**PROJECT: SURINAME: FAO/IDB AGRICULTURE POLICY LOAN: AGRICULTURAL SERVICES STUDY**

**INTER-ALIA ANALYSIS OF SURINAME’S AGRICULTURAL HEALTH AND FOOD SAFETY SYSTEM**

Report on the mission to Paramaribo

March 1 to 9, 2013

By (in alphabetical order)

**CATHERINE BESSY**

Food control Officer,

Food Safety and Codex Unit, FAO

**CEDRIC LAZARUS**

Livestock development officer

FAO Sub regional office for the Caribbean

**JAIRO ROMERO**

International Food Safety Consultant

**ORLANDO SOSA**

Agricultural Officer

International Plant Protection Convention, FAO

**JENNA WIJNGAARDE**

National Food Safety consultant

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# OBJECTIVES

The objective of this report is to identify current issues related to food safety, plant and animal health (also grouped under the concept of Biosecurity) in Suriname and propose a stepwise approach to strengthen the agricultural health services in Suriname. This report therefore outlines:

* key issues facing the these services in terms of organizational arrangements, legislative framework and operational responsibilities;
* areas for synergies between Plant heath, Food Safety and Animal Health Services in Suriname.
* overall recommendations for the improvement of agricultural health and food safety services, highlighting policy changes and priority capacity building needs to be addressed in preparation for the loan agreement
* a proposal to prepare a detailed strategy for strengthening these services in Suriname with corresponding timeline and budget;

This report is the result of a series of on site assessment (in the area of Food safety and Plant Health) as well as summary of recent fact finding missions implemented by FAO and OIE), to provide an overview of current issues in the agricultural health services ion Suriname.

# ACTIVITIES

The following activities were implemented:

- For the food safety sector: preliminary work was undertaken by consulting previous reports and other available data (see Section 6 – references) as well as collecting background information on the legislative and institutional frameworks, and on operational capacities of control services and on food safety and public health issues for Suriname. Key representatives of the Ministries of Agriculture, Health and Trade as well as from the private sector were interviewed in relation to the objectives of the mission. The agenda of the mission to Paramaribo is included in Annex 1. Mission Agenda, of this report. Notes from the interviews and meetings are included in Annex 2. Notes from the interviews. As noted by the mission, the food safety services have undergone several reviews over time. However, the lack of a reliable information system, as well as of a unified reporting system do not allow a more in depth analysis of particular issues. This is a first gap to be noted.

- For the plant health sector: Interviews of key official authorities and stakeholders in the public and private sector were held to discuss phytosanitary programmes and issues. This was complemented by a review of background documents (including legislation and subsidiary legislation) and phytosanitary data (including import and export data) maintained and managed by the various services of the NPPO. A quick assessment of the types of phytosanitary risks facing the NPPO of Suriname was performed, as well as an analysis of the current organizational arrangements of the NPPO including policies, mandates and responsibilities of different departments/division/units involved in the delivery of phytosanitary services. Eventually the private sector arrangements of the NPPO in the delivery of phytosanitary services were reviewed.

- For the animal health sector: a review and synthesis of recent information gathered through projects led by FAO. In addtition reference has been made to the most recent OIE PVS evaluation report dated March 2012, communicated to the FAO team by the National Authorities.

# FINDINGS

## 3.1 The Surinamese Agri- Food Sector

Suriname is situated in northern South America and bordered by Guyana, Brazil, French Guiana with the Atlantic Ocean to the north. It is the smallest country in South America with a total land area of 163, 820 km2 and is divided into 10 administrative districts. There is an estimated population of 530,000 of which 82 percent live on the coast and most live in or near the capital city of Paramaribo. It is estimated that approximately 15% of the working population is employed in agriculture, making agriculture the second largest provider of jobs outside of the government. Suriname is endowed with rich natural resources, biodiversity, pristine forests covering 90 percent of the land, abundant supply of fresh water and large areas of arable land. Approximately 9% or about 1.5 million hectares of the total land area is considered suitable for agriculture, of which 25,000 hectares are used for livestock production activities with 18,600 hectares dedicated to pastures .

The agriculture sector holds significant growth potential but currently manufacturing, commerce and mining are the country’s largest sectors with mining being the lead foreign-exchange earner.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rank | Commodity | Production (Int $1000) | Flag | Production (MT) | Flag |
| 1 | Rice, paddy | 46867 | \* | 226686 |  |
| 2 | Sugar cane | 2653 | \* | 120000 | F |
| 3 | Bananas | 24310 | \* | 94272 |  |
| 4 | Oranges | 2926 | \* | 15138 |  |
| 5 | Plantains | 2164 | \* | 12330 |  |
| 7 | Coconuts | 963 | \* | 8709 |  |
| 8 | Vegetables fresh nes | 1628 | \* | 8637 |  |
| 10 | Cassava | 443 | \* | 4243 |  |
| 11 | Grapefruit (inc. pomelos) | 569 | \* | 2530 |  |
| 12 | Citrus fruit, nes | 1127 | \* | 2494 |  |
| 14 | Watermelons | 240 | \* | 2103 |  |
| 16 | Beans, green | 674 | \* | 1897 |  |
| 18 | Mangoes, mangosteens, guavas | 688 | \* | 1149 |  |
| 19 | Tomatoes | 387 | \* | 1048 |  |
| 20 | Cabbages and other brassicas | 152 | \* | 1015 |  |
| \* : Unofficial figure  [ ]: Official data  F : FAO estimate  Fc: Calculated data | | | | | |

* Agricultural sector:

Most persons interviewed during the mission believe that Agriculture, or at least crop production, does not have major economic importance. However, the principal plant and plant products that comprise the agriculture sector are rice, bananas, sugarcane, a select number of vegetables and some minor fruits (see figure 1 for an assortment of plants and plant products being exported). In addition to agricultural production other plant products are derived from forest or natural sources. These include some palm products such as Acai Palm (*Euterpe oleracea*), Inaja palm (*Maximiliana maripa*) and Tucum palm (*Astrocaryum vulgare*), Bacaba palm (*Oenocarpus bacaba*), as well as an assortment of medicinal plants, crafts based on plant materials and brazil nuts. These do not appear in official statistics.

Agricultural crops accounts for about 13% of GDP – there are no figures of the proportion contributed by the plant sector. Rice is mainly cultivated in the Nickerie area with over 55 000 hectares being cultivated. A significant portion of this, upwards of 30 percent, is exported within the Caribbean Community (CARICOM). Besides the big two (Rice and bananas), small holdings of crops provide an important source of employment particularly as an activity to supplement incomes of households. It is estimated that there are currently around 3000 active farmers involved in crop production of which a small portion (a few hundred) can be considered full-time. There are no official statistics for these figures however. There is a general lack of organization of the farmers and this is partly due to the seasonal and supplementary nature of current farming practices. There is, however, only one major active cooperative with a membership of about 3-400 farmers which provides service to Paramaribo and surroundings. The present government recognizes the need to diversify the economy away from reliance on the extractive metal and lumber industries. There is a very systematic effort to increase agricultural production and exports (particularly banana, rice, vegetables and fruits).

Key priorities of the Government include increasing the production of banana and rice and improved production of other crops geared for export with this being driven through the private sector. The main trading partners for Surinamese plants and plant products is currently very limited. However, there are efforts to attract agricultural investment from a number of South American neighbours including Brazil and further away for example China and India. Suriname intends to become more closely integrated with the Caribbean through CARICOM and has accepted to be the regional host to the latest innovation from the Caribbean i.e., the Caribbean Agricultural Health and Food Safety Authority (CAHFSA), the regulatory framework for biosecurity in the Caribbean.

The livestock sector in Suriname contributes approximately 1.5% to GDP at a value of USD 24.5 million and the current livestock census data estimates that there are 53,000 heads of cattle; 7,500 sheep; 5,800 goats; 32,000 pigs, and 955,600 poultry. In the government’s registry there are approximately 1030 small ruminant farmers, 1102 broiler farmers, 400 egg farmers, 2000 cattle farmers and 155 pig farmers. Among cattle farmers 82% have less than 10 cows and among broiler farmers 83% have less than 50 birds. It is estimated that the livestock sector employs (directly and indirectly) approximately 6400 jobs

Figure 1

**Quantity of livestock products produced in 2012 (Ministry of Agriculture data)**

|  |  |
| --- | --- |
| Product | Quantity |
| pork | 1851 tonnes |
| beef | 1850 tonnes |
| Goat and sheep meats | 15,189 kilograms |
| Poultry meat | 10,887 tonnes |
| Eggs | 54,000,000 |
| Milk | 4.7 million litres |

* Food sector

The Food sector in Suriname consists mainly of fresh products, including fruits and vegetables, fish, poultry and rice, among the most important ones. There are approximately 517 local food processing or trading companies registered in the country, producing sausages, milk/dairy products and ethnic food. In addition, there is also a small scale production of smoked fish, with more than 70 small smoking houses scattered across the country. These smokehouses and other drying fish facilities are not registered. In addition, there is an undetermined number of unregistered companies producing juice, snack, peanut sauce etc. There is no official data describing the size of informal food business but rough estimates indicate that it is at least 40% of the total food processing sector in Suriname.

Most of the fresh products consumed in Suriname come from local production. Different types of Food are imported such as raw poultry, raw beef, canned products, cooking oil, among others.

As is the situation in the other CARICOM countries much of Suriname’s food of animal origin is imported; this is estimated to cost between 30-40 million USD annually.

**Figure 2**

**Imports of livestock products (2012) Ministry of Agriculture data**

|  |  |  |  |
| --- | --- | --- | --- |
| Type of product | Quantity | CIF Value (USD) |  |
|  |  |  |  |
| Hatching eggs | 2,707,017 | 2,074,646 |  |
| Duck eggs | 59,000 | 95,820 |  |
| Chicken (kg) | 19,424,651 | 21,219,669 |  |
| Processed chicken (kg) | 1,698,294 | 2,841,797 |  |
| Turkey (kg) | 19,517 | 23,127 |  |
| Beef, including cured and processed (kg)  Pork, including cured and processed (kg) | 1421929  1064278 | 3094622  2432988 |  |
| Duck meat (kg)  Mutton (kg) | 38,056  7678 | 19,455  19,492 |  |
| Fresh Milk (l) | 199,677 | 168,803 |  |
| Milk products (kg) | 5,815,342 | 2,371, 466 |  |
| Milk powder (kg) | 1,662,581 | 4,820,130 |  |
| Cheese (kg) | 1,124,362 | 2,512,568 |  |
|  |  |  |  |

The above figures reveal that in 2012 the country imported over 8 million kilograms of dairy products, over 20 kilograms of poultry products and approximately 1.5 million kilograms of beef and beef products.

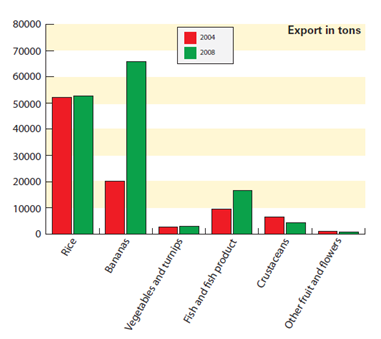
Based on 2009 data Suriname has the following per capita consumption of livestock products: beef 6.5 kilograms, pork 4.92 kilograms, poultry meat 48 kilograms and eggs 96 per person per year.

Like the rest of the Caribbean countries Suriname’s meat consumption is higher than the world average while at the same time imports account for the most of the meat and meat products consumed. The government recognizes that based on its abundant available natural resources such as land and water, Suriname has the capacity to produce much more of the food of animal origin than it needs for its own population. Long term plans are being discussed for the country to be a net exporter of animal products (mainly meats) to its Caribbean neighbours. To achieve this several factors have to be addressed at the national level before the private sector both within Suriname and in the region can take advantage of the possibilities that exist. These factors include the implementation of a clear and coherent livestock development policy and accompanying strategy, with components that favour both local and overseas investments in livestock production, and the development of the livestock value chain. Access to capital as well as access to available land and other resources by potential livestock farmers, input providers and other stakeholders are also factors that have to be taken into consideration.

Food exports from Suriname are principally rice, bananas and fresh and frozen marine fish (See Figure 3). Some small amounts of traditional fresh fruits and vegetables – 30 tons a week, total – are exported, most of it to The Netherlands, intended for consumption of Surinamese people living there.

Figure 3

**Agricultural Exports of Suriname, 2008**



Source: MOTI, 2010

For more detailed figures on the size of agricultural sector of Suriname, refer to Annex 3. Agricultural Statistics.

There is a shared vision of many stakeholders in relation to the opportunities offered by international markets of fresh produce. Watermelon, eggplant and some leafy greens are mentioned as the most promising products in the coming years.[[1]](#footnote-1)[1]

## 3.2 Overview of animal health and food safety issues

*Animal health situation*

The main animal disease threats for Suriname are classical swine fever (CSF) and foot and mouth disease, both of which are present in countries sharing a land border with Suriname. Integrated and coordinated efforts to eradicate foot and mouth diseases are on-going in most of South America as the presence of this disease is regarded as a hindrance to trade in livestock and livestock products. There also exists a FAO supported regional programme to eradicate classical swine fever from the Hemisphere by 2020. Suriname is free of both classical swine fever and foot and mouth disease thus programmes to prevent their entry such as monitoring and surveillance, strengthening of border control and quarantine systems and enhancing laboratory diagnostic capabilities have to be maintained and strengthened. The country would also stand to benefit if it were to be officially declared free of foot and mouth disease by the OIE which has the mandate to recognize disease and pest free areas based on the Sanitary and Phyto-sanitary Agreement of the WTO. An official recognition of foot and mouth disease freedom would enhance Suriname’s animal health status and its potential for the export of animal products. An outbreak of foot and mouth disease in Suriname would have serious ecomomic consequences and would lead to a contraction of the livestock sector. Direct losses due to the outbreak would include mortality, abortions and production losses of milk and meat while indirect losses would include the costs of diagnostic tests, loss of local market and the cost of controlling the disease. For one year vaccination costs alone would be in excess of USD204,300 based on a conservative figure of USD1 per dose of vaccine and thi sdoes not include the costs of administering the vaccine. In Suriname the true prevalence and the impact and costs of zoonotic diseases, such as rabies, leptospirosis, bovine tuberculosis and brucellosis and other animal diseases are not known – some of these diseases and other re-emerging diseases still threaten both animal and human health. A recent national surveillance project resulted in an initiative to collected blood samples from livestock to estimate the national prevalence of priority animal diseases such as brucellosis and leptospirosis. However, most of the samples collected are still in storage to be tested at a later date due to the fact that the newly constructed national central laboratory was destroyed by a fire shortly after its construction. A new laboratory is under construction and is scheduled for completion in 2014.

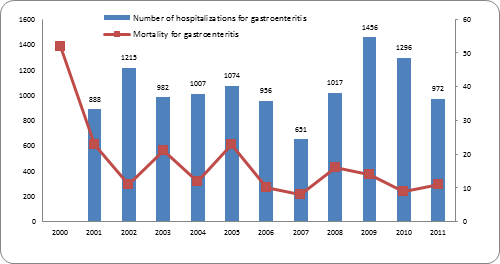
More informaton can be found in the OIE-PVS report.

*Human Public health risks*

Data on human health: Since no comprehensive, coordinated food borne disease surveillance and response system exists in Suriname, the full impact of neither food borne diseases nor control efforts can be objectively assessed[[2]](#footnote-2)[2]. The only data reported by the Bureau of Public Health is referred to the number of hospitalizations and mortality due to infectious gastroenteritis shown in Figure 4. The number of cases is considerable and reflects a public health problem, although the report doesn’t differentiate if events were originated by contaminated water or food, nor identifies the causative microorganisms.

Figure 4

**Number of hospitalizations and mortality due to infectious gastroenteritis (ICD10: A00-09)**



Source: RAMADHIN *et. col*, 2012

Data on food contamination: there is little data about chemical or microbiological contamination of products in the country. The Laboratory of Public Health (BOG) runs a small number of tests and doesn’t report prevalence or concentration of contaminants in foods, only gross figures of samples analyzed (See Table 1).

Due to the lack of information, problems associated with food safety can only be assessed based on qualitative considerations resulting on observations and interviews carried out by the consultants during the mission.

Since the diet of Suriname is primarily based on fresh/raw products, hazards associated with this type of products are the most likely to occur. This, at the same time, connects directly food safety with the quality of primary production.

Table 1

**SUMMARY OF TESTS PERFORMED BY THE BOG LABORATORY**

**ON FOODS, WATER AND FAECES, 2012**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **GROUP** | **PRODUCT** | | | **TESTS** |
| Milk and Milk products | | **Total** | **1386** | |
| Milk powder | 0 | |
| Milk (MCP) | 630 | |
| Yoghurt (MCP) | 363 | |
| Custard (MCP) | 195 | |
| Sucamel (MCP) | 152 | |
| Various | 46 | |
| Water | | **Total** | **2407** | |
| Monitoring (MTD) | 1149 | |
| Fish processing companies | 616 | |
| Private organisation (such as ADEK) | 163 | |
| Swimming pool | 0 | |
| Various | 479 | |
| **Food** | | **Total** | **612** | |
| Prawns | 71 | |
| Fish | 156 | |
| Meals | 121 | |
| Baby/children food | 24 | |
| Various | 240 | |
| **Faeces** | | **Total** | **117** | |
| Epidemiology | 12 | |
| Food handlers | 91 | |
| Various | 14 | |
|  |  |  |  |  |

Source: BOG Central Laboratory Report 2012

Agro-chemical and environmental contamination of the food supply seem to be of concern, particularly due to pesticides and heavy metals. Pesticides are imported and authorized according to a simple administrative, non-technical process. They are approved for general use in the country, not for specific pest/crop combinations. This means that pesticides are used without proper indications about crop/doses/frequency/time for withdrawal. Under these conditions, it is expected that agricultural products may have frequently high pesticide residue levels.

In addition, heavy metals, methyl mercury in particular, in foods and fish is a matter of concern since there is a massive extraction of gold using mercury waters up that is contaminating running water. In fact, several studies have shown this risk[[3]](#footnote-3)[3]. One of those studies (RAMLAL, 1999) concludes, based on the levels of Methyl mercury found in fish in the Lake Brokopondo area, that a person who consumes every day 50 g of *S rhombeus* coming from that area, will get 1.087 times more mercury in his body than recommended by WHO. This clearly indicates the critical situation with this contaminant.

*Food Safety of Surinamese products and international trade*

While exports of bananas and rice since exports are taking place ($24.5 and $19.6 Million USD respectively in 2009) to inter alia the EU, CARICOM without apparent major issues (that would be raised during the import control procedures), producers and exporters of other products face serious problems when trying to export fruits and vegetables. Suriname received a number of notifications because of exceeding maximum residue level (see Table 9: RASSF portal EU). Exports of this type of products are very low, accounting for no more than $2 Million USD a year (See Table 5) and in order to promote growth of this agro-industry to a size allowing to take advantage of the opportunities offered by the international market, official authorities must strengthen mechanisms for pesticide registration and residue control. Microbiological contamination of fresh produce is also of great importance for food exports.

Figure 5

**SURINAMESE SMOKED FISH**



One additional chemical hazard is Benzopyrene, present in smoked fish, a highly consumed product in the country, produced in small scale facilities. Smoked fish is banned for export to the European Union precisely because the high levels of this substance detected in the product sent to that market.[[4]](#footnote-4)[4] While no data is available regarding the domestic consumption of smoked fish and associated risks, some “warning” signals can be derived from these export data, as the fish comes from the very same establishments.

Fish industry generally behaves well in the international market. However, one large firm experienced 11 rejections in 2011 due to presence of *Salmonella* in the shipments sent to the US. As a result of this, the firm couldn’t send its products to that country anymore.

Figure 6

**IMAGES OF A TYPICAL SURINAMESE FISH SMOKE HOUSE**

|  |  |
| --- | --- |
| DSC08949R | DSC08955 R |

## 3.3 The national food control system

### 3.3.1 Policy, Legislation and Strategies

*Policy and strategy*

Suriname current national food safety policy and strategies are too concise and limited to present an integrated, coherent, effective and dynamic food safety control system, and to determine priorities which ensure consumer protection and promote the country’s economic development. In the Development plan 2012-2016[[5]](#footnote-5) the strategy for food safety is briefly addressed by the following statement: “The strategy of food safety in the agricultural sector is aimed at becoming the regional leader in the field of food safety and thus to secure the export production to the region and other parts of the world.”

In addition, MOA led recently the preparation of a series of “White papers” defining objectives, interventions and budget allocation for a various products, considered strategic for the country. Subsectors considered are Horticulture, Rice, Banana, Livestock, Fisheries, and Inner land development, Agribusiness and Agricultural Health Care and Food Safety. However, there is a general consensus that those papers require further development, since subsectors, objectives and interventions were defined based mostly on opinion of stakeholders, not following a well-structured strategic planning process.

*Legislation*

There is no overarching Food Safety Act in Suriname and food safety legislation is outdated[[6]](#footnote-6), as shown in the following list of regulatory pieces currently in application:

* Food Act 1911
* Decree 1940
* Decree 1952
* Decree 1951 milk and dairy products (Milk Decree)
* The milk processing Act 1959
* The Meat Inspection Act 1961
* Regulations for Public Slaughterhouses 1961
* Amendments of the Rules for the public Slaughterhouses 1964
* Meat Decree 1961
* Meat Device Decree 1961
* Decree license approval for slaughterhouses 1961
* Decree import meat and meat products 1961
* House and emergency slaughter Decree 1964
* Abattoir slaughters exemptions Decree 1965
* Plant protection act 1965
* The Fish Inspection Act of 16 November 2000 (No 107): this act governs production, trade, import and export of FP in Suriname (including aquaculture) and covers the food chain from catch and production to export and sale. Under this Act, a Fish Inspection Institute should be established. It should be the legal entity responsible for the quality tests and inspections of FP, including those intended for export to the EU;
* The Fish Inspection Decree of 11 February 2002 (No 9): this decree implements provisions of the Fish Inspection Act. It is based on Community requirements;
* The MOA Decision of 12 February 2002 setting out rules regarding the implementation of quality requirements for FP (No 10);
* The MOA Decision of 21 February 2002 setting out rules for the establishment of quality requirements for processing water and clean seawater (No 11);
* The MOA Decision of 21 February 2002 setting out rules for the establishment of reference methods and conditions for the measurement of concentrations of
* Total Volatile Basic Nitrogen. TVB-N (No 12);
* The MOA Decision of 21 February 2002 setting out rules regarding the implementation of own checks (HACCP Decision) (No 13);
* The MOA Decision of 21 February 2002 setting out rules for the use of food additives in the preparation of FP (No 14).
* Pesticide Act. Update in operation since February 2005, refers to Annex III of the Rotterdam Convention and prohibits import, sale and use of these chemicals.
* Draft Agricultural Health and Food Safety Act

It should be noted that poultry doesn’t fall under the meat inspection act and that poultry will apparently be covered by the new veterinary legislation that is being drafted ( Meat inspection and abattoirs Act), in particular regarding its inspection.

Most of the laws are composed as primary laws. The further elaboration of specific issues is recorded in lower level regulations (subsidiary legislation), because the way to the parliament with regard to adoption of laws is slow. The whole process can take several years. Laws that have issues with an urgent nature can be completed in some months (FAO, 2012d)

There are very few regulatory standards for food products in the country. Suriname Bureau of Standards was recently created to address this issue. The Bureau has prepared 10 standards up to now, none of them has been officially recognized as mandatory standards by MOA or MOH. The dialogue between the Bureau of standards and MoA and MoH when it comes to food standards should be more structured. The process for preparing voluntary standards, intended at strengthening the industrial policy, and the process for preparing and adopting mandatory standards, in particular the area of food safety, should also be distinct. It is fundamental that the technical knowledge of MoA and MoH is appropriately taken into account when preparing food safety standards that have a vocation for becoming mandatory.

While Suriname is a member of Codex, any national codex related activities are in their infancy. Suriname has a National Codex Secretariat since 2009, but this position has not yet been officially formalized within the MOA. The Secretariat is the contact point with the Secretariat of the Codex Alimentarius Commission in FAO/Rome. It appears that Suriname had a National Codex Committee (NCC) but its existence was terminated after a few terms.

The Surinamese Codex Secretariat has been created to ensure continuity with this NCC and sends the incoming documents from Rome to experts from public and private sectors who themselves have expressed interest for these documents. The Secretariat is waiting for the formalization of its location within the ministry so that they can make a better assessment of who the key stakeholders are outside the public sector . This way they also have the authority to communicate on a regular basis with the stakeholders about developing or adopting national standards based on Codex Alimentarius.

Contact with the Bureau of Standards is also on a regular basis. Draft Standards of the Bureau are sent to the Surinamese Codex Secretariat for comments.

### 3.3.2 Overview of the Institutional framework for food control and management

Four Ministries have responsibilities in relation to Food Safety in Suriname. Ministries and Departments involved are shown in Figure 7 , 8 and 9.

Figure 7

**SURINAME AGRICULTURAL HEALTH AND FOOD SAFETY CONTROL SYSTEM**

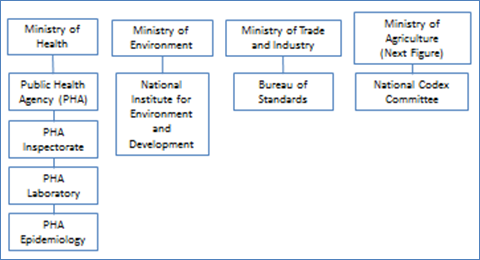
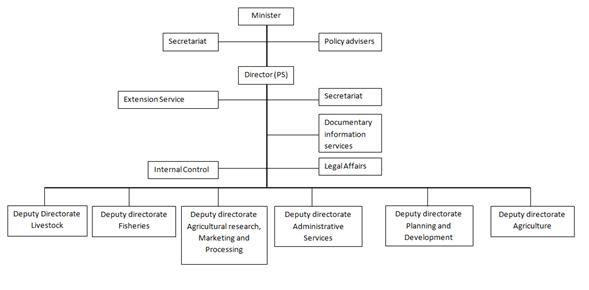


Figure 8

**ORGANIZATIONAL STRUCTURE, MINISTRY OF AGRICULTURE**



One Ministry (Ministry of Public Health) seems to have by law a primary responsibility for the inspection and control of food stuffs. This task is delegated to their executive body, the Bureau of Public Health (BOG). This is the national institute for preventive health care that focuses on the promotion and monitoring of the overall health of everyone in Suriname. It combines expertise and technology in the field of public health prevention and control of specific diseases through policy development, epidemiological surveillance, health education, research, laboratory diagnosis and public health intervention.

Figure 9

Organizational Chart Public health agency

However, contribution of other departments are crucial to ensure the coverage of the whole food chain in a continuous manner and adequately take into account primary production conditions. Presently, food safety programs are fragmented across government departments, with too little coordination[[7]](#footnote-7). For example, Ministry of Environment is in charge of issuing environmental permits, and Ministry of Health and Ministry of Agriculture, Animal husbandry and Fisheries are monitoring food, but no formal coordination mechanisms among ministries, as for example commissions, committees, established up to now. Coordination occurs eventually and informally.

Delimitation of competences is another area needing improvement. An institutional framework, sanctioned by legislative texts addressing the establishment of a leadership function and administrative structures with clearly defined responsibilities for a number of crucial food control related activities is lacking. Figure 10 attempts to describe competences currently established by law in relation to key aspects of food control. In some cases, as with slaughterhouses or fresh produce packing houses, the lack of clear demarcation of responsibilities between different agencies is evident, so both MOA and MOH inspect them. In other cases, no real control is exercised. This is the case, for example, of fish smokehouses, they are not visited regularly by any health or agriculture authority. It is just in the event of for instance a complaint that the District Commissioners, who are local assistant officers of Justice, are assisted by the environmental inspectors to inspect the establishment.

Figure 10

**SURINAME AGRICULTURAL HEALTH AND FOOD SAFETY CONTROL SYSTEM**

**DELIMITATION OF COMPETENCES**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FUNCTION | AGROCHEMICALS AND OTHER SUPPLIES | PRIMARY PRODUCTION | | PRIMARY FOOD PROCESSING | | SECONDARY FOOD PROCESSING | FOOD DISTRIBUTION | FOOD RETAILING | FOOD DISTRIBUTION | FOOD CATERING | |
| POLICY |  |  | |  | |  |  |  |  |  | |
| REGULATION |  |  | |  | |  |  |  |  |  | |
| STANDARIZATION |  |  | |  | |  |  |  |  |  | |
| LICENSING |  | N/A | |  | |  |  |  |  |  |  |
| INSPECTION |  |  | |  |  |  |  |  |  |  | |
| SURVEILLANCE | NA |  | |  | |  |  |  |  |  | |
| LAB ANALYSIS |  |  | |  | NA |  |  |  |  |  | |
| SC. & TECH | NA |  |  |  | |  | NA | NA | NA | NA | |
| IEC ACTIVITIES |  |  | |  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| COLOR KEY | | | |
|  | Ministry of Agriculture |  | Ministry of Trade and Industry |
|  | Ministry of Health |  | University of Suriname/Centre for Agri. Research |
|  | Bureau of Standards |  | Ministry of Labor |
| N/A | Not Applicable | NA | Not Available |

*Human, financial and information resources*

Food safety control management in Suriname does not count with specific personnel, well skilled and trained for food this purpose. Financial planning is based on what was spend in the previous fiscal period, having in mind the mandate of each institution, not according to a specific strategy.

Information about food safety, establishments, size of the sector, imports and exports, sanitary status and other key aspects, is scarce and scattered, as described in other sections of this report.

### 3.3.3 Inspection

Human resources, equipment and infrastructure for food inspection are very limited in Suriname.

BOG has only 2 food inspectors and 97 environmental health inspectors who are responsible for the inspection of approximately 1400 registered establishments ( including food and non food)[[8]](#footnote-8).

The education level at the Environmental inspection department is the following:

* Department chief: academic degree
* Coordinator (1): higher vocational level of thinking
* Environmental inspectors at secondary vocational level +: 9
* Environmental inspectors with secondary vocational - (minus means that they have less than a secondary vocational degree) Level: 84
* Environmental inspectors below secondary school degree: 3

The educational level at the food inspection department is the following:

* Departmental chief: academic degree in food technology
* Food and good inspectors have a secondary vocational level: 2

Fish inspection institute ( MoA) has 4 inspectors, 2 assistant inspectors en 1 quality manager, all received at least a secondary vocational training. A concept quality manual based on the ISO 17020 is available and some tools to work with.

Veterinary inspection (MoA): Ten meat inspectors who received an internal training, 8 veterinarians and 10 animal health assistants. They use a concise checklist and have only 2 tools, namely a brine meter and a thermometer. Their responsibilities include:

* Passive surveillance in the beef and pig slaughterhouse
* Regular inspection of butcheries
* Document control and inspection of imported animal and animal products
* Meat inspection

The 10 meat inspectors were recently trained by the Ministry of Agriculture to carry out meat inspection and related duties in slaughterhouses and meat shops and butcheries under the supervision of veterinarians and in keeping with the provisions of the Meat inspection Act.

More information is provided with regard to Veterinarians under the section 3.5 on the animal health system as they perform both types of activities jointly. The issue of abattoirs inspection is described in paragraph 3.5 as well.

Besides being understaffed, food inspectors are also not equipped to perform their duties. The Food inspectors from BOG only have items such as cool boxes, thermometers and means of transportation .

Figure 11

FRESH FISH MARKET IN PARAMARIBO



Food inspections in Suriname are (with the exception of the fisheries) mostly reactive. After receiving complaints, inspection takes place to determine whether the food product meets standards. The microbiological, toxicological and physicochemical properties of the majority of the food products sampled are assessed after the product has left the factory or the farm. Same happens with Cafes (warungs) and restaurants, which are inspected after complaints are received (although usually not thorough check). Even basic tasks for food inspection cannot be implemented as necessary: local/fresh product markets don’t comply with basic food safety principles and are not inspected on a regular basis. So the impact of food inspection activities is probably very limited and certainly not geared at preventing food safety incidents to happen. The dimension of risk is not considered as there is no planning for such inspections. Reporting is limited to a GMP-based checklist used for performing the inspection, there is little follow up on the recommendations or requirements posed by the inspections.

### 3.3.4 Laboratories

There are two official laboratories in the country with responsibilities on food control. The fish inspection lab (VKI) is one and the other laboratory is at MOH (BOG). Both laboratories are in the process of developing and implementing their quality management system based on the ISO 17025 or ISO 15189. At MOA a laboratory is being rebuilt after a fire destroyed it some time ago. Besides, these, the only alternative for requesting analysis is at the University. The offer from the private sector in terms of analytical services is nonexistent.

Microbiological analysis performed by the BOG are mostly done upon request, and paid by, the food industry, the results of those tests are considered confidential, so they are not used for official purpose. Official authorities don’t have data on chemical contamination of foods.

Products of agricultural origin are usually not checked for compliance with quality and health criteria such as the presence of pathogenic micro-organisms, pesticide residues or residues of veterinary drugs such as antibiotics[[9]](#footnote-9) for there are no official standards so the BOG laboratory doesn’t have reference values to compare the analytical results; they just report what was found in the test. This lack of official benchmarks, under the form of standards, maximum residue limits and microbiological criteria completely undermines any compliance assessment activity as there is no legal basis to take action upon.

Human resources are also scarce at the official labs. BOG has a limited number of analysts, Fish inspection institute laboratory has two microbiological analyst, two chemical analyst and one quality manager, all received at least a secondary vocational training and the head of the laboratory has a higher vocational degree. A quality manual based on the ISO17025 is available and a few devices and tools to work with. Veterinary laboratory of MOA has one veterinary doctor, one medical and one chemical analyst.

Producers who have an in-house laboratory can perform basic tests to check whether their products meet certain regulatory requirements: For example, the producers of bottled water, rice, dairy products, can test their products on a number of specific quality criteria (these criteria are internal benchmarks, and are voluntary in nature). When they need tests of higher complexity, they have to send the samples overseas, because there is no capacity for such analysis, as for example with pesticide and fuel oil residues (as happened with a cargo of rice a few times).

### 3.3.5 Epidemiological surveillance of food borne diseases

No comprehensive, coordinated surveillance and response system exists, so full impact of neither food borne diseases nor control efforts can be assessed.

The mandatory system based on the law is not working. In part because the law is outdated:  physicians are required to report cases of  specifically named diseases within time frames that were based on the epidemiological situation and the communications technologies of the 1950’s.  Many of the diseases mentioned in the law have been eradicated while other diseases such as HIV-related conditions, and Pandemic Flu, Campylobacter infections and many others that are relevant today are not covered.

*Outbreak investigation*

There are three sources of information about food borne diseases cases or outbreaks in place: Nurses inform of hospitalized patients, Complains from the community and Identification of microorganisms at the Hospital laboratory.

The outbreak investigation follows a general protocol, applying general epidemiology principles. No strict protocols are so much followed in this or any other activity. Experts try to find cases, take samples, do interviews, and perform other typical activities of an outbreak investigation. Following a protocol requires laboratory, staff, transportation and other resources not all available at the moment. How far to go in an investigation will depend on how serious consequences are.

*Current status of Food borne diseases (FBD) in Suriname*

FBD are clearly not the currently the infectious disease of major concern of BOG. In contrast, Dengue is, specially related to sewage systems and dysfunctional waste management systems.

While there are statistics for primary care, hospitals, and community complaints, it is hard to differentiate between food and water borne diseases.

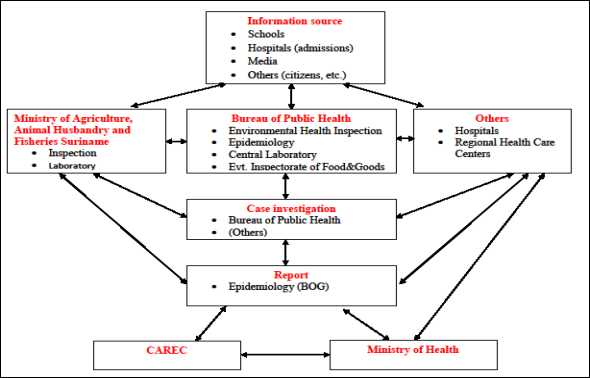
It is crucial to improve the reporting system, but also to improve the access of patients to medical structures: under reporting of FBD is suspected to be very important.

*Data analysis and use*

The BOG team meets weekly so the information shared influence daily activities but there is no data analysis/ trend analysis or analysis of relations between food contamination and food borne disease because of the lack of data mentioned before.

Figure 12

**FLOWCHART OF FOOD BORN DISEASE SURVEILLANCE AND REPORTING**



### 3.3.6 Information, education and communication – IEC – activities

There is no clear definition of which Government agencies are involved in IEC activities targeted at consumers and their organizations and the food industry. Current legislation and policy do not promote openness and transparency in IEC activities with stakeholders from farm to table. Education is currently focused on training inspectors and primary producers.

IEC activities with other stakeholders along the food chain are inexistent. There are no human resources available for planning and implementing IEC activities or for gathering relevant information, such as risk perception, consumer attitudes, behaviour…

## 3.4 The Phytosanitary Control system

### 3.4.1 Policy and Legislation

The concentration of the larger part of the population of Suriname around Paramaribo presents some challenges for expanding crop production in the country – the principal limitations include farm size (most are plots), crop production technology, access to credit and insurance, crop diversity and labour (accessibility and cost). While Suriname has the potential to produce a variety of crops both for external and internal markets it would require a significant change in land distribution, population displacement and incentives to motivate more people to go into farming or in the case of the study, crop production. Few countries in the region have what Suriname offers, arable land, a good forest base and lots of water for farming and excellent climatic conditions.

The current agricultural policy of the Ministry of Agriculture is outlined in a document unveiled in April 2011. The policy outlines a strategy for 2010-2015, a roadmap of sorts and presents the following 7 main objectives:

* 1. To achieve and ensure food security for the entire population Suriname
  2. To guarantee the agricultural health and food safety
  3. To develop a sustainable agricultural sector
  4. To develop the agricultural sector to be the food producer and food supplier of the Caribbean
  5. To Increase the agricultural sector contribution to the national economy
  6. To establish the institutional and infrastructural conditions for the sustainable development of the agricultural sector
  7. To manage the preconditions and risks in implementing the agricultural policy framework.

A series of 8 white papers have been prepared with the assistance of FAO and others to further outline the roadmap. These white papers contain strategies for the sub-sectors rice, banana, horticulture, livestock, fisheries, the development of the interior, agribusiness and food safety.

Suriname’s growing recognition of the importance of strengthening phytosanitary services and the broader agricultural health (biosecurity) system (including Animal Health and food Safety) to ensure national food security and economic prosperity is highlighted in the fact that it is participating in relevant international fora such as International Plant Protection Convention (IPPC) meetings and other standard setting organizations. The government recognizes that public and relevant national level institutions also need strengthening and assistance in developing institutional capacities, policy frameworks and competencies. Steps have begun to ensure, for instance, that Suriname becomes more closely integrated with the Caribbean through CARICOM and has accepted to be the regional host to the latest innovation from the Caribbean i.e., the Caribbean Agricultural Health and Food Safety Authority (CAHFSA), the regulatory framework for biosecurity in the Caribbean. The hosting of this institution is important in that it will act as a stimulus for Suriname to ensure its own regulatory framework for plant health, animal health and food safety becomes a model to the Caribbean countries that adhere to the CAHFSA framework. The National Plant Protection Organization (NPPO) has been identified and communicated to the International Plant Protection Convention (IPPC). Suriname actively participates in the principal meetings of the IPPC and at the level of the Caribbean Region participates in the annual Caribbean Plant Health Directors (CPHD) Forum where regional plant protection issues are discussed.

The MoA is considering reorganizing the various departments to encourage a focus more on provision of services in 4 regions of the country. In order to achieve this there is a need for better physical planning (land use) and filling in the gaps in the provision of services. The MoA has indicated that the next steps will focus on staff training and the establishment of agricultural demonstration centers managed commercially rather than by the MoA. There will also be a focus on infrastructure investments such as those needed for post-harvest management including cold storage to avoid losses. It is also recognized that there is a need to set some order in terms of cooperation and coordination between the fragmented services of the MoA and other line Ministries. However, it is evident that at the national level the challenge remains to translate the strategies contained in the white papers and the agricultural strategy 2010-2015 into a cohesive machine for implementation.

In the case of the plant health sector there is a need to address two issues almost in parallel:

1. Development of an action plan to stimulate crop production for specific (1 or 2) high value crops along with technology packages to manage pesticide use and coupled with export certification protocols for specific external markets. Fruit exports in this case would present a problem due to issues with fruitfly containment and management unless these crops are grown under protective cover or there is a focus on production of fruit crops that are non-hosts of most fruitfly species.
2. Preparation of a phytosanitary policy which outlines the role of all public and private sector actors in the operation of the phytosanitary system. In particular, this document should emphasize the relationship with the CAHFSA framework and the role of the university of Suriname and Research Departments and related Public Sector organizations (Customs, Ministry of the environment etc.) with the NPPO.

The current plant health and related legislative framework in Suriname is weak and dates to 1965. There are no subsidiary legislation such as phytosanitary regulations. Suriname’s legal system is based on Dutch legislation that combines elements of common and civil law and differs in many respects from other CARICOM countries. While Suriname is a signatory to a number of international agreements principal of which are the WTO-SPS agreement and the International Plant Protection Convention. The absence of updated legislation impedes the MoA’s ability to comply with the international requirements and obligations accorded by the International Agreements and restricts the country’s ability to comply with phytosanitary requirements of trading partners, facilitate market access and protect the country from the introduction of plant pests.

Suriname received assistance from FAO through a regional project in 2006 where a model legislation was prepared. The model was subsequently adapted by a number of countries of the region. However, it has been 8-10 years since the close of the FAO regional project and Suriname has not yet adapted the model phytosanitary legislation into the Suriname Legal framework. There are a number of reasons given for the delay in upgrading the legislation, in particular in relation to the heistation to establish the National Agricultural Health and Food Safety Authority (NAHFSA), the national iteration of the CAHFSA.

### 3.4.2 Structure and function

* Organization and mandate

While, contrary to food safety, all functions related to phytosanitary controls are under the umbrella of MoA, there is nevertheless a certain degree of fragmentation in terms of structure and organization of the National Plant Protection Organization (NPPO). The Plant Quarantine Department focuses on inspection and issuance of phytosanitary certification (export certification) whereas other structures within the MoA, for example, the research department, covers the interaction at farm level through provision of laboratory diagnostics and provision of crop protection and production advice. Other functions or programmes necessary for the operation of an NPPO such as Pest Risk Analysis, Pest Surveillance, Emergency pest response and Pest Diagnostics are not well structured and are embedded within the framework of the MoA. In terms of phytosanitary certification and inspection, there are a few inspectors operating at the Paramaribo Container port facility, none at the main airport and none at border points with neighbouring countries Brazil, Guyana and French Guiana. A schema of the organization of the Ministry was not available at any of the offices of the interviewees during the mission. It was unclear whether this was the result of a re-organisation or that there was simply poor communication down the organizational hierarchy.

* Management and personnel considerations

There is no clear division of labour along operational lines and there are no work plans or clear roadmap of the implementation goals of the NPPO. Policy is set at the higher levels of the management hierarchy in the MoA. Senior managers are multi-tasked and junior staff are asked to hold over with no authority. There are few technical employees who have a degree higher than the Baccalaureate level. Phytosanitary Inspectors, for instance, have lesser qualifications – most at the diploma level. Particularly concerning is the case with the professional staff at the Research Department that is responsible for diagnostic support, pest surveillance and management who have been employed for many years yet have not upgraded their qualifications. This is not to say that they have not been given targeted training over the years but it does underscore that that there is no plan or investment allocation to upgrade professional staff at a minimum. Annual reports are available but exist only in summary format as consolidated reports for the MOA. Individual department reports are not prepared.

There is an urgent need to upgrade staff to higher educational categories.

Training in management systems is a worthwhile investment for senior and mid-level managers in the MoA. This training should cover planning, programming and budgeting functions and aim to improve the NPPOs capacity to manage, monitor and evaluate its programs and increase the effectiveness of its services.

* Infrastructure

The plant quarantine department is currently housed in a sub-standard facility but there are plans to relocate to a new building as soon as construction is completed. The new building will house a phytosanitary laboratory, inspection area and offices. Other infrastructure upgrades are currently being undertaken for the research department of the MoA in Paramaribo. There are no inspection facilities at the ports of entries. The required facilities at all points of entry include, besides office space, designated inspection areas for bulk cargo, fumigation and phytosanitary treatment areas, cargo holding facilities and basic laboratory inspection room.

There is a need to negotiate with Customs and Port authorities and establish agreement for establishing a presence of inspectors at points of entry (Land, air and sea) along with the allocation of the requisite infrastructure.

### 3.4.3 Control Management

Most plant and plant products produced for export are vegetables and fruits which enter Europe via the Netherlands. On average 35-40 tons are exported per week, down from 60 tonnes per week 10 years ago. These include a variety of vegetables, okra, string beans, bitter melon, aubergines, peppers and other leafy greens. However, there is a concern that European regulations are becoming more stringent and may further limit the quantities of Surinamese products imported into Europe. It is recognized that use of pesticides in Surinamese agriculture should be better managed as there have been a few rejections of plant products due to elevated pesticide residues ( see section on food safety). There has also been an increase in notifications of the presence of plant pests on consignments.

Common plant pest problems noted in the field include a few fungal problems, thrips, mites, fruitfly, nematodes and a few Lepidoptera species. Due to a lack of technical diagnostic expertise in the ministry of agriculture the full range of pests is not currently known. However, the biggest concern is the level of pesticide residue on plant products readied for export from the food safety stand point.

The Ministry of Agriculture is viewed in a positive way by traders and mostly to acknowledge the efforts of the technical staff in particular those who are directly in contact with farmers. The work of the MoA in terms of provision of traps that attract insect pests and promotion of biological control are particularly lauded.

On the other hand, the MoA support of farmers and exporters is seen as low and it is recognized that there are capacity problems in the staff composition of the MoA. More specifically the lack of pest diagnostic and pesticide analytical testing facilities are cited as the most problematic. It is a further concern for stakeholders, who, rely on the MoA to perform the tests necessary to ensure that they can access markets. These testing also help to develop appropriate pest control packages and to ensure safeguards are in place to protect the health of consumers (local and tourists).

The Union of Agricultural products chairman indicated that the MoA should improve communication between farmer and officers, encourage more frequent cooperation and make every effort to ensure certification of farmers in quality programmes such as the global gap scheme. It was recognized that MoA officers do not have the necessary information to give farmers to assist in improvement of production and management of plant pests.

The potential for expanding exports, particularly within the region, is well recognized. It has been noted that Barbados has sent a technical team to Suriname to explore market potential however it was felt that to ensure trade there should be continuous product supply and quality products. Bananas are being exported to Trinidad already and traders there are also interested in procuring a variety of greens. There has been offers to help facilitate market access between Suriname and Trinidad and Tobago but it is recognized that such arrangements should be conducted through government to government arrangements.

Additional challenges that affect the crop production system and ability to export include:

* high cost of labor (around 15-18 euros per day) and high fuel cost (around 1.53USD/liter).
* The farming population has stagnated over the past 40 years.
* Bureaucracy of government is demanding.
* Small exporters have no subsidy.
* No government agricultural information system
* Lack of adequate infrastructure to process and store plant products

BANANA INDUSTRY

The Banana industry has been invigorated with the help of financing from the European Union in 2002 to improve its performance. There are three locations of production Yarikaba estate - 980 ha in production, an expansion area of about 150HA and Nickerie 975HA. The industry employs a considerable number of people including Surinamese, Haitians and Guyanese. Productivity has increased to approximately 43 tons/ha through introduction of better varieties, improved water management and fertilization. Planting material is imported and introduced as in-vitro plants. These are hardened in a screen house facility before transplantation in the field.

Importation permits are obtained from the Quarantine Department and the only requirement to the supplier is that the in-vitro plants are free from pest and diseases (particularly BSV). The success gained in improving banana production for exportation is due to the privatization process undertaken by government. The inefficiencies have been removed and a more streamlined, adaptive business model has been developed.

The most imminent threat to the banana industry at present is the arrival of Black Sigatoka Disease. There is no emergency plan in place to respond to a detection of the pest particularly if it occurs in non-commercial areas.

COOPERATIVES

There is only a single farmers cooperative in Suriname. The cooperative has a membership of 300 farmers and will achieve 55 years of operation in August 2013. A nursery has been erected to produce vegetable seedlings which is sold at below cost price as a stimulus to encourage the general population to take up farming or gardening. The cooperative also provides a depot for the sale of farm inputs. Members of the Cooperative can purchase seeds, seedlings and other farm inputs at a discounted rate. A 12 Ha property located offsite is being managed as a demonstration farm. The cooperative focuses on the production of vegetable crops and limited fruit crops. The emphasis is on bitter gourd production, bitter eggplant and hot peppers for which they have a market in the Netherlands. The principal challenge that the Cooperative identified was that agriculture was not being promoted well enough. Other challenges reiterated were:

* The cost of inputs
* Difficulty in getting lines of credit,
* difficulty in obtaining land particularly for use as collateral,
* lack of insurance to mitigate disasters particularly flooding and
* difficulty in finding an adequate labor force

The latter was emphasized since it was the observation of the chairperson that Surinamese Nationals were not keen on pursuing careers in agriculture. Consequently, there are fewer full-time farmers in Suriname now. However, collaboration with the ministry of agriculture was described as supportive. Particularly where the cooperative was concerned, the ministry has provided some inputs to the operation of the cooperative and the extension service provides advice as appropriate. Concerning quality of service provided by the ministry of agriculture it was suggested that more staff was needed and the personnel should be better trained.

RESEARCH

The Research department describes its role as a secondary diagnostic support mechanism for the quarantine department. The officers in this section work closely with the extension service and with farmers concerning problems in the field. They collect and analyze pest problems.

In 2012, a global gap project was initiated and involves 3 exporters who produce and export okra, eggplant and bitter gourd. In this project the Research Department staff conducts on farm research in which they perform comparative production, i.e., the farmer manages his crops as normal and the Research department has an on farm demonstration plot in which new technologies are showcased.

The Research Department has capabilities to perform diagnostic tests in nematology, weeds, mycology, bacteriology and entomology. There is no capacity to conduct diagnostic tests in the area of virology.

The Research department shares the budget of the MOA and indicates that the funding received is enough to do the research needed, however, funding must be requested on a monthly basis. Despite the sufficiency of funding the staff expressed that there is difficulty in procurement of specialised equipment and supplies (e.g. insect traps etc.). This greatly impacts farmers because of delay in procurement of supplies.

The research department interacts on average with 750 Farmers on an annual basis. Records are kept of the results of tests conducted on samples collected during the farm visits. However, there is no documented procedure in use by extension officers to record each farm visit although the Research Department has provided them with a form. Diagnostics reports are issued to farmers both in paper form and verbally with an explanation. The capacity of the extension staff is not to the degree that instills confidence in explaining test results and follow-up advice so staff of the research department perform direct follow-up with farmers.

The resource needs of the Research department include a need for more technicians, both for field and lab with appropriate qualifications. Due to an internal policy the hire of lower level skilled staff has been halted resulting in professional staff having to perform routine or menial work in order to prepare experiments. Never-the-less, a personnel plan has been prepared and communicated to the Permanent Secretary of the MOA.

There is an ongoing effort to refurbish the principal laboratories of the Research Department using local funds however, this does not include the purchase of laboratory equipment. With the current policy to re-invigorate agriculture and focus on exports while incorporating quality schemes such as global gap there will be a need to enhance capacity in the Research Department. The added challenge is that there is a large number of farmers, few are organized, literate to a high degree and see each other as competitors.

Despite the challenges faced by the Research Department some notable accomplishments include:

1. Fruitfly management – an integrated pest management approach has been developed and a host list published.
2. Pesticides department training farmers and government officials on safe use of pesticides. (1 factor pesticide prohibitions, more awareness of best practices)
3. Less notifications of pesticide residues on consignments
4. Tomato pests - developed management strategies resulting in better use of pesticides

### 3.4.4 Inspection (IMPORT and EXPORT)

Principal inspections for import and export of plant and plant products is performed by inspectors of the plant quarantine department. Almost all inspectors are not qualified for the posts and hold qualifications no higher than diplomas. Most are trained on the job while in service and over the course of their careers. Four (4) inspectors and 2 new trainees are responsible for import verification at the Paramaribo Port facility (New Haven) while 3 inspectors are stationed at Nickerie. There are no inspectors stationed at land border crossings with Guyana and Brazil or at the international airport. Much of the banana production is exported through the Paramaribo container port facility. Lumber and Rice are exported through Port Nickerie in the north.

Inspection procedures:

Inspectors are trained in some basic procedures and rely on a manual of inspection produced by FAO. Despite the existence of the procedures and manual not all the functions can be implemented due to lack of authority through legislation. One such duty of inspection that is not supported by legislation is the right of an officer to board a vessel for inspection. Very limited inspection is performed on local boats at the local pier or on international boat arrivals including cruise ships. Ship garbage is not handled by the inspectors.

Whenever there is a case of non-compliance and the order is given to destroy a consignment a clear procedure is followed that involves notification of the importer, cooperation of customs, police, port authority and the MoA. Consignments destined for destruction are removed from the port facility and taken to a garbage disposal area where the consignment is buried. The only regular inspections that are made are performed at the Paramaribo port facility, inspections take place within the port facility in designated warehouses where the product is stored.

The facilities for inspection are not adequate and present the risk of escape of plant pests from infested consignments. It is also very feasible that a container can leave the port without the knowledge of the phytosanitary inspector particularly when the container contains mixed products i.e. other non-food goods and plants or plant products. Mail that arrives by courier service such as DHL/FEDEX are inspected by customs officers. If plants or plant products are detected the phytosanitary inspectors are duly notified.

Import permit

It is a requirement that every importer of plants or plant products must obtain an import permit in advance of the importation. The importers apply for import at the main headquarters of the plant quarantine office opposite the Paramaribo port facility. However, no pest risk analysis is conducted.

Exportation:

For banana exports, approximately 86000 metric tonnes are inspected per year. Exports to Europe occur weekly on reefer containers where they transit Guadalupe enroute to Europe. In terms of certifying commodities for export it is common practice for a trader to send a sample of the consignment for inspection. These samples are sent in boxes to the office of the phytosanitary inspector but frequently an inspector arrives at the onsite packing facility to perform inspections and issue the phytosanitary certificate.

There are a few packing houses where vegetable and fruit crops are prepared for export. One such facility was visited and it turns out to be the garage space of a private dwelling. The space was in an open format, i.e. garage door open and no safeguards for contamination by hitch-hiker pests. These facilities should be improved. Products being presented for export included: Aubergine (Solanum melongena); Bitter gourd (Momordica charantia); Bitter eggplant ( Solanum macrocarpon); Hotpepper (Capsicum spp.); Bitter leafs (Cestrum latifolium); Xanthosomas sagittifolium; and Bush cucumber (Cucumis anguria)

CUSTOMS DEPARTMENT:

The Customs department however are much better resourced at points of entry. They have full staff complements in the Paramaribo Port facility and at the border posts - Intl airport (10 customs officers), border post at Nickerie (12-13 customs officers), and Albina (7 customs officers).

The customs department manages an electronic data system – Automated System for Customs data (ASYCUDA) to keep track of imports and exports and related customs information. For plants and plant products the phytosanitary inspectors are notified if there is a consignment requiring their attention. In most cases customs officers open containers in the presence of an importer but not in the presence of a phytosanitary inspector.

Due to the absence of quarantine staff from the ports premises there has been no provision to allocate space for proper quarantine inspection. There has not been very much training of Customs officers in relation to detection of plant pest risks.

EXPORT

Customs does not require an export license for plant and plant products but they are aware that a phytosanitary health certificate may be needed. There are no customs charges for handling export consignments.

There is significant movement of plants from Suriname to the Netherlands via air traffic. Most of the products being exported are family sized packages of plants and plant products including medicinal plants. Customs staff do not refer these to the Plant Quarantine Inspectors but simply scan the packages through X-Ray for detection of controlled substances or other illegal items. Customs officers at the International Airport indicated that there is also importation of plants and plant products on passenger baggage. They suggested that the plant quarantine inspectors should have a presence at the airport.

PORT AUTHORITY:

The port authority does not play a part in the discharging of consignments of goods. However they rent space to several port operators who are tasked with maintenance of warehouses, provide storage facilities for plants and plant products and cleaning of containers etc.

EXPORT AND IMPORT DATA:

All data associated with a consignments being imported or exported is entered into the Customs data management system (ASYCUDA). However, the system is not easily or readily accessible to the Plant Quarantine Department. Phytosanitary certificates and import permits issued also contain valuable import and export data but the summaries of the data are not available from the plant quarantine department.

### 3.4.5 Pest Diagnostics

It is felt that there should be a consolidation of diagnostic services in one location in order to enhance the integration of work and across disciplines. There is no single manager for diagnostic services and no laboratory management system is in place. The primary phytosanitary laboratory is situated at the Plant Quarantine Department office. A new facility is being constructed and will house a phytosanitary laboratory, inspection area and offices. The laboratory is modestly equipped and serves only to analyze samples taken on consignments presented for import and for plants and plant products presented for export. There is a lack of specialized equipment particularly for performing molecular techniques. There is only one laboratory technician who performs all the diagnoses required up to the basic taxonomic level in the fields of bacteriology, mycology and entomology. If there is a need for more advanced diagnostics, samples are sent to relevant staff in the Research Department in the MoA, however their specializations are limited to Mycology, Entomology and Nematology. There are other staff at the University of Suriname (Entomology and Mycology) and CELOS (entomology) that could be accessed for assistance in conducting pest diagnosis.

The key pests of concern for Suriname according to the plant quarantine department include:

\* Khapra betle

\* Citrus greening

\* Medfly

\* Sigatoka (Limited distribution)

\* Giant african snail

There is a chronic need to upgrade staff in the plant quarantine department and to acquire new staff. The only technician available for pest diagnostics has undertaken a series of disparate trainings, in recent years, ranging from pest diagnostic training (thysanopteran pests), Rice diseases, Pest risk Analysis, in-service training conducting field surveys for giant african snail survey, ISO 170025 – training and a course organized by the Bureau of Standards focusing on uncertainty in measurements and to some extent calibration and maintenance of equipment. Despite the number of inspectors assigned to the Paramaribo Port Facility there are no records of pest interceptions on consignments of plants and plant products

### 3.4.6 Epidemiological surveillance

There is no systematic system for the conduct of pest surveillance. The Banana Industry conducts regular surveys of its production area for pests and diseases. They are particularly concerned about the arrival of Black Sigatoka. Surveillance is conducted as a weekly activity of review of the various production blocks.

In terms of general surveillance, there is no current national pest list. The last version was prepared in the 1990s and have not been updated since. Likewise, there is no list of regulated pest (quarantine pests), this is compounded by the fact that regulated pest lists are developed on the basis of pest risk analysis which is also not being conducted. There was some attempt to do more coordinated pest surveillance but this has not resulted in an updated national pest list.

Data from surveys are available from:

- research department

- CELOS

- University of Suriname

- Surveys on thrips by Plant Protection

- National herbarium located at the university complex

- Zoological collection within the University - with an insect collection.

The Plant quarantine department itself does not have a reference biological collection.

## 3.5 The animal health system

### 3.5.1 Structure of the Animal Health Services

The Official Veterinary Services is headed by the Chief Veterinary Officer (CV) who reports directly to the Permanent Secretary in the Ministry of Agriculture. The Veterinary Services currently employs a total 8 veterinarians including the CVO as well as 10 trained animal health assistants and 10 meat inspectors. This cadre of staff carries out the following functions:

* Meat hygiene including slaughter house inspection
* animal disease surveillance and monitoring
* livestock extension
* import/export control
* border and port control
* laboratory diagnostics
* wild- life monitoring and control.

Many of these function do cover both safety of food of animal origin and animal health ( see paragraph 3.3). More informaton can be found in the OIE-PVS report.

The veterinarians, who are all graduates from approved and internationally recognized universities, are assigned specific functions and areas of responsibilities by the CVO. Of the 8 veterinarians 6 are recent graduates who joined the government service less than six years ago. The animal health assistants who are supervised by the veterinarians are mainly based in the rural districts and are responsible for animal disease surveillance and monitoring and livestock extension.

A tertiary institution for the training of new animal health assistants and other para-veterinarians has to be identified for Suriname and resources have to be made available for such training. The age demographics of the current animal health assistants indicate that in a few years many vacancies will exist which the government will not be able to fill. This will have serious implication for the veterinary services. No new Surinamese animal health assistants have been trained since the Regional Educational Programme for Animal Health Assistants programme (REPAHA) was discontinued in 2002. REPAHA was in fact established in Guyana by CARICOM in 1975 to address the shortage of veterinary assistants in the region in the drive to increase the production of meats and meat products and the need to protect the Caribbean from the incursion of foreign animal diseases, particularly foot and mouth disease.[[10]](#footnote-10)

Official training courses for animal health assistants and other para-veterinarians have to be provided for at either a regional or national tertiary institution. The current and future needs of the country must be considered and a thorough development and succession planning strategy for the veterinary services should be prepared and implemented to ensure continuity of the services being delivered by the Livestock Department. The cooperation of neighbouring countries (such as Guyana, Brazil and Argentina) should be sought and opportunities should be made of laboratory and other training opportunities provided by the OIE Reference Laboratories and Collaborating Centres in the Americas.

### 3.5.2 Legislation

The officers of the veterinary services carry out their official animal health mandate under the provisions of the two main pieces of legislation, namely, The Animal Diseases Act (1954) and The Meat Inspection Act (1961)

The veterinary legislative framework of Suriname is relatively outdated; several areas of animal health are not regulated or included in the legislation. The Animal Diseases Act is not comprehensive enough to deal with the risks relating to many diseases which could potentially impact animal and public health in Suriname and it does not regulate issues relating to new emerging and re-emerging diseases. Likewise the Meat Inspection legislation in its current form is inadequate and incomplete as no provisions are made in it for the slaughter and inspection of poultry. These and other deficiencies hinder the Veterinary and Livestock Department in its efforts to effectively regulate the livestock sector as it relates to food safety and animal disease control. Against this backdrop, Suriname requested assistance from the FAO in the form of a technical cooperation project to modernize specific aspects of the veterinary legislative framework and in 2012 a project entitled “Strengthening the veterinary regulatory framework of Suriname” was launched. This project is providing support to the Ministry of Agriculture of Suriname to undertake a veterinary regulatory reform and modernization process and to elaborate updated and modern animal health, animal production and slaughterhouses and meat inspection legislation and associated regulations. A modernized and comprehensive animal health and animal production legislative framework will facilitate trade in animal products and enable Suriname to meet its regional and international obligations while protecting and safeguarding animal health and by extension public health. The profile of the country amongst its trading partners, especially those within CARICOM will also be improved. It is anticipated that the improved animal health framework will encourage and enable livestock farmers to increase production and productivity and facilitate export of their products to the neighbouring countries as a result of compliance with international sanitary and quality standards.

The current FAO Technical Cooperation Project (TCP/SUR/3302) provides technical assistance to prepare new drafts of the following:

* Slaughterhouse and Meat Inspection Act with regulations
* Animal Health and Production Act with regulations for Animal Disease Control, Farm Registration, Animal ID and Traceability, Animal Genetic Resource Management, Animal Welfare, , Good Agriculture Practices and Veterinary Pharmaceuticals
* Feed Act with regulations

### 3.5.3 Inspection

Slaughterhouse inspection including regulatory monitoring and oversight and ante and post mortem inspections are carried out by a cadre of meat inspections who work under the direct supervision of a veterinary officer in the Livestock Department. The majority of these inspectors were recently trained by the Ministry of Agriculture to fill the shortages that existed within the Department. The operations of the two main private slaughter houses for ruminants and pigs respectively are monitored and regulated by the inspectors who perform their duties whenever slaughter takes place. These slaughterhouses are fairly well managed and operate under a food safety programme which includes HACCP and other meat hygiene principles as recommended by CODEX Alimentarius. Meat inspection at the main abattoirs is carried out by the team of meat inspectors who are also responsible for routine inspection and monitoring of the many meat shops and butcheries that exist within the country. These officers also carry out inspection of imported meat products at the ports of entry although this inspection deals mainly with reviewing the import documents, including the sanitary certificates, import permits and relevant customs documents that accompany the shipments. Samples are seldom taken for laboratory analysis as Suriname does not currently have a functional veterinary diagnostic laboratory. Regulation of animal movement and inspection of animals at the ports or land border entry points is also undertaken by veterinarians and animal health assistants posted at these border posts. Inspection of other facilities such as feed mills and pet shops are also carried out by the officers of the Livestock Department in conjunction with other regulatory agencies such as the Ministry of Trade. Inspection reports are prepared on a monthly basis and forwarded to the CVO.

### 3.5.4 Laboratories

The Veterinary Services do not currently operate or have ready access to a national laboratory (FAO 2012e). Access to a veterinary diagnostic laboratory to support the veterinary services activities is very limited and hence the veterinary services currently depend on the University of Suriname and the Central Public Health Laboratory of the Ministry of Health (BOG) for assistance in conducting basic veterinary diagnostic procedures. In these facilities veterinary technicians are able to carry our only basic laboratory procedures such as parasitological examinations and a few basic serological tests for specific diseases.

A veterinary diagnostic laboratory unit is included as a component of a central laboratory complex which is currently being constructed. This laboratory complex is scheduled for completion by mid 2014. If this laboratory is to offer a modern and efficient diagnostic service to its stakeholders the veterinarians and laboratory technicians who will be employed will need specific training to build competencies in various aspects of laboratory diagnostic procedures, laboratory management, laboratory bio-safety and laboratory quality assurance. Access to overseas reference laboratories for diagnostic support has been challenging mainly because of the costs associated with the shipment of samples and problems with the airlines and courier companies that operate from Suriname some of which are not familiar with IATA regulations concerning the shipment of veterinary diagnostic/laboratory specimens.

### 3.5.6 Epidemiological surveillance

Inspection of animals on farms as a component of disease surveillance and monitoring is carried out by the limited number of animal health assistants and veterinarians posted in the various districts across the country. Not all districts have full animal disease surveillance coverage due to staff shortage and other issues. Field surveillance for animal diseases with potentially serious economic impact is routinely conducted and special attention is given to surveillance along the borders with neighbouring countries where significant movement of people and trade in goods and services take place. Nevertheless, Suriname has a favourable animal disease status and is free of foot and mouth disease as well as of classical swine fever, both of which impact trade in animals and animal products and are found in neighbouring countries. Vampire bat transmitted rabies is present in the interior where animals, particularly small ruminants have to be enclosed in bat-proof houses at night to prevent bites by these bats and reduce the risk of rabies transmission. In poultry, Newcastle Disease and Infectious Bursal Disease are endemic and routine vaccination programmes against these diseases are in place for commercial poultry operations. (A list of notifiable diseases for Suriname will be included in the new Animal Diseases Act)

A national surveillance programme to monitor the prevalence of priority and economically important diseases including Aujeszky’s disease, bovine brucellosis and leptospirosis as well as of some of the OIE notifiable diseases was concluded two years ago with the collection of thousands of samples from animals across the country. Most of these samples are still in storage in freezers due to the absence of a national veterinary diagnostic facility to conduct the analyses and the cost associated with sending them to overseas diagnostic laboratories. A recent regional FAO technical cooperation project offered assistance for the surveillance of swine influenza viruses in the Caribbean region including Suriname. (FAO 2012f) Under this project samples were collected from pigs in the field in Suriname and submitted to a regional laboratory for testing. A limited number of samples were also analysed for CSF. The project also provided laboratory diagnostic supplies as well as training in animal influenza diagnostic procedures for laboratory technicians.

# 4. RECOMMENDATIONS

## 4.1 General considerations concerning the process

Suriname’s Agricultural health and food safety – AHFS – System requires improvements, both to protect nationals from food safety hazards potentially affecting the food supply and for contributing to strengthen competitiveness of agricultural products in the international markets.

From findings collected by the various mission members, fresh/raw products production and control could be prioritized both for food safety and agricultural competitiveness purposes. Finding exactly which products for international market could be the objective of a well-structured project in this area, to establish the product or short list of products that based not only on commercial, but also on economical, agricultural, political, geographical, and ecological conditions can represent a real chance of progress for Suriname. Then the government should align all agencies and public goods necessary to promote that (those) alternatives, establish goals and timelines, and put all their efforts on taking those plans to reality, fostering active involvement of private stakeholders throughout the process.

While many recommendations will be technically specific for the food safety control, plant protection or animal health protections systems, all seem to address the same levels: policy, legal/regulatory; and operational, technical and scientific capacities (including programming and management of controls, capacities and equipment needs of inspectors; analytical diagnostics capacities; interaction with stakeholders (consumers and producers, and external partners).

As previous experiences shows, the situation has been assessed many times, recommendations have been made, and some projects (including FAO projects, be them national or regional) elaborated some new instruments (including legislation). However, the overall situation still seems very fragile, and how effective these previous interventions were, remains to be further elaborated on, including the reasons for failure.

Any further proposal for improvement would need to be anchored in a strong high level political commitment but also, to ensure implementation of new policies, build on a strong sense of ownership by staff at lower levels. Otherwise, new regulations, even if actually adopted by the higher policy makers, may be at risk of not being implemented, which is actually so often observed when changes are simply forced through.

It is strongly recommended to establish a high-level, inter-ministerial working group for planning and implementing this reform. The group should report directly to the higher level possible, to the Ministry or President himself if possible, in order to guarantee progress and successful completion in delivering a modern, integrated, holistic and effective food control system.

It is recommended that the working group not only entails government officials but also should be open to the private sector, private veterinarians, other food safety services providers and other interested stakeholders.

Any investment plan would need to be based on a detailed, comprehensive and participatory assessment of needs, prioritization of gaps, as a first step to develop an implementation strategy.

## 4.2 Consideration of the degree of integration of the food control, animal health and plant protection systems

When a country begins the process to “rethink the system”, this often means to consider whether to physically amalgamate services or create a consolidated legal framework that brings together food control, plant and animal health systems (biosecurity). This “rethinking process” is often stimulated by triggers such as the need for national systems to comply with the WTO-SPS agreement or pressures to meet market access obligations of trading partners. A number of countries have adopted models (of particular interest in the CARICOM region is Belize) based on some degree of amalgamation of services to create single authorities or the development of legal frameworks that ensure the SPS disciplines are operated in a more cohesive way.

The issue of a “single agency” is often mentioned and this term can cover a wide diversity of situations:

* it can be an agency covering phytosanitary, animal health and food safety issues ( as it seems to have been proposed for Suriname)
* it can only cover food safety issues, leaving phytosanitary and animal health issues beyond its area of competence
* it can be a risk assessment institution (like for example in the European model, the EFSA, or in France with ANSES), leaving implementation of controls to member countries, and in the case of France to technical ministries
* it can be a partial risk management institution (like for example the CFIA in Canada which groups inspection over all food products, but leaves the power to regulate to other institutions; a quite similar situation is prevailing in Belgium with the AFSCA)

Annex A.6 provides a cross section of countries that have approached the control of the various agricultural health sectors in a variety of ways through clustering of biosecurity functions. However, it should be noted for food safety, this table doesn’t necessarily capture important functions like epidemiology, risk assessment and regulation set up.

Many of the institutions were created, adjusted, upgraded as a response to human, animal or plant health crises (e.g. avian flu, BSE crisis, Pink Hibiscus Mealybug,). These crises highlighted that there was a lack of, or weak, coordination between competent authorities responsible for controls over the overall food chain. In food safety, it also highlighted the important notion of functional separation of risk assessment and risk management.

In Suriname, discussions were already held to consider whether to establish a National Agricultural Health and Food Safety Authority (NAHFSA), the national iteration of the CAHFSA. In fact, the plans were well advanced to establish the NAHFSA since a draft legislation was prepared to that effect. It is unclear why the current management of the Ministry of Agriculture have decided to delay integration of agricultural health services to form the NAFHSA. There seems to be a more immediate preference to strengthen existing regulatory institutions, along individual lines, before any attempt is made to integrate them under an umbrella framework. While phytosanitary and animal health issues are primarily under Ministry of Agriculture jurisdiction, the issue is more complex for food safety when 3 other Ministries play an important role. This is also to be taken into account when deciding about functions covered by NAFHSA in food safety.

Some interviewees during the missions expressed the opinion that if there is no integrated vision for agricultural health there is a risk that the existing system may continue in an uncoordinated way despite having all the principal systems in place. The fisheries export system is referenced as evidence of a successful system, backed by legislation, but it is recognized that the driver, in this case, is that it is linked to a specific export market with strict regulatory requirements of the importer. While successful, this is extremely narrow in terms of coverage and reinforces the notion that an overall coordination mechanism is missing, including within the food safety control system and the plant protection system.

**Integrated system of biosecurity management**

Based on other countries experience, some advantages and disadvantages could be identified, to be taken into account into the decision making process:

Advantages:

Having all related functions for effective biosecurity assurance under the “same roof” facilitates the establishment of a framework for good communication and coherence of actions to safeguard agricultural health. This has the following advantages:

1. a more harmonized approach to the application of consumer protection measures,
2. rational planning of priorities across all sectors, as well as use of resources and expertise.
3. reduction of the number of “responsible” or competent authorities that stakeholders or external partners should interact with.
4. A single entity becomes accountable for the system (may be designated the national competent authority to CODEX, OIE, IPPC and WTO-SPS and other related agreements, thus improving technical coordination of inputs)
5. Intra-institutional communication system may become more effective
6. Improved resource allocation and sharing
7. Greater autonomy of budgets
8. Rapid and clear response to crisis, especially when the crisis is of a mixed nature (e.g animal health + food safety )
9. Staff can be rationalised across functions and services (particularly where staff numbers are low) leading to improved cost efficiency and more efficient provision of services.

However, even if there is a decision to place animal health, plant health and food safety under the same roof, the exact powers and functions (e.g. power to regulate; power to enforce; scientific assessment functions) must still be defined, taking into account the delicate issue of checks and balances (and for example, the critical issue of functional separation of risk assessment and risk management for food safety).

Disadvantages:

1. Heavy investment of time and resources: to establish such structures requires political buy-in (within, between Ministries and at the national legislature), legal wrangling to design an appropriate legal framework, good stakeholder buy-in and support and an initial financial investment that may seem excessive in the short term. The timeframe for such manoeuvrings are generally lengthy depending on the level of interest and support for the action and the perceived cost-benefit.
2. Power play and power struggles are likely, particularly as this calls for a concentration of power in a single agency and as the other organizational structures of institutions are impacted.
3. The transfer of civil service personnel from different ministries to others may present problems particularly where benefits may be affected. There will also be cases of negotiating with Unions over workers rights and privileges especially if a quasi-government system is decided to be pursued.
4. Sustainability mechanisms may also present problems particularly where cost recovery mechanisms are pursued. Private stakeholder resistance is usually the principal bottleneck particularly where there is distrust that the entity can deliver services efficiently even after any reorganization. These cost recovery system/schemes may be viewed as additional taxation measures and anti-business measures.

**Alternative approaches to integrated food security systems**

Establishment of strong coordination mechanisms (task forces, consortia, committees, working groups etc.) is crucial to ensure that the appropriate functions and services are delivered by the responsible scientific regulatory and control services. In such cases the technical ministries would retain their enforcement powers, that in the case of food safety, must still be better defined and agreed upon by the different ministries (this is a major issue at the moment).

Advantage:

1. Easy to establish
2. Less cost implications
3. Power distribution across ministries
4. Flexibility to adjust the mandates, functions and services
5. maintains a coherent technical approach over specific value chains, where the knowledge of technical services, supporting production, is often invaluable to set up appropriate regulations and promote a meaningful enforcement (which is often the case in developing countries).

Disadvantages:

1. Greater effort to establish a lead institution and ensure communication
2. Budgets are independent and subject to National Allocations
3. Breakdown in coordination
4. Stakeholders have to deal with numerous agencies depending on location of services required

**Concluding remarks:**

While establishing a single authority could be an option, it is clearly not the only solution for establishing coordination and coherence for biosecurity systems.

Any improvements in the system for agricultural health and food safety will involve a number of necessary actions in the three disciplines of biosecurity. They do not necessarily require a single authority but to yield their maximum effect they need strong coordination.

To this effect the interministerial committee referred in the paragraph above is proposed. It could have three subcommittees dealing with the specifics of each field but it is important that these sub-committee coordinate the overall policy lines and work together on specific “overlap” issues. This committee should be able to decide on which organization model is best suiting Suriname’s challenges and resources. This can be a progressive path starting with a stronger coordination mechanism for food safety ( which is imperative and must be put place immediately) , progressively extended to plant protection and animal health, and naturally resulting on an agreement on a single agency, when some experience is gained over what coordination means in practice and why it is beneficial. This could help overcome the immediate impression of “loss of power” by some institutions.

The following sections do therefore present the recommendations for each field separately.

## 4.3 Recommendations pertaining to the Food safety control system

The recommendation below do focus on the first policy reform to put in place. A more detailed analysis of capacity development and necessary investments can only be done once the broad lines of policy decisions are known and based on a more detailed analysis of facts and data.

### 4.3.1 Formulation of a food safety policy and strategy

As noted earlier in the report, a food safety policy document specific enough to meet international benchmarks is still missing in Suriname. It is felt that this is a basic step to anchor any future legal and institutional reform, as well as to provide directions for food control strategies and guide their implementation. It is also a foundation for any further investment in capacity development in line with the priorities outlines in the policies. This should include principles, strategies, goals and resource allocation for food safety.

The following principles should be reflected upon:

* Protection of public health and consumers
* Facilitation of trade
* Food chain approach
* Use of risk analysis principles
* Harmonization
* Transparency

Strategies could include:

* Delimitation of competences and adjustment of the structure of the national food control system
* Institutional strengthening
* Regulatory reform
* Establishment of a sound food safety information system (and possibly with extension to animal health and plant protection)
* Integration to CARICOM
* Promote the internationalization of Suriname food safety system (and possibly with extension to animal health and plant protection)

This list underlines two strategies insufficiently addressed in previous reports or in guidance documents: the establishment of an AHFS information system and the promotion of the internationalization of Suriname AHFS system.

As said in this and other reports, AHFS information is scarce and scattered in Suriname. It is a priority to strengthen information collection, processing and access systems at every institution with responsibilities on food control, following a harmonized approach. Once this is done, a Suriname AHFS Information Portal could be built to link to every type of information.

Internationalization of Suriname AHFS System means the series of activities and steps required to obtain recognition of Suriname sanitary status and gain confidence on the capacity of the system among AHFS authorities of countries of interest for Suriname food products. Internationalization involves also planning and implementing a strategy for making the presence of the country more visible in international scenarios as Caricom, Codex Alimentarius or other of interest. In case Suriname decides to subscribe free trade agreements – FTA – with other countries, the group in charge of handling internationalization will also have to represent the country’s interest during the FTA negotiations.

Specific goals and resources should come out from policy and strategy setting.

Next steps of the work plan should be the implementation of the strategies defined within the national food safety policy and strategy document.

### 4.3.2 Definition of Institutional framework

Coordination of Food safety control (and possibly to the other areas of plant protection and animal health) is a must in the value chain approach scenario required for achieving food safety and agricultural competitiveness. There are a number of different ways to address this coordination, among which (but not limited to):

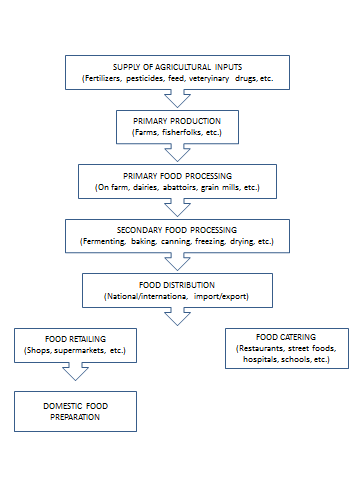
* Creation of a unique food safety authority responsible for all products from the farm to the fork
* Concentration of responsibilities on a value-chain by value-chain basis, assigning to the Ministry of Agriculture the value chains where participation of primary production is larger: fish (as it is currently), fruits and vegetables, milk and dairy, meat and poultry, and assigning the Ministry of Health the control of other processed products, catering, transport and commercialization of processed foods.
* Attributing competences according to the stages of the food chain, as for example described by FAO and WHO in several documents (See Figure 11).

The second and third options require a very clear definition of the competences along the overall food chain, and/or between value chains and a strong coordination mechanism. The current situation in Suriname is a mix of these two situations, without clear definitions of competence and coordination mechanism.

A single food safety authority is often perceived a solution to these specific issues of delimitation of competence and weak coordination, but in the same manner that the National Agricultural Health and Food Safety Authority, it requires a very strong political commitment as well as buy in from the staff and can be very costly to put in place. It is sometimes the only way to overcome inter-ministerial conflicts or tensions.

Figure 11

PRINCIPAL STAGES OF THE FOOD SUPPLY CHAIN



Source: FAO (2006b)

According to the preliminary discussions held during the mission, stakeholders interviewed would favour a definition of areas of competence according to the stages of the food chain. This scheme solves the recurrent problem of who is in charge of controlling abattoirs, packing houses and other establishments where primary food processing takes place. Under this perspective, competences of Suriname MOA could cover this stage and MOH could take the responsibilities from secondary food processing. It has the major drawback of interrupting the flow of information in a value chain (e.g. can be an issue for the control of residues that have their roots in the primary production).

Every function related to food safety control could then be identified and placed under the respective authority. This means that for every step in the food chain responsibilities related to Food Control Management, Food Legislation, Food Inspection, Laboratories, Epidemiological Surveillance and IEC activities could be assigned to the competent authority at that step.

In order to overcome the disruption within a value chain, special attention should be put on the preparation and implementation of transversal programs, such as the National Residue Control Program, the National Pathogen Control Program and the National Traceability System for Foods. These programs should be under the respective responsibility of one authority all along the food chain, obviously involving the other stakeholders. As an example, given the nature of the activities involved in each one of those programs, overall responsibility for Traceability and Residue Control programs could be assigned to MOA, in collaboration with MOH, while the Pathogen control program could be performed by Health authorities, in collaboration with MOA.

FAO Guidelines for assessing capacity building needs document (FAO 2006c) provide guidance in this respect.

Given the size of the country, aspects related to decentralization or local governments in the institutional framework have not being taken into consideration.

### 4.3.3 Preparation and release of new regulations

#### A series of changes in food regulations are taking place right now in Suriname. (See FAO 2012 a, b, c, d and e, and SURADIRDJA 2012) The preparation of the new regulatory framework for meat and products of animal origin has received a lot of support and is advancing satisfactorily. However, two major recommendations are to be underlined:

#### - first, the new regulatory framework should be drawn and advanced once the institutional arrangement has been agreed among authorities and other stakeholders. It is not advisable to continue working on laws that must go to the Parliament for approval and then think on the institutional arrangement required for complying with the laws. It is much more desirable to envisage the system and then to provide the regulatory framework it requires for functioning correctly.

#### - second, an overall Food Safety Act is really necessary in the country, this will impact on the effectiveness of all food control activities carried out in the country. It is recommended to follow the modern approach for regulatory update[[11]](#footnote-11), which is to provide food control agencies with a clear mandate and authority to prevent food safety problems in order to build up food safety programs that are preventive and holistic in their approach to reducing the risk of foodborne illness.

#### Food legislation should include the following aspects

#### It must provide a high level of health protection

#### It should be based on high quality, transparent, and independent scientific advice. The risk analysis framework is a solid foundation to clearly separate scientific assessments, from food control decision making and implementation.

#### It should include provisions for the right of consumers to have access to accurate and sufficient information

#### It should include clear provisions indicating that primary responsibility for food safety and quality rests with producers and processors;

#### It should recognize the country's international obligations particularly in relation to health and trade

#### In addition to legislation, it is strongly needed to update food standards. Dialogue with Suriname Bureau of Standards is essential in this respect.

#### In preparing food regulations and standards, the country should take full advantage of Codex standards and food safety lessons learned in other countries. Taking into account the experiences in other countries while tailoring the information, concepts and requirements to the national context is the only sure way to develop a modern regulatory framework that will both satisfy national needs and meet the demands of the SPS Agreement and trading partners.

### 4.3.4 Implementation

This policy, legal, institutional and regulatory reform explain above will only bear its fruit if operational, technical and scientific capacities of the Surinamese food control system are also upgraded. This is a major job to be done, since it covers every single aspect of the system. Experience from the fish control system can be very useful, since that area works fairly well in the country. Nevertheless training needs are very large, and must be envisaged with appropriate staffing measures (recruitment, initial training at recruitment, continuous training of staff).

The use of the risk analysis approach and the food chain approach, the involvement of public and private stakeholders and other basic aspects of the approach discussed here that are to be implemented from the planning and issuing of measures, down to control and prevention and communication activities, will require a lot of involvement of senior management and abundant guidance from international agencies and experts.

While some policy and institutional options will need to be decided early on, it is recommended that training in basic international concepts in relation to food safety takes place at the very beginning of the process to better support the decision making process, strengthening the empowerment of national decision makers. When the policy option are better defined (including for example concerning options for the analytical aspect of food control that can be extremely costly) then more specific capacity building and investment plans can be elaborated.

A general three-year work plan to follow this path is proposed in Figure 12

Figure 12

**WORK PLAN FOR STRENGTHENING SURINAME FOOD CONTROL SYSTEM**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TIME | | YEAR 1 | | | | YEAR 2 | | | | YEAR 3 | | | |
| ACTIVITY | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 1 | Integration of the working group |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Strategic plan for agriculture development |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Food control policy and strategy formulation |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Definition of institutional array |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Preparation and release of new regulations |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Implementation |  |  |  |  |  |  |  |  |  |  |  |  |

## 4.4 Recommendations for the plant protection system

### 4.4.1 Policy and strategy

It is recommended to prepare a phytosanitary policy which outlines the role of all public and private sector actors in the operation of the phytosanitary system. In particular, this document should emphasize the relationship with the CAHFSA framework and the role of the university of Suriname and Research Departments and related Public Sector organizations (Customs, Ministry of the environment etc.) with the NPPO.

### 4.4.2 Organization of the system

There is a need to re-think the ideal structure of the phytosanitary service as well as the food safety overlaps needed to ensure plants and plant products can be produced in a wholesome way and can meet the stringent demands of the markets to which they may be destined.

Additional considerations are:

* Consolidating services such as pest diagnostics and pesticide residue testing
* Upgrade of staff to MSc level or above – particularly the case for the diagnostic disciplines in Entomology, Bacteriology, Mycology, Nematology, Weed Science and Virology
* Preparation of a documented system for standard operating procedures (including but not limited to the following):

\*\* Pest surveillance

\*\* Inspection

\*\* Non compliance procedures

\*\* Calibration of equipment

\*\* Work procedures

\*\* Inspection

\*\* Sampling

\*\* Sample submission

\*\* Symptom recognition

### 4.4.3 Regulations

It is recommended to:

* Prepare a cost benefit analysis for development on an integrated agricultural health system.
* Finalize the draft plant health legislation.
* Prepare draft phytosanitary regulations (at least 3: Import, Export and Surveillance)
* Ensure stakeholders are fully engaged in the process of preparation of legislation and regulations

### 4.4.4 Implementation

On this aspect there is clearly the need for the following steps:

* Develop export protocols for specific commodities destined for specific destinations in the Caribbean region.
* Support the development of a more robust pest surveillance system and extension service.
* Manage the use of pesticides and conduct training on best practices.
* Improve the ability to monitor pesticide residues for all commodities whether destined for national consumption or for export.

The development of an action plan to stimulate crop production for specific (1 or 2) high value crops along with technology packages to manage pesticide use and coupled with export certification protocols for specific external markets is highly recommended. Fruit exports in this case would present a problem due to issues with fruitfly containment and management unless these crops are grown under protective cover or there is a focus on production of fruit crops that are non-hosts of most fruitfly species.

There is an urgent need to upgrade staff to higher educational categories. Training in management systems is a worthwhile investment for senior and mid-level managers in the MOA.

There is a need to negotiate with Customs and Port authorities and obtain agreement for establishing a presence of inspectors at points of entry (Land, air and sea) along with the allocation of the requisite infrastructure.

Procurement of equipment would include:

\*\* PCR and Elisa equipment are a main requirement

\*\* Digital imaging Equipment

\*\* Virology equipment needed

\*\* Stable electrical supply

\*\* Other laboratory equipment, reagents and supplies

\*\* Inspection kits

\*\* Pest surveillance kits

## 4.5 recommendations concerning the animal health system

### 4.5.1 Policy and regulatory reform

To achieve the goals related to animal health and animal production outlined in the current Agriculture Sector Plan (2012-2015) the government stated that it was committed to develop a fully staff and functional veterinary services, develop and implement an appropriate animal disease monitoring system with the necessary diagnostic support and update the sanitary regulatory framework. Suriname’s Country Programming Framework for 2012-2015 highlights the following priority areas for assistance from the FAO: institutional strengthening of the Livestock Department in particular developing and delivering training programmes for meat inspectors, butchers and animal health assistants; capacity building in good agricultural practices (GAP) for livestock farmers and strengthening of food safety enhancement programmes along all stages of the food chain.

It is recommended to

* prepare a detailed strategic plan for The Livestock Department through to 2016 with clearly defined objectives, capital investment and budget and sections outlining the specific overall strategy to achieve the objectives. This strategic plan should be based on the policies for livestock development and animal health and the legal framework on which the policies are built.
* prepare written and documented procedures and protocols, reporting format and monitoring and evaluation procedures for all aspects of the Livestock Department including import/export, quarantine and border control .
* seek further assistance for the preparation of additional pieces of legislation and corresponding regulations not covered under the current FAO project TCP/SUR/3302 in order to complete the sanitary regulatory framework; this includes legislation and accompanying regulations to establish a veterinary statutory body to regulate the licensing of veterinarians and para-veterinarians and prescribe the legal process by which these professionals are licensed to practise and regulations for the registration, importation, marketing, distribution and use of veterinary pharmaceuticals.
* Prepare comprehensive national animal disease surveillance and monitoring plan and associated protocols
* develop written protocols and rules of procedures for border control and quarantine activities
* develop a strategy for implementation of a programme to have the country declared free of Foot and Mouth Disease without vaccination according to OIE protocols

Any new policy and regulatory framework and policy should be harmonized with other policies including those related to food safety, general agriculture and the environment and such policies should be internationally and regionally compliant. Harmonization with similar policies and regulations within CARICOM is also essential to facilitate intra-regional trade in animals and animal products and foster a common regional approach to animal disease control, prevention and eradication.

### 4.5.2 Insitutional strengthening

It is recommended to:

* Seek to employ additional veterinary and para-veterinary personnel to enable the animal health services to fully carry out its mandate and fulfil its obligations both nationally and internationally.
* provide training for at least two senior veterinarians in veterinary epidemiology, risk assessment and analysis and diagnostic laboratory management; training can be by distant learning. (One year training of one veterinarian to the masters level in veterinary epidemiology will cost approximalely USD 46,000 at the Royal Veterinary College, University of London, UK with similar costs for other universities)
* Provide on-going training and continuous education opportunities for all level of employees to enable them to enhance their skill sets and stay abreast of new scientific developments in their respective fields.
* ensure that there are plans in place for the tertiary training of new animal health assistants and para-veterinarians once an appropriate and approved training institution in the Caribbean has been identified
* build and maintain working relationships with the OIE reference laboratories that exist in the Americas and take advantage of the free training that they provide to OIE member states (Training costs are for return airfare to the Reference Laboratory, daily subsistence allowance for the candidate for the duration of the training, usually 2-4 weeks, and accommodation for the training period)
* participate in the OIE Laboratory Twinning Programme by establishing a professional linkage and collaboration with a Regional OIE Reference Laboratory (most of the costs to participate in the OIE laboratory twinning programme will be the responsibility of the OIE once the project proposal has been approved)

The new national laboratory currently being constructed in Suriname is scheduled for completion by mid 2014; if the veterinary unit of this laboratory is to offer a modern and efficient diagnostic and regulatory service to its stakeholders the veterinarians and laboratory technicians who will be employed therein will need training to build competencies in various aspects of laboratory diagnostic procedures, laboratory management, laboratory bio-safety and laboratory quality assurance.

To facilitate capacity building and networking for laboratory staff, efforts should be made for the new laboratory unit to participate in the OIE Laboratory Twinning Programme. This programme is designed to build expertise in the diagnosis of the priority animal diseases that are important to a developing country and also to help countries like Suriname to adopt and implement science based animal health control strategies while building capacity for the overall improvement of the veterinary services. OIE Reference Laboratories in the region of the Americas that can be partners for the twinning process with Suriname include the OIE Reference Laboratories in the USA, Canada, Brazil and Argentina and the Collaborating Center at CENSA in Cuba.

**WORK PLAN FOR STRENGTHENING SURINAME’S ANIMAL HEALTH SERVICES**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TIME | | YEAR 1 | | | | YEAR 2 | | | | YEAR 3 | | | |
| ACTIVITY | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 1 | Formation and activation of the working group |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Develop Policy and Strategic plan for animal health and livestock development |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Develop procedures and protocols for the Livestock Department |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Continuation of legislative reform with the drafting of the required legislation and regulations |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Provide training for veterinarians in epidemiology and laboratory management |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Participate in OIE Lab Twinning Programme |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | Provide continuing education for para-veterinarians, including animal health assistants and meat inspectors |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | Initiate training of additional animal health assistants |  |  |  |  |  |  |  |  |  |  |  |  |

## 4.6 Proposal of an integrated schedule for policy decisions

|  |  |  |  |
| --- | --- | --- | --- |
| Policy decision | Indicator | Deadline | Reference for more information |
| Establish a framework for future actions |  | May 2013 to January 2014 |  |
| Establish an inter-ministerial working group established to:  - clarify objectives and scope of work  - pilot future work on SPS issues | - decision by highest policy making entity made, composition, and calendars for meeting available  - mechanism for involving larger group of stakeholders for consultation when necessary | July 2013 | Para 4.1 |
| Perform more detailed sectoral assessment ( or compile all available information)  - PCE, to advance the IICA assessment for the purpose of development of an implementation plan.  - food safety, to better assess capacity development needs of each stakeholders – using the pilot version of food control system assessment tools currently under development in FAO.  and report to inter-ministerial committee | Reports available | October 2013 | Section 5 on references. These complementary assessment will allow to develop subsequent plans and strategies in a much higher level of details, including timing and costs ( see below). |
| Formulate a SPS policy and strategy , including considerations on training for staff, recruitment policies, and investment in infrastructures. | Policy statement and strategy document available, with sufficient details to allow implementation | January 2014 | Para 4.3.1 for food safety; 4.4.1 for phytosanitary issues and 4.5.1 for animal health issues |
| Implement an initial survey (including analysis of practices and complemented by analytical data) on :  - hygiene conditions for critical food products  - selected contaminants (natural contaminants; pesticide residues; antibiotics and other veterinary drugs residues ) in the food chain | Report of survey available , highlighting critical value chains, critical food safety issues and is the basis for determining future crucial regulatory, training and equipment/analytical infrastructure needs | January 2014 |  |
| Set up the specifics, ground rules and implementation plan |  | December 2013 to May 2014 |  |
| Agree on institutional set-up for SPS control | Mandates of institutions clearly defined for food control, phytosanitary and animal health control. Is performed in an inclusive and participative way to ensure buy-in by all categories of staff, and solid back up at highest political level to ensure effective implementation | March 2014 | Para 4.2 for general considerations; 4.3.2, for food safety, 4.4.2 for phytosanitary issues. |
| Outline a data collection system to ensure monitoring of progress and performance assessment |  | March 2014 | See para 4.3.1, 4.4.2 |
| Define a list of priority regulatory texts in SPS areas, | List available, taking into account result of survey, and based on Codex, IPPC and OIE Code, in line with regional agreements, and with a progressive approach to ensure that control services are in a position to enforce regulations that are enacted. | May 2014 | See 4.3.3 for food safety, 4.4.3 for phytosanitary issues; 4.5.1 for animal health |
| Prepare a plan for institutional strengthening, | Plan available, aligning specifically training needs and infrastructure/equipment investments with regulatory development | May 2014 | See para 4.5.2 for animal health |
| Develop a plan for information, communication and training of private sector on new rules, procedures and regulation | Plan available and agreed with private sector, including realistic modalities for funding. | May 2014 |  |
| Initiate implementation |  | March 2014 to March 2016 (as outlined in plans) |  |
| Prepare an overarching legislation, for SPS issues (overarching food law, plant health legislation) | Draft laws available | September 2014 | See 4.3.3 for food safety, 4.4.3 for phytosanitary issues; 4.5.1 for animal health |
| Prepare written and documented procedures and protocols for the control services |  | January 2015 | See4.3.4, 4.4.4 and 4.5.2 |
| Develop selected monitoring and surveillance plans |  | July 2015 | See para 4.3.2, 4.5.1, |
| Develop regulations |  | Ongoing throughout period, as per plan |  |
| Train personnel |  | Ongoing throughout period, as per plan |  |
| Progressive investment in equipment and infrastructure |  | Ongoing throughout period, as per plan |  |
| Implementation of training activities in collaboration with private sector |  | Ongoing throughout period, as per plan |  |

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Suriname Agriculture Strategic Plan 2012-2015

## 

# ANNEXES

## Annex A.1 Food safety Mission Agenda

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Saturday March 2** | **Venue** | **Time** | **Participants** | **Purpose** |
| Local consultant, Jenna Wijngaarde | Royal Torarica | 11.00 – 13.00 | JR/JW | Preliminary meeting |
| **Sunday March 3** | | | | |
| Local Market | Kwatta Agricultural Market | 08.30 – 12.00 | OS/JR/RD | Offer of products, hygienic conditions |
| **Monday March 4** | | | | |
| Local consultant | Royal Torarica | 08.45 – 10.20 | JR/JW | Revision of the checklist answers |
| Ph. Tjang A tjoi, Policy advisor MoA | Letitsia Vriesdelaan | 10.30 – 11.30 | OS/JR/JW | National agriculture policy |
| Aartie Narain, Legal Officer MoA | O.D. Veeteelt, Corantijnstraat | 13.00 – 14.00 | OS/JR/JW | Animal health laws and regulations |
| Local consultant | H.D. Benjaminstraat 53 | 14.00 - 15.00 | JR/JW | Checklist  FQS |
| Steven Hofwijks, IADB local representative | Peter Bruneslaan 2-4 | 15.30 – 16.30 | JR/JW | Coordination |
| **Tuesday March 5** | | | | |
| Dr. R. Power, Agricultural advisor to the President | H.D. Benjaminstraat 53 | 08.00 - 09.00 | JR/JW | Development plan agriculture sector |
| Gopal Bhiesnoe, Gopex, F&V Exporter | H.D. Benjaminstraat 53 | 09.00 - 10.00 | JR/JW | Food safety/plant health issues |
| Lorrain Akrum, MOA, Veterinary Inspection | Corantijnstraat | 10.20 – 11.30 | LA/JW/JR | Inspection process and laboratory process |
| Gianna Karg, Head, Veterinary laboratory | Corantijnstraat | 11.30 – 12.30 | GK/JW/JR | Laboratory process |
| Orlando Sosa, Plant Health Expert, FAO | Eco resort | 13.00 - 14.30 | OS/JR/JW/RB | Debriefing |
| **Wednesday March 6** | | | | |
| Yvonna Ramnarain, Head, Residue Laboratory | SAIS | 09.00 - 10.00 | YR/JW/JR | Residue laboratory activities and results |
| Alice van Sauers, Pesticide Registration | Letitsia Vriesdelaan | 10.00 - 10.30 | AVS/JR/JW | Labeling and registration requisites |
| Juliette Colli-Wongsoredjo, Fish Institute | Cornelis Jongbawstraat | 11.00 - 12.00 | JW/JR/JC | Fish inspection |
| **Thursday  March 7** | | | | |
| Heave, Ministry of Trade and Industry | Havenlaan | 09.00 - 09.45 | MH/JW/JR | Import/export permits, consumers protection |
| Remy Grauwde , Suriname Bureau of Standards | Leysweg | 10.00 - 11.00 | JR/JW | Standard development process |
| Mr. G. Breinburg/,  MOA PS/Head of Planning | Letitsia Vriesdelaan | 11.30 - 13.00 | JR/JW | Policy/Planning |
| **Friday March 8** | | | | |
| W. Bakker, M. Wonsokarijo | Bureau of Public Health | 09.30 - 10.30 | JR/JW | Inspection process, Food safety policy |
| Gladys Lieveld, Beatrix Jubithana, Astracia Warner | Bureau of Public Health | 10.30 - 11.30 | JR/JW | Laboratory, Epidemiological Surveillance |
| Marjorie Renardus/ WIlgo Bilkerdijk, ASFA | Het Park | 16.00 - 17.30 | JR/JW | Food industry point of view and expectations |

## Annex A.2 Notes from the interviews ( Food safety)

**CONTENT**

[1.            Tjang Atjoi, Policy advisor MOA](#_Toc351362952)

[2.            Aartie Narain, Legal Officer MOA](#_Toc351362953)

[3.            Steven Hofwijks, IADB local representative](#_Toc351362954)

[4.            Gopal Bhiesnoe, Gopex, Fruit and vegetable exporter](#_Toc351362955)

[5.            R. Rozenblad Chief Veterinary Officer and Lorrain Akrum, Head, Veterinary Inspection, Ministry of Agriculture](#_Toc351362956)

[6.            Gianna Karg, Head, Veterinary laboratory, MOA](#_Toc351362957)

[7.            Yvonne Ramnarain, Head, Chemical Residues Laboratory, MOA](#_Toc351362958)

[8.            Alice van Sauers, Pesticide registration officer](#_Toc351362959)

[9.            Juliette Colli-Wongsoredjo, Director, Fish Institute, MOA](#_Toc351362960)

[10.          Dirk Haeve, Deputy Director, Ministry of Trade and Industry, MOTI](#_Toc351362961)

[11.          Dr. Remy Grauwde, Executive Director, Surinamese Bureau of Standards, SBS](#_Toc351362962)

[12.          Gerrit Breinburg, Permanent Secretary, MOA](#_Toc351362963)

[13.          R. Nojodimedjo, Head of Planning Department, MOA](#_Toc351362964)

[14.          Dr. Wim Bakker, Head, Bureau of Public Health, Ministry of Health – MOH](#_Toc351362965)

[15.          Gladys Lieveld, Head, Food Inspection Directorate, MOH](#_Toc351362966)

[16.          Astracia Warner, Head, Environmental Inspection](#_Toc351362967)

[17.          Merril Wongsokarijo Acting Head of Central Laboratory, Bureau of Public Health.](#_Toc351362968)

[18.          Rachel Soekirman, Quality manager for laboratory of food microbiology](#_Toc351362969)

[19.          John Quick, Head of the Chemistry Department, Central Laboratory of Public Health](#_Toc351362970)

[20.          Dr. M. Jubitana, Head of Epidemiology Department](#_Toc351362971)

[21.          Wilgo Bilkerdijk, Vice President, Manufacturers Association of Suriname, ASFA and Marjorie Renardus-Tajib, Quality Director, Sorena’s Winery](#_Toc351362972)

[22.          Robert Power, Agriculture advisor of the President](#_Toc351362973)

**NOTES**

1. **Tjang Atjoi, Policy advisor MOA**

MOA has three main branches, agriculture, animal husbandry and fisheries. The horticulture department includes two directions, one on research and the other one on agriculture development

There are four regions, West, Centre, East and Interior. Each region poses different challenges so require different policy strategies.

Some matters of concern

* Post-harvest loses, that can be as much as of 25 to 45% of harvested products
* Urban agriculture
* All services of MoA are centralized, Lack of capacity and of secondary levels or centres to act locally
* Our resources are limited, more than 50% of the annual budget goes to salary and operational expenses, leaving few for policy matters and investments
* Human resources needs have not been well typified yet
* Nor with equipment needs
* Only 6% of the farmers are organized. No more than 500 people are full-time farmers, the rest of them work in other activities simultaneously

Major policy objectives are

* Food security
* Food safety, MOA understands that agricultural health and particularly plant protection is important for food export
* Sustainable agriculture
* Make of Suriname the food basket for the Caricom
* Make a bigger contribution to Suriname economic growth based on agricultural development

And two new objectives came out recently

* Regulate land use
* Use of the risk management approach

The national policy is written in a policy note and in the development plan. They are both broad statements, not very detailed, so a series of white papers have been prepared last year with the support of FAO. They were prepared with participation of private stakeholders and pretend to look at a five-year plan of action. The list of white papers is the following

* Rice
* Banana
* Horticulture
* Agribusiness
* Agricultural health and food safety
* Development of the interior region
* Agricultural development
* Marine fisheries and aquaculture
* livestock

Some of the changes MOA is currently experimenting

* From a focus on extension to a focus on services
* Construction of demonstration centers, including a packing house for fruits and vegetables
* Establishment of experimental gardens
* Intention to create clusters at different places in the country
* Urban agriculture is also a matter of interest, since it is growing everywhere
* Looking at the possibilities to put up an agricultural industrial park

The plant protection law was released 1965, it has been redrafted already but the Ministry Council has not studied it yet

1. **Aartie Narain, Legal Officer MOA**

* The focus of this government is on 3 separate inspection units (fish, plant, animal)
* Food safety  aspects will be incorporated in the different acts for instance the plant protection act
* MOA is in the process of determining the structure of the system
* A number of animal related laws and regulations are being revised right now

1. **Steven Hofwijks, IADB local representative**

A meeting was held with Mr. Hofwijks in order to validate with him the general approach for the assignment and the agenda for the week. Mr. Hofwijks expressed his agreement with the agenda and suggested

* Fruits and vegetables represent the greatest potential of increment in the international trade
* Meat may not be of interest in the near future
* To send our comments to Cesar Falconi and Pedro Martel in order to receive his inputs.

This was done then and Mr. Falconi responded convening the approach and providing additional recommendations for our job in Paramaribo

1. **Gopal Bhiesnoe, Gopex, Fruit and vegetable exporter**

**Business description**

* Gopex exports to a broker at The Netherlands, small amounts of different ethnical products, such as African eggplant, Elephant ear, Green beans and Pepper. These products are bought mainly by Surinamese people living overseas.
* The company grows its own products, a small part of them are bought from known farmers, under contract. Gopex is seeking GlobalGAP certification, so all the production will be at the company’s farms in order to have proper control.
* Products are packed at the company’s packing house, which is HACCP certified. Products are shipped with a phytosanitary certificate. Company exports 6 to 8 tons two times a week.
* There is an association of produce exporters from Surinam, exporting 30 tons a week, total

**Pesticides and Pest control**

* Pesticide residues and pests are controlled at a random basis at the port of entry. The Dutch government has a list of requirements, Gopex has a list of products banned or restricted, they take samples for pesticide residue analysis twice a month and send them to The Netherlands for analysis

**Rejections**

* Two years ago, because of worms,
* Pesticide residues, in 2010, due to one of the contractors

**Potential for growth**

* There is not formal market research. According to the owner, Gopex can double the exports with GlobalGAP, because there are some supermarkets at The Netherlands interested in his products. The potential, according to the clients, is on Bitter Gard and Okra

**What do they expect from the government agencies**

* The company needs money borrowed at a low rate, today is at 13%, they need to invert to comply with GlobalGAP, at 13% it won’t be affordable. The rice sector has 3% rates
* A laboratory for chemical residue analysis should be in place
* It is necessary to facilitate the phytosanitary certificate, that right now is just paperwork and the owner must travel to Paramaribo, just for obtaining it. Ideally, a real inspection should be performed to obtain it
* To control the bad products/producers, because they make his life harder
* The government packinghouse will be two hours away from his farm, Gopex is not going to benefit from it, it is too far and too risky, in terms of the potential for illegal goods to be included in the company’s shipments

1. **E. Rozenblad Chief Veterinary Officer and Lorrain Akrum, Head, Veterinary Inspection, Ministry of Agriculture**

The service is focused on slaughterhouses, animal products and butcheries; there is no on farm inspection, no farm registration, and no tags for animals

* The national cattle herd consists of 30 to 50 thousand heads at the country. Chicken is mostly imported, (60%) as well as some beef specialty products and most of the pork
* Two slaughterhouses in Paramaribo, four total in the country, one of them is owned by the Government. 300 beef and 500 to 600 pigs slaughtered per week in Paramaribo, the biggest portion of meat supply.
* In absence of slaughterhouses at the districts, so much of it is done backyard, although they don’t eat beef meat, but bush animals
* MOA is the only authority at slaughterhouses
* Imported meat is checked by MOA
* Not enough meat inspectors
* There is an overlap with the MOH at the butcheries, because they can inspect all food establishments
* There is a checklist with basic requirements for butcheries
* There is no a manual of procedures and checklist for inspection
* No mass communication program to inform consumers. Only folders that are used at for instance fairs

1. **Gianna Karg, Head, Veterinary laboratory, MOA**

* This is the only laboratory doing animal diseases analysis. Analytical techniques based on OIE guidelines. No food safety analysis are performed
* The laboratory reacts to demands done by the field, based on perceptions  of what the problems or risks can be
* Priorities are based on international trade requirements and guidelines, basically focused on diseases
* Budget has increased this year, probably because increasing interest in this part. Resources will be used for training, new equipment and materials for microbiology, bacteriology, parasites, confirmation, serology

1. **Yvonne Ramnarain, Head, Chemical Residues Laboratory, MOA**

**Facilities and equipment**

* Right now there are no facilities for analyzing pesticides or other chemical residues
* Exporters send samples to The Netherlands
* A new laboratory is under construction right now, at the same time, the Ministry is buying the necessary equipment
* The lab has not been placed yet in the structure, it is planned to be at the research branch of the MOA
* Official laboratories are currently the following
  + Fish Institute
  + Veterinary laboratory
  + Laboratory of Public Health
  + Plant laboratory, in process

**Tests**

* The analytical techniques will be ISO
* The new lab will analyze residues of pesticides and veterinary drugs in plant, fish and meat products. the temporary building is already there but no electricity yet
* Heavy metals controls are right now only done for fish, at the Fish Institute. This lab could do the heavy metals analysis for products different to fish if required, and trained.

**Standards**

* Codex MRL are used but they are not adopted officially
* There is a list of imported chemicals and a shorter one of which to look for when conducting lab test

**Data**

* No national residue program. The intention is to start with exports
* All the Information available now comes from the Dutch authority, who sends results of import control to the Head of Pesticides Registration

**Staff**

* They are facing difficulties for finding trained people willing to work at the new laboratory.  Non chemists applied, salaries are very low, so they are looking for higher and secondary vocational
* Vice-President of the Republic must sign the approval for hiring the analysts. They’ll have five of them
* Vice-President also approves training, the analysts will be probably trained by Cubans or other experts

1. **Alice van Sauers, Pesticide registration officer**

Requirements in place for

* Labelling: It is not required to have pesticides approved for specific products, since they can’t check it, so the pesticides are approved for use in the country
* There is a list of banned pesticides
* Exporters know what products are banned or tested in the EU, so they know what to comply with
* They are planning to use the Caribbean system, which provides permission for some years, for some products, to be used in some crops
* And it’s all because the MOA can’t check it, no lab!!!
* Banned pesticides list is communicated to importers and to the extension offices, it is posted in the newspaper and on the website of MOA
* They all need training (MOTI, Brokers, Extension officers) and MOA needs to communicate with all stakeholders
* MOTI, the Police and the MOH can fine infractions, but not MOA

1. **Juliette Colli-Wongsoredjo, Director, Fish Institute, MOA**

* The Fish Institute started operations in 2007, with close collaboration of FAO
* Follows basically European and Codex guidelines
* Local law and regulations are harmonized with EU’s
* The agency’s scope is all along the food chain
  + Starting with the boats at the moment they arrive with the fish
  + Fresh on ice, 80% whole gutted
  + Plus tuna filets, fresh on icepacks, in 10 kg bulk,
  + Frozen steaks are the most  exported products
* The agency has been asked to coordinate all the units
* There is a general GMP checklist applied quarterly for inspection purposes, the frequency of inspections changes based upon the results
* There is an official microbiological test program, running monthly, on water and product, little or non-micro analysis is done by the plants themselves
* Inspectors also check the CCP
* Official tests look for
  + *E Coli, Salmonella, S. aureus, Vibrio* and Total Plate Count in product
  + APC at 22°C, APC at 37°C, Total and Fecal Coliforms, *E coli* and *Enterococci* in water
  + Bioluminescence, Coliforms and *Enterobaceriacea,* in surfaces
  + Chemicals: mercury, cadmium and led on the fish
  + Freshness test, TVB-N, pH, etc.
  + Samples for Histamine testing are collected at both at the landing sites and the processing plants
* Starting trend analysis for each processing plant and later on for the total processing plants
* The future
  + Smoked fish, that will be a challenge, they’re building good factories for that, that will require PHC analysis capabilities
  + Aquaculture is just starting, they need a lot of investments
  + Freshwater fish is contaminated with mercury, a national problem, so no freshwater fish is exported
  + Capture of sea fish has arrived to its sustainable maximum already
* Control of fish for domestic consumption is not a priority. They are putting a monitoring program in place assisted by PAHO.
* Suriname has a national monitoring program on heavy metals for marine fish and aquaculture

1. **Dirk Haeve, Deputy Director, Ministry of Trade and Industry, MOTI**

**Permits**

* Following an attractive investor’s policy, permits for catering and other agribusiness were removed.
* The business has just to registered at the Chamber of Commerce, who knows all the permits required
* There is not land use regulation in Suriname
* MOTI permits provide authorization for performing an economic activity, other Departments such as MOA or MOH are in charge of technical authorizations. Controls will come after you start
* It is planned to start requiring farms to register, since it is an economic activity
* There is no need of a license to export, just have to report the export to MOA Consumer affairs

**Consumer related issues**

* There are different national laws that protect the consumer but there is not one addressing the subject directly
* The country in the infant phase regarding consumer law, exploring the possibilities. The Ministry does attend consumer complaints but consumer activities are just starting

**Control and enforcement**

* MOTI has the authority for fining and punishing violations to the laws by importers. This department has the power with the police (police capabilities)

1. **Dr. Remy Grauwde, Executive Director, Surinamese Bureau of Standards, SBS**

**Scope of work**

* SBS is a public, autonomous institution. A sui generis status, focused on adoption, promotion, application of standards
* Last year they regulated the law that gave origin to the Institute
* Released the first code for hygienic rice processing
* Actively participating in the Regional Standards Committee
* The SBS works on demand producing three types of documents
  + Product standards
  + Codes of practices
  + Systems standards
* Technical Regulations can be made from SBS National Standards, by means of Ministerial resolutions
* Laws also authorize the SBS to
  + Enforce technical regulations such as
    - Labelling standards
    - Metrology: Weights and measures regulation is in draft
  + Certification
  + Accreditation of labs and testing facilities
* Bureau of Public Health participates actively in SBS activities CAC/GL 21 97
* A previous IABD project contributed to develop more than 30 standards, more than 10 for agricultural products
* These drafts were sent to MOA, no answer yet
* They follow the nine steps process for standardization that includes
  + Survey on standardization needs
  + Standardization work plan, prepared by a Technical Committee with representative of Key stakeholders
  + Review of reference documents
  + Deliberation and consensus
  + Working draft
  + Board revision
  + Public comment period (60 days)
  + Revision Final draft
  + Board Approval and Publication as a national standard

**Food safety**

* Recently established a Committee for adoption of standards for organic products
* A final draft of a poultry and poultry products standard
* Other two groups: poultry feeds, table eggs
* The poultry producers association promoted these poultry standards
* There are at least ten crops with product standards, regional.
* Regional standards are adopted in a fast track fashion, starting with a submission to the board as a working draft Hygiene and quality requirements are referenced to Codex

**Further jobs**

* Preparation of code of practices for bakeries and breads. And a checklist Coming from the bakers association, who prepared a code that is now being translated to the standard format
* In the process of enforcing the labelling standard and this way SBS is able to earn income

1. **Gerrit Breinburg, Permanent Secretary, MOA**

**Basic aspects of current agriculture policy**

* Food safety and food security are the most important policies right now for the MOA
* Suriname is sufficient in producing most of the food supply. Few products are being imported, basically because the country can’t produce them or for bringing variety to the food supply
* This government wants to increase the production for the agriculture sector to contribute to overall economic growth of the country
* Exports are currently focusing on Caricom, not too much Europe anymore
* Trying to bring instruments to improve production
* Exports will have to be market driven. We will need more research on those things

**Food chain approach**

* Certain level of collaboration between the ministries is required, but it can be done informally, between officers, not deep structural reforms are required
* Identified several fields of work and working on them

**Remarks on strategic products for Suriname**

* Rice
* Banana
* Vegetables. Export potential, self sufficient
* Beef, self sufficient. We opened imports on a temporary basis to ban slaughter of national females. Importing beef
* Poultry production, we are sufficient in producing 40%, we want to improve it to 60%

**Projects**

* Certain critical things are in an infant state, it is needed to bring more matureness to our system. These things are principally
  + Laboratory facilities for checking residues of chemical substances
  + Farmers awareness to produce with GAP
  + Trace back systems
* A draft food act is on course

1. **R. Nojodimedjo, Head of Planning Department, MOA**

**Planning**

* The way we do planning consists on asking the Directors what they are going to do in order to be able to follow up them

1. **Dr. Wim Bakker, Head, Bureau of Public Health, Ministry of Health – MOH**

**Description**

Bureau of Public Health – BOG – is a special Unit of MOH. It includes three major areas: inspectorate, laboratory and epidemiological surveillance.

Main functions includes surveillance, assessment of the health situation of the population, enforcement of laws related to food safety, food hygiene, environmental laws, sanitary conditions, research and program development in public health

**Policy**

* Food safety is a high priority, not based on FBD cases but on what we see from the world
* Two main food safety concerns
  + Chemical residues in locally produced foods, specially fruits and vegetables
  + Chemical and biological contaminants and fraud in imported foods and food products

**Food chain approach**

* Food Safety is an area of major concern for our Bureau, but it is not under an integrated scheme or system in Suriname, not under the source to plate approach. It is fragmented. The production side of the chain is at the MOA
* MOH is focused more on retail and food distribution
* Coordination between health and agriculture should receive very much attention. There are several models, a separate food authority, an inter-sectorial advisory body, being this preferable, because the integration could bring unexpected problems. We’d better have joint programs.
* At slaughterhouses, inspection of sanitary facilities, MOH, and quality of the meat, MOA
* When there is a permit to be issued, we will go together, MOA gets the request, but we inspect separately and sometimes duplicating observations
* A major element of this program should be a serious discussion, including all stakeholders involved, about how to solve this issue

**Planning**

* Planning occurs on a daily or weekly basis, during meetings of the Bureau group of Directors. There is no a structured planning process
* Programs are being planned
  + But there is a great distance between planning and budgeting
  + Some operational objectives are in place, but not outcome indicators. Before we can do this we have to improve our surveillance system

**Budgeting**

* There is a line item budget but very outdated. Say for example transportation and is based on annual increments
* No budget is allocated for specific activities or programs, for pursuing specific objectives. We are in the process of slowly transforming the planning process
* To have more food and environmental inspectors, more cars, more money for gasoline, more workshops

**Food safety laws and regulations**

* Food act, 1911
* Food act 1954
* Product standards. Relations with SBS
* Comments
  + Includes a list of GMP requirements for food establishments, based on that there is a checklist
  + Provides the framework but should be updated
  + The competency for judicial enforcement is included, you can close, retain the products, and apply other sanitary measures but fining or closuring are in hands of judges
  + Food safety infractions are not a priority for judges. It could be good to have judges specialized in environmental health

**Information, education and communication activities**

* A reactive system is in place, not a systematic program.
* As issues arise, MOH use regular communication channels to issue official statements to the press. as an example information has been provided in relation with the peanut butter problem last years
* Communication is less required since general public is now better informed in these modern times, so education is required the most
  + However, It is necessary to have a spokes person
* Aspects to be addressed include
  + Food safety procedures
  + Food handling (requirements are only for fish)
* MOH has no information about consumers attitudes, behaviours or expectations related to food safety

1. **Gladys Lieveld, Head, Food Inspection Directorate, MOH**

* Establishments subject to MOH control are basically restaurants, supermarkets, hotels, slaughterhouses, bakeries and food production locations
* There is an updated inventory of all food related establishments under MOH supervision
* This department has only two inspectors at the moment
* Inspectors are very young ant they have not received training or education to perform proper food safety inspection

1. **Astracia Warner, Head, Environmental Inspection**

* The service has approximately 100 inspectors to inspect every aspects in about 1300 establishments in Suriname
* Responsibilities of sanitary facilities hygiene in the same list of establishments described above. This group of inspectors don’t look after quality of the product
* It is intended to visit every establishment at least twice a year. More frequency is applied to larger establishments more often or when there are festivities
* In theory, the Environmental Inspection Service has to look for other non-food products
* Inspectors take samples only of drinking water
  + In reaction to community complaints
  + For regular monitoring of hospitals, day care centers, some companies, not necessarily food companies, agriculture processors

1. **Merril Wongsokarijo Acting Head of Central Laboratory, Bureau of Public Health**

* Official MOH laboratory tests the quality of food and water, performing microbiology and chemistry analysis
* This is the only food laboratory at the moment, although there is no formal regulation establishing this laboratory as the reference one for food safety
* Most samples are received from private companies, some others are brought by inspectors
* The facilities are brand new, technicians are well trained
* The laboratory is ISO 9001 certified and is working on accreditation ISO 15189 for the microbiological laboratory and also to obtain ISO 17025 certification for chemical analysis

1. **Rachel Soekirman, Quality manager for laboratory of food microbiology**

* This laboratory performs  basically quality analysis
* Most analysis are for commercial use, private companies pay for it, the report is confidential, is not delivered report to the BPH or the Epidemiological Department

1. **John Quick, Head of the Chemistry Department, Central Laboratory of Public Health**

* MOA is supposed to develop its laboratory facilities for food production
* Responsibility of this laboratory is analysis of food products. It is a little bit vague, perhaps this can be a good opportunity to clarify it
* The laboratory doesn’t know what to test for In various types of foods
  + Standards are required, SBS started a work on this area
  + Or can be based on the clients requirements

1. **Dr. M. Jubitana, Head of Epidemiology Department**

**Importance of food-borne disease – FBD – in Suriname**

* Ideologically food is very important. The problem is not just the classical type of problem. BOG is concerned for foods coming from all over the world, that can generate scattered problems that the Bureau is not in the capability of connect or identify. While in numbers food outbreaks are not important, ideologically they are, we need to have better systems to control imported or locally produced foods. See chemical contamination of local produced foods
* In addition, FBD is becoming a challenge, due to all new restaurants, and population growth

**Outbreak investigation**

* Three sources of information about food borne diseases cases or outbreaks in place:
  + Nurses inform of hospitalized patients
  + Complains from the community
  + Identification of microorganisms at the Hospital laboratory
* The outbreak investigation follows a general protocol, applying general epidemiology principles. No strict protocols are so much followed in this or any other activity. Experts try to find cases, take samples, do interviews, and perform other typical activities of an outbreak investigation. Following a protocol requires laboratory, staff, transportation and other resources not have available at the moment. How far to go in an investigation will depend on how serious consequences are.

**Current status of FBD disease in Suriname**

* There are statistics for primary care, hospitals, and community complaints, it is hard to differentiate between food and water borne diseases
* It is necessary to improve because there is a lot FBD cases are not reported. Not many people goes to the doctor
* Dengue is currently the major concern of BOG, specially related to sewage systems and dysfunctional waste management systems

**Data analysis and use**

* The BOG team meets every Monday so the information shared influence daily activities.

1. **Wilgo Bilkerdijk, Vice President, Manufacturers Association of Suriname, ASFA and Marjorie Renardus-Tajib, Quality Director, Sorena’s Winery**

* There should be standards for imported goods
* Imported products are not properly inspected
* BOG does not know what type tests need to be conducted for different food products
* A number of tests cannot be done by BOG
* MOH inspections are not conducted on a regular basis.
* A fund should be made available for the agriculture sector because the current rates for borrowing money are too high.

1. **Robert Power, Agriculture advisor of the President**

* The country lacks a proper planning for the future (2020 or 2050)
* No planning in land use
* Fishery department has a very good inspection system with the focus on the EU
* Exporting to the CARICOM is a problem at the moment because we have not conducted pest risk analyses
* activities are carried out but there is no structured plan
* Pests are not a problem at The Netherlands, there is not a thorough inspection, probably because they’ll die during the winter

## Annex A.3 Agricultural Statistics[[12]](#footnote-12)[6]

Table 2

**PLANTED AREA, PRODUCTION AND EXPORT OF VEGETABLES 2007 – 2009**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UNIT** | **2007** | **2008** | **2009** |
| Total planted area | Ha | 815 | 642 | 736 |
| Total production | Ton | 14.368 | 12.518 | 12.344 |
| Export of vegetables and tubers | Ton | 2.783 | 2.936 | 2.757 |
| **PRODUCTION OF AGRICULTURAL CROPS** |  |  |  |  |
| Annual crops (Cassava, Watermelon and others) | Ton | 201.150 | 200.851 | 248.137 |
| Semi-perennial crops (Bacoven, bananas, others) | Ton | 81.927 | 98.687 | 97.280 |
| Perennial crops (Oranges, coconut, mango, grapefruit, others) | Ton | 29.958 | 30.804 | 31.866 |
| **GENERAL TOTAL** | Ton | 313.035 | 330.342 | 377.283 |

Table 3

**SIZE LIVESTOCK AND LIVESTOCK PRODUCTION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UNIT** | **2007** | **2008** | **2009** |
| **SIZE LIVESTOCK** |  |  |  |  |
| Total cattle | st. | 43.595 | 49.035 | 53.610 |
| Total pigs | st. | 28.240 | 27.127 | 28.838 |
| Total goats and sheep | st. | 12.150 | 12.500 | 13.000 |
| Total chickens and other poultry | 1000 st. | 6.387 | 5.272 | 5.910 |
| Total other livestock | 1000 st. | 1.210 | 750 | 1.024 |
| **PRODUCTION** |  |  |  |  |
| Eggs | 1000 st. | 42.912 | 36.190 | 46.769 |
| Pigs | 1000 st. | 23.465 | 22.941 | 24.853 |
| Cattles | st. | 8.719 | 9.807 | 10.722 |
| Chicks and other poultry | 1000 st. | 5.940 | 4.898 | 5.696 |
| Milk to  De Melkcentrale N.V. | 1000 ltr. | 6.065 | 5.120 | 4.935 |
| Goats and Sheep | 1000 ltr. | 1.357 | 1.407 | 1.595 |
| MEAT IMPORTS |  |  |  |  |
| Chicks and other poultry | Ton | 13.207 | 14.196 | 15.516 |
| Salt meat | Ton | 829 | 1.099 | 1.049 |
| BEEKEEPING |  |  |  |  |
| Honeyproduction | ltr. | 23.800 | 20.625 | 27.250 |

Table 4

**EXPORT OF FISH, CRUSTACEANS AND MOLLUSCS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UNIT** | **2007** | **2008** | **2009** |
| FISH EXPORTS |  |  |  |  |
| Frozen fish and fish parts | Ton | 9.274 | 10.735 | 12.830 |
| Fresh fish and fish parts | Ton | 4.083 | 4.130 | 4.459 |
| Fishfillets ( fresh, frozen, dried, etc. ) | Ton | 1.587 | 1.637 | 2.929 |
| Smoked, dried and salted fish\*\* | Ton | 363 | 202 | 138 |
| TOTAL FISH EXPORTS | Ton | 15.307 | 16.704 | 20.356 |
| CRUSTACEANS AND MOLLUSCS |  |  |  |  |
| Shrimps and prawns, frozen | Ton | 5.137 | 4.022 | 3.306 |
| Other Crustaceans\*\* | Ton | 74 | 151 | 26 |
| TOTAL CRUSTACEANS AND MOLLUSCS | Ton | 5.211 | 4.173 | 3.332 |

Table 5

**EXPORT QUANTITIES AND VALUES OF AGRICULTURAL PRODUCTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UNIT** | **2007** | **2008** | **2009** |
| PRODUCT |  |  |  |  |
| Banana | Ton | 57.135 | 65.750 | 58.132 |
| Rice | Ton | 52.500 | 52.641 | 51.941 |
| Fish and fish products | Ton | 15.307 | 16.704 | 20.356 |
| Crustaceans | Ton | 5.211 | 4.173 | 3.332 |
| Vegetables and tubers | Ton | 2.783 | 2.936 | 2.757 |
| Fruit (excl. banana) | Ton | 282 | 273 | 478 |
| Preparation of vegetables, fruits and parts of plants | Ton | 169 | 332 | 339 |
| Floriculture | Ton | 206 | 257 | 145 |
| TOTAL AGRICULTURAL PRODUCTS | Ton | 133.593 | 143.066 | 137.480 |
| VALUE (SRD \*1.000) |  |  |  |  |
| Banana |  | 46.219 | 63.447 | 73.608 |
| Rice |  | 42.853 | 90.477 | 58.950 |
| Fish and fish products |  | 30.535 | 32.572 | 46.651 |
| Crustaceans |  | 64.502 | 40.612 | 35.283 |
| Vegetables and tubers |  | 4.408 | 4.665 | 4.193 |
| Preparation of vegetables, fruits and parts of plants |  | 374 | 549 | 586 |
| Fruit (excl. banana) |  | 305 | 374 | 584 |
| Bloementeelt |  | 859 | 855 | 372 |
| TOTAL EXPORTVALUE |  | 190.055 | 233.551 | 220.227 |

Table 6

**IMPORT QUANTITIES AND VALUES OF AGRICULTURAL PRODUCTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UNIT** | **2007** | **2008** | **2009** |
| PRODUCT |  |  |  |  |
| Preparation of vegetables, fruits and parts of plants | Ton | 7.122 | 7.533 | 23.210 |
| Flour, starch, wheat gluten | Ton | 21.258 | 19.774 | 22.041 |
| Sugar and sugar confectionery | Ton | 22.892 | 22.662 | 19.282 |
| Beverages, spirit and vinegar | Ton | 18.829 | 17.181 | 18.196 |
| Meat and edible meat offal | Ton | 14.233 | 15.556 | 16.768 |
| Vegetables and tubers | Ton | 15.913 | 15.245 | 15.294 |
| Cereals | Ton | 17.460 | 29.002 | 14.759 |
| Vegetables fats and oils | Ton | 9.838 | 11.350 | 10.805 |
| Products for human consumption \* | Ton | 7.733 | 7.656 | 7.486 |
| Preparation of grain, flour, starch | Ton | 3.308 | 3.875 | 3.937 |
| Preparation of meat, fish, crustaceans-, molluscs | Ton | 3.551 | 2.779 | 3.635 |
| Dairyproducts, eggs, honey | Ton | 3.401 | 3.831 | 3.560 |
| Fruit | Ton | 1.752 | 1.912 | 2.114 |
| Cocoa and cocoa products | Ton | 686 | 783 | 1.020 |
| Oil seeds and oleaginous fruits | Ton | 748 | 895 | 675 |
| Coffee, tea, maté en spices | Ton | 377 | 506 | 391 |
| Floriculture | Ton | 42 | 35 | 42 |
| TOTAL AGRICULTURAL PRODUCTS | Ton | 149.143 | 160.575 | 163.215 |
| VALUE (SRD\*1000) |  |  |  |  |
| Products for human consumption \* |  | 74.481 | 64.746 | 66.935 |
| Meat and edible meat offal |  | 46.407 | 58.864 | 56.245 |
| Beverages, spirit and vinegar |  | 41.370 | 41.595 | 52.136 |
| Vegetables fats and oils |  | 32.216 | 53.082 | 38.122 |
| Sugar and sugar confectionery |  | 29.937 | 35.816 | 35.457 |
| Flour, starch, wheat gluten |  | 28.433 | 38.121 | 34.569 |
| Dairy products, eggs, honey |  | 32.686 | 39.460 | 33.750 |
| Preparation of vegetables, fruits and parts of plants |  | 21.214 | 24.627 | 27.565 |
| Preparation of meat, fish, crustaceans and molluscs |  | 18.098 | 16.796 | 23.758 |
| Preparation of grain, flour, starch |  | 18.454 | 24.224 | 23.581 |
| Vegetables and tubers |  | 12.454 | 19.238 | 18.445 |
| Cereals |  | 14.143 | 28.388 | 15.243 |
| Fruit |  | 5.653 | 6.143 | 6.905 |
| Cocoa and cocoa products |  | 5.087 | 5.816 | 6.697 |
| Coffee, tea, maté en spices |  | 3.198 | 5.358 | 3.172 |
| Oil seeds and oleaginous fruits |  | 2.049 | 2.837 | 2.504 |
| Floriculture |  | 629 | 518 | 1.868 |
| TOTAL AGRICULTURAL PRODUCTS |  | 386.509 | 465.629 | 446.952 |
| \* Extracts, essences, concentrates, yeast, sauces, preparations, preparations for soups, ice cream and others | | | | |

Annex A.4 Overview Food related companies

Table 7

**Overview manufacturers by product type, Chamber of Commerce, 2013**

|  |  |
| --- | --- |
| **Service** | **Total** |
| Agriculture products | 1 |
| Alcoholic beverages | 4 |
| vinegar | 2 |
| Noodles | 5 |
| Banana chips | 2 |
| Banana flour | 3 |
| Banquet | 3 |
| Sandwiches | 3 |
| Croquettes | 2 |
| Beans | 1 |
| Cocoa | 1 |
| Cassava | 2 |
| Cassava chips | 2 |
| Chips | 3 |
| Coconut cookies | 1 |
| Coconuts | 1 |
| Peas | 2 |
| Essences | 3 |
| Food | 2 |
| Fruit | 1 |
| Fruit concentrates | 1 |
| Fruit products | 1 |
| Prawn | 3 |
| Pastry | 6 |
| Preserved Agricultural products | 1 |
| Preserved Horticultural products | 1 |
| Distilled water | 1 |
| Spiced sauces | 2 |
| Ginger beer | 1 |
| Grated Cassava | 3 |
| Grated Coconut | 3 |
| Grated Pomtayer (root Crop) | 4 |
| Roasted Meat | 1 |
| Stewed fruits | 1 |
| Salted fish | 1 |
| Preserved vegetables | 1 |
| Vegetables | 2 |
| Honey | 2 |
| Hot Sauce | 2 |
| Ice Cream | 5 |
| Ice | 20 |
| Indigenous Agricultural products | 1 |
| Jam | 1 |
| Javanese Refreshments | 1 |
| Javanese Pastries | 1 |
| Cheese | 1 |
| Curry | 1 |
| Soy Sauce | 6 |
| Cake | 7 |
| Coffee | 2 |
| Carbonated Drinks | 1 |
| Croquette | 3 |
| Spices | 3 |
| Foodstuffs | 3 |
| Lemonade | 1 |
| Pancake roll | 2 |
| Macaroni | 2 |
| Masala | 4 |
| Mayonnaise | 1 |
| Flour | 2 |
| Flour products | 8 |
| Milk | 1 |
| Milk products | 5 |
| Mustard | 1 |
| Non-alcoholic Beverages | 4 |
| beverage | 4 |
| Patties | 1 |
| chips | 1 |
| peas | 1 |
| Snacks | 1 |
| Peanut | 6 |
| peanut sauce | 5 |
| Peanut butter | 2 |
| Peanut products | 4 |
| Vegetables | 1 |
| agriculture product | 2 |
| agriculture product | 2 |
| Ice cream | 1 |
| Rice | 2 |
| Rice flour | 6 |
| Food product made from flour | 1 |
| Juice | 16 |
| Sate (meat on a stick) | 2 |
| Sauce | 3 |
| Syrups | 4 |
| Snacks | 9 |
| Candy | 2 |
| beverage | 1 |
| Soymilk | 1 |
| Snacks | 1 |
| Spices | 14 |
| black beer | 1 |
| Syrup | 26 |
| Confectionery | 1 |
| Confectionery | 1 |
| Wheat flour | 3 |
| Tea | 2 |
| Horticultural products | 2 |
| Vermicelli | 2 |
| Refreshments | 2 |
| Fats | 3 |
| Fish | 10 |
| Fish products | 14 |
| Fish | 1 |
| Fishery products | 1 |
| Meat products | 1 |
| Meats | 1 |
| Foods | 146 |
| Juices | 10 |
| Waffles | 1 |
| Smoked fish | 1 |
| Water | 5 |
| Wine | 2 |
| White Pepper | 1 |
| Sausage | 1 |
| Sweetener | 1 |
| Salt | 1 |
| Pretzels | 1 |
| Dairy produce | 1 |
| pickles | 11 |
| Sauerkraut | 1 |
| Black Pepper | 2 |
| **Total** | **517** |

**Table 8**

**Overview importers, exporters and restaurants, Chamber of Commerce, 2013**

|  |  |  |
| --- | --- | --- |
| **Category** | **Type of Business** | **Subtotal** |
| Eating and drinking places (restaurants etc) |  | 1286 |
| Bakeries |  | 284 |
| Drinking place (such as a Bar) |  | 1690 |
| Importer | Food stuffs | 146 |
| Importer | Fruits | 117 |
| Importer | Vegetables | 117 |
| Importer | Alcoholic and non alcoholic beverages | 120 |
| Exporter | Alcoholic and non alcoholic beverages | 92 |
| Exporter | Vegetables | 280 |
| Exporter | Fruits | 190 |
| Exporter | Food stuffs | 452 |
| **Total** | | 4774 |

## Annex A.5 Rapid Alert System for Food and Feed portal EU

Table 9

**Rapid Alert System for Food and Feed portal EU, 2013**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **date** | **reference** | **product type** | **notification type** | **notification basis** | **notified by** | **origin** | **subject** | **distribution** | **action taken** | **distribution status** |
| **crustaceans and products thereof** | | | | | | | | | | |
| 10/5/2004 | 2004.228 | Food | alert | official control on the market | NORWAY | from NETHERLANDS | Vibrio parahaemolyticus (4 out of 5 samples) in frozen shrimps (Penaeus vannamei) | NORWAY | return to dispatcher |  |
| from SURINAME |
| **fish and fish products** | | | | | | | | | | |
| 18/03/2005 | 2005.175 | Food | alert | official control on the market | IRELAND | from SURINAME | benzo(a)pyrene (113 µg/kg - ppb) in skilled fish (Arius spp) from Suriname via the Netherlands | IRELAND | product recall or withdrawal | distribution restricted to notifying country |
| from NETHERLANDS |
| 28/06/2006 | 2006.BMJ | food | information | border control - consignment released | UNITED KINGDOM | from SURINAME | benzo(a)pyrene (16.5 µg/kg - ppb) in dried smoked catfish fillets from Suriname |  | no action taken | product already consumed |
| 8/6/2007 | 2007.0382 | food | alert | official control on the market | IRELAND | from SURINAME | benzo(a)pyrene (10.2 µg/kg - ppb) in dried smoked catfish stripped fillet from Suriname via the United Kingdom | IRELAND | withdrawal from recipient(s) | distribution on the market (possible) |
| from UNITED KINGDOM |
| 23/04/2007 | 2007.BAC | food | information | border control - consignment detained | NETHERLANDS | from SURINAME | benzo(a)pyrene (9.8; 10.1 µg/kg - ppb) in dry smoked Sphyraena spp. from Suriname |  | re-dispatch | no distribution |
| 17/09/2010 | 2010.BPJ | food | border rejection | border control - consignment detained | SPAIN | from SURINAME | bad temperature control - rupture of the cold chain - of yellowfin tuna from Suriname |  | re-dispatch | no distribution |
| **fruits and vegetables** | | | | | | | | | | |
| 23/07/2002 | 2002.263 | Food | alert |  | NETHERLANDS | from SURINAME | monocrotophos (1,8 mg/kg - ppm) in okra |  |  |  |
| 4/11/2003 | 2003.362 | Food | alert | official control on the market | NETHERLANDS | from SURINAME | monocrotophos (1.7 mg/kg - ppm) in fresh yard long bean (kouseband) |  | product already consumed |  |
| 8/4/2004 | 2004.AUL | Food | information | official control on the market | NETHERLANDS | from SURINAME | methamidophos (18 mg/kg - ppm) in spinach | NETHERLANDS | destruction |  |
| 1/3/2007 | 2007.ANQ | food | information | official control on the market | NETHERLANDS | from SURINAME | omethoate (0.10; 0.06 mg/kg - ppm) and dimethoate (0.07; 0.04 mg/kg - ppm) in bitter melons (sopropo) from Suriname | NETHERLANDS |  | distribution restricted to notifying country |
| 1/3/2007 | 2007.ANS | food | information | official control on the market | NETHERLANDS | from SURINAME | methamidophos (0.17 mg/kg - ppm) in aubergines from Suriname | NETHERLANDS |  | distribution restricted to notifying country |
| 1/3/2007 | 2007.ANT | food | information | official control on the market | NETHERLANDS | from SURINAME | carbendazim (6.6 mg/kg - ppm) in French beans / green beans from Suriname | NETHERLANDS |  | distribution restricted to notifying country |
| 30/03/2007 | 2007.AVF | food | information | official control on the market | NETHERLANDS | from SURINAME | omethoate (0.08 mg/kg - ppm) and dimethoate (0.03 mg/kg - ppm) in bitter melons (Momordica charantia) from Suriname | NETHERLANDS |  | distribution restricted to notifying country |
| 3/6/2008 | 2008.0650 | food | information | border control - consignment released | NETHERLANDS | from SURINAME | methamidophos (0.11 mg/kg - ppm) in cucumbers from Suriname |  |  | distribution restricted to notifying country |
| 23/03/2009 | 2009.0339 | food | information | border control - consignment released | NETHERLANDS | from SURINAME | omethoate (0.162 mg/kg - ppm) and dimethoate (0.24; 0.076 mg/kg - ppm) in sopropo (Momordica charantia) from Suriname |  | no stock left | distribution restricted to notifying country |
| 27/01/2011 | 2011.0109 | food | information for attention | official control on the market | NETHERLANDS | from DOMINICAN REPUBLIC | diazinon (0.93 mg/kg - ppm) in taro leaf (Xanthosoma sagittifolium) from the Dominican Republic, dispatched from Suriname | NETHERLANDS | no action taken | product already consumed |
| dispatched from SURINAME |
| 16/02/2011 | 2011.0198 | food | information | border control - consignment released | NETHERLANDS | from SURINAME | lambda-cyhalothrin (2 mg/kg - ppm) in bitter leaf from Suriname | NETHERLANDS | no stock left | product already consumed |
| 18/04/2011 | 2011.0512 | food | information for attention | official control on the market | NETHERLANDS | from SURINAME | lambda-cyhalothrin (0.86 mg/kg - ppm) in arrowleaf elephant ear (Xanthosoma sagittifolium) from Suriname | NETHERLANDS | no stock left | product already consumed |

## Annex A.6: Examples of Regulatory Frameworks for agricultural health protection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | **Scope** | **Title** | **Preceding agency** | **Website** |
| Armenia | Animal and Plant health, Food Safety | State Service For Food Safety | Quasi-Government | http://www.gov.am/en/structure/6/ |
| Australia | Animal and Plant health, Food | Biosecurity System of the Department of Agriculture, Fisheries and Forestry (DAFF) | Department of Agriculture, Fisheries and Forestry (DAFF) | http://www.daff.gov.au/ba/about |
| Belize | Animal and Plant health, Food Safety, and Biosafety | Belize Agricultural Health Authority | Quasi-Government (Ministry of Agriculture) | http://www.baha.bz |
| Bhutan | Animal and Plant Health, Food Safety, and Biosafety | Bhutan Agriculture and Food Regulatory Authority (BAFRA) | Ministry of Agriculture | http://www.moa.gov.bt/moa/agency/agprofile\_detail.php?id=5&agname=Bhutan+Agriculture+and+Food+Regulatory+Authority&sub=12 |
| Canada | Animal and Plant Health, Food Safety and Biosafety | Canadian Food Inspection Agency (CFIA) | Ministry of Agriculture and Agri-Food | http://www.inspection.gc.ca/about-the-cfia/organizational-information/at-a-glance/eng/1358708199729/1358708306386 |
| Cook Islands | Animal and Plant Health | Biosecurity Service | Ministry of Agriculture | http://www.agriculture.gov.ck/index.php/biosecurity/22-general/66-biosec |
| Fiji | Animal and Plant health | Biosecurity Authority of Fiji (BAF) | Ministry of primary Industries | http://www.biosecurityfiji.com/about-us/our-organisation.html |
| Honduras | Animal and Plant Health, Food Safety | Servicio Nacional de Sanidad Agropecuaria (Senasa) | Ministry of Agriculture and Livestock | http://www.senasa-sag.gob.hn/index.php?option=com\_content&task=view&id=12&Itemid=491 |
| Kenya | Plant Variety Protection; Seed Certification; Phytosanitary Inspection of Imports and Exports and Analysis of Soil, Water, Agricultural Produce, Fertilizers and Pesticides; Biosafety | Kenya Plant Health Inspectorate (KEPHIS) | Quasi-Government (Ministry of Agriculture) | http://www.kephis.org/about-us-topmenu-28/mandate-topmenu-27.html |
| Mexico | Animal and Plant Health, Food Safety and Food quality | Servicio Nacional de Sanidad, Inocuidad y Calidad Agro-alimentaria (SENASICA) | Ministry of Agriculture | http://www.senasica.gob.mx/?id=1161 |
| New Zealand | Animal and Plant Health | New Zealand biosecurity system | Ministry of Agriculture | http://www.biosecurity.govt.nz/biosec/org |
| Nicaragua | Animal and Plant Health, Food Safety | Direccion general de proteccion y sanidad agropecuaria | Ministerio Agropecuario y forestal | http://www.magfor.gob.ni/descargas/publicaciones/servicios/Cuarentena\_Agropecuaria.PPSX |
| UK | Agriculture, Animal and Plant health, Food, Environment and Fisheries | Department for Environment,  Food & Rural Affairs (DEFRA) | Department for Environment,  Food & Rural Affairs (DEFRA) | https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about |
| USA | Animal and Plant Health, Animal Welfare and Biosafety | Animal and Plant Health Inspection Service | Department of Agriculture | http://www.aphis.usda.gov/about\_aphis/ |

Source: International Plant Protection Convention. Updated May 2013.

1. [1] According to a CBI Report (ECORYS, 2010), most promising agricultural sectors for exports in Suriname are fish (shrimps, red snapper, salmon), fresh fruits, preserved food, vegetable oils (palm oil), ingredients for pharmaceutical products (within the country several traditional herbs are available) and tropical flowers [↑](#footnote-ref-1)
2. [2] SUMADIRDJA *et.col*, 2011 [↑](#footnote-ref-2)
3. [3]RAMLAL, J 1999, QUIK & AUBOTER, 2000, AUBOTER & LANDBURG, 2007 [↑](#footnote-ref-3)
4. [4] A series of 4 rejections by EU countries, occurred between 2002 and 2011, due to high levels of Benzopyrene in smoked fish implied this market was just closed for Suriname [↑](#footnote-ref-4)
5. Ontwikkelingsplan: 2012-2016 “Suriname in Transformatie”, Republiek Suriname [↑](#footnote-ref-5)
6. The Food Act (dated 1911), which could be considered as an overarching piece of legislation governing food was not drafted with food safety concerns in mind. Most important pieces of legislation were drafted prior commitment of Suriname to international agreements with an incidence of Food safety, like the SPS agreement of WTO, and does not reflect important principles that are now internationally accepted as benchmarks. [↑](#footnote-ref-6)
7. SUMADIRDJA et. col (2011) [↑](#footnote-ref-7)
8. SUMADIRDJA *et. col* (2011) [↑](#footnote-ref-8)
9. MOA White paper on Agriculture Health and Food Safety (2011) [↑](#footnote-ref-9)
10. http://www.caricom.org/jsp/pressreleases/pres113\_02.jsp [↑](#footnote-ref-10)
11. See FAO/WHO, 2003 [↑](#footnote-ref-11)
12. [6] Extracted from the Ministry of Agriculture, Livestock and Fisheries, Division of Agricultural Statistics, Report 2004 – 2009 [↑](#footnote-ref-12)