-farm inspections of producers of fresh vegetables on good agricultural practices and pesticide residues. Furthermore, it is recommended to support the capacity building of staff through regular refresher training programs.

1. It is advised that a national monitoring plan for food safety based on national food safety standards (i.e. the translation of the Codex Alimentarius into national standards) is designed and implemented;
2. The responsible authorities, both phytosanitary, but especially those involved with food safety, should organise themselves in such a way that mandates and executing tasks clearly support the semi-autonomous status of each of the institutes. Coordination of food safety tasks and overall responsibility should be firmly be with FDA, in principal this is the case however in practice each of the institutes works independently of each other;
3. The responsible authorities have to look into budget for carrying out prioritized, key food safety and plant health mandates, responsibilities and tasks, including investment in equipment, facilities and capacity building of staff. Full cost recovery for the services offered should be considered;
4. In the short term, assistance of PPRSD in developing a detailed action plan to overcome the issues with compliance to the EU phytosanitary requirements.

This plan should include elements such as technical support of inspectors of PPRSD in phytosanitary inspections at border posts and regular (refresher) training programs for PPRSD and (border) inspection staff. A performance assessment and possible incentives for inspectors can contribute to improved execution of tasks and duties.

### 6.3 Vegetable Producers

Farmers producing for export and exporting companies are increasingly complying with quality and safety standards due to international market requirements. This system can be used as a good example for the domestic market. Furthermore, farmers will have to deal with pesticides in a more responsible manner, making use of Integrated Pest Management (IPM) and Good Agricultural Practices (GAP), however they need to be supported in this. Introduction of a traceability systems designed so it can include the smallholder farmers would assist in quickly identifying the source of problems related to food safety and plant health compliance. Opportunities should be explored for a national demand driven quality standard (like the Ghana Green Label).

1. Link retailers and wholesalers to the Ghana Green Label initiative, test the green label on applicability and feasibility for both smallholder as well as commercial farmers and set-up a mechanism where feedback from both farmers and consumers contribute to improving the Ghana Green Label;
2. Support the larger vegetable producers with compliance to international SPS standards and to obtain Global GAP certification for export;
3. Training of farmer groups on responsible and reduced pesticide use, and IPM and GAP principles;
4. Explore the development and implementation of traceability systems for vegetable products;
5. Connect farmer groups to the responsible authorities to obtain clean water supplies for irrigation.

### 6.4 Input Suppliers & Service Providers

Input suppliers and service providers are an important link in the value chain especially for the provision of inputs and knowledge. It is recommendable that these stakeholders receive support so they can take their responsibility in promoting the safe and judicious use of pesticides. Especially the extension needs to be strengthened for this purpose as they can play a positive role in supporting farmers with knowledge and advice on pesticide use, IPM and GAP. In addition, the government will probably need to inspect the agro input dealers more frequently so the products sold are in line with the regulations. Furthermore, research and education need to be linked up with practice. A positive development is that GhanaAir and the airport authorities in Accra are investing in new cargo traffic premises including inspection facilities.

1. Discuss with the agro input dealers the strengthening of CropLife Ghana, the global association for agro-dealers, so they can jointly take their responsibility in safe and judicious use of pesticides;
2. Introduction of regular (refresher) training programs for extension staff on responsible and reduced pesticide use, IPM and GAP, including a needs assessment, manual development and Training of Trainers program development, can contribute to an increased service delivery to farmers;
3. Involve research and education institutions in demand driven research and teaching with a major emphasis on GAP, IPM and pesticide use;
4. It is recommended that traders together with the relevant authorities seize the opportunity that the new cargo traffic facility at the airport offers by pro-actively designing the facilities that are needed for proper border inspections.

## 6.5 Markets, Traders & Consumers

In the absence of a domestic demand driven compliance system for quality and safety standards, supermarkets can take the lead in demanding for qualitative and safe food, with additional awareness raising campaigns for their customers and among consumers. With regard to phytosanitary issues, the phytosanitary inspection should be strengthened and cooperation should take place between PPRSD, producers and traders. Furthermore, it is suggested to organize a public-private dialogue.

1. Stimulate supermarkets to take an active role in domestic demand for qualitative and safe food, and to differentiate and introduce 'safe-food' labels as a marketing opportunity for customers;
2. Creation of awareness among consumers on food safety issues in order to enhance a domestic demand driven compliance system such as Ghana Green Label, and in this respect to strengthen the Consumer Protection Agency (CPA) in Ghana;
3. Stimulate collaboration between PPRSD and the producers and traders to comply with international phytosanitary standards;
4. Facilitate a public-private dialogue between producers, exporters and the authorities. ■



*Open air vegetable market in Techiman I.*





*Open air vegetable market in Techiman II.*



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# Annex 1. List of interviewed stakeholders

Stakeholder	Name, contact	Role/function	GA	NR	BAR
<b>Vegetable Producers &amp; Processors</b>					
20 Peri-Urban Vegetable Farmers	Salifu +233-275638757 Tahiru +23-26555253	Representative Representative	X X		
Small holder farmer	Ibrahim Adama Peter Abu	Farmer Farmer			X X
Suglo Farms	Alhaji Issahaku +233-244434002	Farmer		X	
Kukobilla Farms	Mallam Seidu +233-208114488	Farm owner		X	
Kuda Farms	Mr. Kuda +233-208300072	Farm owner	X		
EKA Food Processing	Stephen Agyeman +233-208320398	General Manager			X
Maroun– Green House Production (vegetables)	Maroun Kaddoun +233-243442222	Owner	X		
<b>Input Suppliers</b>					
Agricultural Material Limited Agrimat	Nana Yaw Obeng +233-202-015-336 nanayaw@agrimatghana.com	CEO	X		
Ganaoma Agrochemicals	Alhaji A. Gayinu Sulemana +233-244-845-995 aganormma@yahoo.com	CEO		X	
Wimpini Agrochemicals	Wimpini +233-206-418-231	CEO		X	
K. Badu Agrochemicals	K. Badu	-			X
Agyaaku Farms & Trading	Agyaaku	-			X
<b>Service Providers</b>					
Extension (MoFA)	Charles Adams +233-243-359-683 +233-201-614-941 chaajadams@gmail.com	Deputy Director	X		
	Abdul-Majeed Mihammed +233-208-976-732 jiidoor@yahoo.com	Agri. Extension Officer		X	
	M. A. Addah +233-244-509-658	-		X	
	-	-			X
Air Ghana, newly built handling facility airport	Marwan Traboulsi marwan@airghana.com	Chairman/CEO	X		

Stakeholder	Name, contact	Role/function	GA	NR	BAR
<b>Traders &amp; Buyers</b>					
VEPEAG	Emmanuel Darkey +233-242-627-197 edarkey001@yahoo.com	Producer & Exporter	X		
GAVEX (12 group members and executives)	Mrs Juliana Opuni joekopnanent@yahoo.com	Chair person	X		
	Daniel	Secretary	X		
	Pamela	Advisor	X		
AGPC Cargo Centre			X		
Freshmark (fresh fruits and vegetables division of Shop Rite)	Rick Coldrey +233-248145989	Manager	X		
	Dorothy +233-277488275	-	X		
<b>Regulators &amp; Government</b>					
MoFA – Regional office	William Boakye-Acheampong +233-244-216-918	Regional Director		X	
	Dr. Cyril T. Quist +233-244-825-642	Regional Director			X
PPRSD (MoFA)	Nicholina Badu-Kotei	Head Plant Quarantine KIA	X		
	Gerald Mantey Asare gmanteyasare@yahoo.co.uk	Assistant Agric Officer; Pesticide and Fertilizer Regulatory Division	X		
	William Lamptey	Assistant Plant Scientist	X		
	Christopher Aki +233-271-956-035			X	
	-	-			X
GIDA (MoFA)	-	-	X		
Crops (MoFA)	Mrs Emelia Monney	Green Label project	X		
	Yussiph ahmed Tijani +233-203-158-181			X	
WIAD (MoFA)	Bridget Parwar +233-246-321-114 bnaandam@gmail.com	Regional Agricultural Officer		X	
	Lucy Awedayha +233-244778052 edluwedayha@gmail.com	Regional Agricultural Officer			X
NRGP (MoFA)	Paul Siamah +233-244-641-260 psiamah@nrgp.org	Producer Organisation Specialist		X	
IDA (MoFA)					
FDA (MoH)	John Odame-Dakwah +233-244337243	Deputy Executive Director	X		
	Mr. Kwei +233-264725569	Regional Officer		X	

Stakeholder	Name, contact	Role/function	GA	NR	BAR
GSA (MoTI)	Dr. George Crentil +233-243586308 drcrentil@gsa.gov.gh	Executive Director,	X		
	F. Kofi Nageyey +233-207104113 kofnag@yahoo.com	Deputy Executive Director (commercial)	X		
	Elizabeth Ademola +233-244361208; lyademola2009@yahoo.com	Deputy Executive Director (Core)	X		
	Charles Amoaka +233-208-139-497 camoako@gsa.gov.gh	Director Testing Division	X		
MoTI	Gerald Nyarko - Mensah (+ 3 colleagues) +233-244818734 gnmensa@gmail.com	Technical Advisor on Export Trade development	X		
EPA (MEST)	Joseph C. Edmund joseph-edmund@epa.gov.gh	Deputy Director Pesticide, EPA Chemicals Control and Management centre	X		
	Florence Agyei +233-21-664-697 -	Deputy Director -		X	X
<b>Others</b>					
Water Research Institute	Dr. Osmund D. Ansa-Asare +233-244501219 osmundansaasare@yahoo.ca	Principal Research Scientist (Head of Environmental Chemistry)	X		
University of Ghana	Prof. Kuguma +233-244125851	Prof. Crop Science	X		
IWMI	Dr. Philip Amoah +233-208-154-651	Research Officer	X		
Ghana Water Company	Francis Agyei-Boateng +233-244-233-893 fabak1966@yahoo.com	Manager, PCCM Regional Director	X		
Ghana Commodity Exchange (GCX)	Robert Dowuna Owoo +233-244-363-450 owoorobert@gmail.com	Project coordinator	X		
	Joe Takyi +233-244-377-042 jatakia@gmail.com	CEO	X		
Consumer Protection Agency (CPA)	Kofi Kapito +233-243-561-348 koffikapito@yahoo.com	CEO	X		

GA = Greater Accra NR = Northern Region BAR = Brang Ahafo Region

## Annex 2. List of participants workshops

Validation Workshop Tamale, Northern Region (25 July, 2014)

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1 Bede Kuunyigr	Kusobed Ent.	bkuunyigr@yahoo.com	+233 200548461
2 Abdul Rahaman S.	MoFA	pyelabeyiani@yahoo.com	+233 275758225
3 Bridget Parwar	MoFA	bnaandam@gmail.com	+233 246321144
4 Abdul Majeed M.	MoFA	jiidoor@yahoo.com	+233 208976732
5 Alhassan A.	MoFA	-	+233 244420770
6 Alhassan A. Hamid	Kuda Farms	-	+233 248794795
7 Mohammed Abdallah	Vegetable farmer	-	+233 246562715
8 Saani Adam	Gushie Irrigation	-	+233 249373151
9 Musah A. Bawa	Nabogu Irrigation	-	+233 242779491
10 Alhaji Abdul	Soglo Farms	-	+233 244434002
11 Michael M. Addah	MoFA	maddah@yahoo.com	+233 244509658
12 Vitus Ayinga	GIDA	vitusayinga@yahoo.com	+233 244802956
13 Mahama A.	Savana Agro	Mahama@rocketmail.com	+233 243551953
14 Vincent Affram	PPRS	vincentaffram@gmail.com	+233 244900745
15 Ahmed	Crops	ahmedtjani3b@yahoo.com	+233 203158181

Validation Workshop Sunyani, Brong Ahafo (30 July, 2014)

Name	Organisation	Email	Phone
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4 Esi Boni Morkla	Environ. Health RCC	esbonpat@yahoo.co.uk	+233 243730840
5 Anthony Duah	EPA	anthonyduah@mail.com	+233 501301616
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7 Lucy Awedayha	MoFA	edluwedayha@gmail.com	+233 244778052
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# Annex 3. SPS Functions and Responsibilities

To achieve SPS compliance, the different actors must perform a number of SPS functions and responsibilities. One way to specify the different SPS functions and responsibilities is to categorize them based on hierarchical level, which results in six levels of SPS functions and responsibilities (World Bank, 2005).

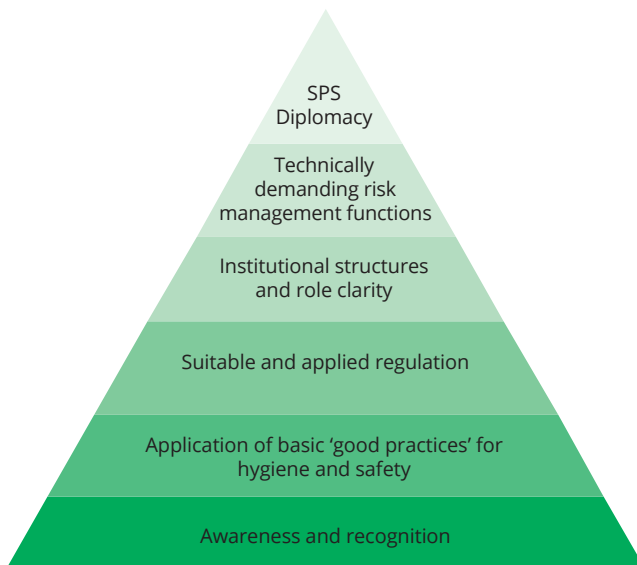
At the lowest level of the hierarchy is *awareness and recognition* which emphasises the importance of broad awareness among all stakeholders about the relevance and importance of food safety and plant health and recognition of their own role in the system. Where this awareness is lacking, attempts at regulatory enforcement are likely to fail.

The next level of the hierarchy is the *application of good practices* along the value chain to ensure risk management of hygiene and safety during e.g. agricultural

production (GAP), processing (GMP), transport and storage. Hazard Analysis and Critical Control Point (HACCP) is one way to manage these hygiene and safety risks, but also other quality management systems are available.

With broad awareness and common application of good practices, many potential SPS risks can be effectively managed. However, even if individual farms and enterprises apply good practices, they may not be able to control all hazards. There are also cases where broader oversight and systematic or collective action is necessary, requiring basic research, surveillance systems, and quarantine and emergency management systems. A proper regulatory framework for *application or regulation* is therefore needed.

**Figure** Hierarchy of trade-related SPS management functions & responsibilities. Source: World Bank, 2005



Even when an appropriate regulatory system is in place, it does not imply automatically that it is functioning properly. An effective functioning of a regulatory system asks for a transparent *institutional structure with clear roles, responsibilities and mandates*, and well coordinate cooperation among the different public institutions.

Various aspects of SPS systems concern technical functions, often requiring specialised, high-level skills and use of scientific facilities, equipment and methodologies, to ensure that sanitary or phytosanitary measures have a sound scientific basis and to regularly provide scientific prove of compliance to standards and the status of food safety and plant health. This all falls under the heading *risk management*, covering all aspects of assessment and evaluating risks and their management, including methods for monitoring risks by scientific testing. Some of these functions may be performed by private-sector organisations, but often they are in the mandate of public-sector institutions.

At the top of the pyramid is *SPS diplomacy*, which includes the international obligations of individual WTO members, but also engagement in the technical and political realm of international standard setting, bilateral market access negotiations between trade

partners, and resolving problems or disagreements that arise during trade. Developing countries are often said to be weak in this area, and are often only receivers of standards set by others.

It should be apparent that a strong pyramid foundation is essential to a successful SPS system. What is mostly seen when external donors assist developing countries to improve SPS compliance, is that much of the focus is on the top parts of the pyramid, covering for laboratory facilities and equipment, technical assistance and equipment for surveillance systems. However, although such capacities undoubtedly need strengthening in many countries, the effective use of such capacities depends highly on the strength of the foundational and midlevel functions of the pyramid, the clarity of institutional roles, and the effectiveness and suitability of legislation. When the foundation is weak, return on investment at the top of the pyramid is relatively low.

However, when the SPS system functions effectively it will ensure that standards are met, food safety and plant health risks are reduced, confidence towards trading partners is created and market access is achieved and maintained. This in turn will contribute to increased trade of food and agricultural products.



*Products for sale from open air vegetable market in Techiman*

# Annex 4. Recommendations Ghana Food Safety Action Plan

At the **legislative level**, a regulatory framework needs to be established that clearly and unambiguously stipulates the mandates of the institutions involved. More specifically:

- The pending Standards Decree and Food and Drug Law need to be harmonized to eliminate any duplication between the Ghana Standard Board and the Food and Drugs Board;
- The pending Plant Quarantine Law and Meat Inspection Law and Veterinary Surgeons Act need to be revised and enacted, to bring in line with international requirements; and
- The supporting regulations for the Fisheries Law need to be issued.

The revised drafts of the new food safety, standards and agricultural health laws, now pending Parliament approval, do not yet adequately address these weaknesses, according to key stakeholders interviewed by the mission. Detailed reviews and revisions are therefore needed before these laws and regulations are approved.

At the **institutional level**, it is recommended that an organizational framework would be established, which follows the above mentioned principles regarding the separation of (i) standard setting and enforcement; and (ii) risk analysis and risk management functions. While more specific studies and discussion are required, this would lead to the following recommendations regarding the institutional adjustments in the public sector:

- FDA would become the Central Food Safety Agency for Ghana, in charge of the coordination of all activities related to the regulation of food safety. In this capacity, FDA would implement the policy decisions from the ministries concerned (MOFA, MOH, and MLGRDE) and enforce the standards set by GSA, through inspections and conformity assessments, either directly or through relevant

agencies, such as the districts and municipalities. Over time, and in consultation with the EU as the major buyer, FDA could take over from GSA to become Competent Authority for export certification for fisheries. An alternative could be that DVS would develop into the Competent Authority, in line with the OIE recommendations. The comparative capacity of FDA and DVS in meeting the analytical requirements in fish certification, and the respective costs to bring the two laboratories up to the standards required by the EU would be important factors affecting this decision. Similarly, PPRSD could become the Competent Authority for plant health certification. In line with international good practice, this central food agency could evolve over time into a semi-autonomous agency, dependent on a SPS sector-neutral ministry, to avoid conflict of interest with consumers if directly dependent on MOH, or with the producers, if directly dependent on MOFA;

- GSA would become the standard setting body, for those standards where there is a moral hazard and/or a-symmetry in information. It would not be involved with the inspection, certification or other forms of conformity assessments, because of the potential conflict of interests. It could also be charged with the initial registration of food stuffs and agricultural inputs<sup>1</sup>. In the food safety area, the standards setting would cover standards for all contaminants with a potential risk for public health (microbiological, heavy metals, and other contaminants). It would normally leave the setting of commercial quality standards without public health risks, to the private sector;
- The technical ministries and agencies (MOH, MOFA and EPA) would concentrate on policy setting, and maintain the advisory and risk management functions, thus separating the enforcement and advisory functions; and

- The CSIR with the Food Research Institute and the Animal Research Institute and the universities would be the prime institutes to develop a risk assessment capacity, thus separating the risk assessment and risk management functions.

This Action Plan also recommends a strong emphasis on the development of private institutions. This would include:

- Establishment of an apex body for the plant sub-sector and professional organizations for the livestock and fisheries sub-sectors. The main tasks of these private organizations would be to present the interests of their sub-sectors in the policy dialogue. For the plant sub-sector, this apex body could set quality standards (but not safety standards, as this is a public sector responsibility) in close cooperation with the leading body on GhanaGAP (see below). For the livestock and fisheries sub-sectors, the professional associations could develop GMPs. Both could develop training programs, negotiate more favourable prices for inputs and transport costs and seek access to new markets, etc.; and
- Further development of GhanaGAP according to a gradual, modular (food safety/quality/environment/social issues) and multi-tiered (domestic/export markets) approach, to be led by a single public-private partnership GhanaGAP body, with an effective leadership mandate, clear roles, responsibilities and adequate resources.

At the **investment level**, this Action Plan recommends, in line with the Investment Plan proposed by the Task Force, investments to strengthen the capacity

of the central agencies to carry out their mandate and to establish pilot operations with innovations or demonstrations how to upscale technologies to improve the safety of the supply chain. The funding of these pilot and demonstration operations would be in partnership between the public and private sector.

**This Action Plan recommends the following priorities over a five to ten year period:**

- A first priority to be carried out over the first year for the proposed recommended adjustments in legislation and institutional organization of the food safety and agricultural health sector;
- The second priority to the strengthening of the Lead Laboratories for the different types of analyses to be carried out over the first two years, increasing their users fees for routine certification to full cost recovery;
- The third (but still very high) priority to strengthening the risk management functions of institutions concerned with the crop sector. The higher returns in the crop sector justifies this priority, and in particular for the control of the Fruit Fly; and
- The fourth (more long term) priority to the establishment of realistic GAP and GMP in the production and processing sector.

Investments in the pilot operations or demonstrations in the different sectors could be introduced all along this sequence, although some actions would clearly benefit from the activities described under the earlier priorities, and could better wait till they are met.

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