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P.O. Box 140, Kingston 7, Jamaica

Tel: (876) 927-1540/1 Fax (876) 927-2657

Email: e-mail@cfni.paho.org

Website: <http://www.paho/cfni.org>

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## Food Safety Policy Formulation in the Caribbean – I

*Fitzroy Henry<sup>a</sup>*

In several issues of the *Cajanus*, the Caribbean Food and Nutrition Institute addressed the matter of food safety. In Volume 24 of 1991, reference was made to an excerpt from the World Health Organization (WHO) publication *Evaluation of Programmes to Ensure Food Safety: Guiding Principles*. The point was made that in developing food safety programmes; there must be “continuous re-examination and evaluation to ensure that the activities that are being undertaken are those that bring substantial improvements”.

The Institute recently provided assistance in 2009 to Grenada to address some matters related to the formulation of a national Food Safety Policy. The activity was carried out in partnership with the Caribbean Epidemiology Centre (CAREC) and as a team they worked very closely with national experts from within Grenada. The experience gained by working with Grenada in that activity has been rewarding and has inspired the Institute to encourage other

Caribbean Member States to aspire towards developing their own National Food Safety Policies.

Among the 18 Caribbean countries served by the Institute, a comprehensive Food Safety Policy does not exist. Some strides have been made in assisting several countries to develop National Food and Nutrition Policies, which all have a food safety component. However, considering the importance of food safety to the Caribbean Community, it is important for all countries to have specific food safety policies that could inform the overall national food safety programme.

The Institute has therefore prepared this document to sensitise and assist those countries interested in formulating their own policies in the area of food safety, on some important elements that must be considered in the formulation of their respective food safety policies.

This effort could be viewed as a best practice, even though the policy alone will not provide all the answers to the challenges.

<sup>a</sup>*Dr. Fitzroy Henry is Director, CFNI.*

# KEYS TO FOOD SAFETY



## KEEP CLEAN

- ✓ Wash your hands before handling food and often during food preparation.
- ✓ Wash your hands after going to the toilet.
- ✓ Wash and sanitize all surfaces and equipment used for food preparation.
- ✓ Protect kitchen areas and food from insects, pests and other animals.

### WHY?

*While most micro-organisms do not cause disease, dangerous micro-organisms are widely found in soil, water, animals and people. These micro-organisms are carried on hands, wiping cloths and utensils – especially cutting boards. The slightest contact can transfer them to food and cause food-borne diseases.*



## KEEP FOOD AT SAFE TEMPERATURES

- ✓ Do not leave cooked food at room temperature for more than 2 hours.
- ✓ Refrigerate promptly all cooked and perishable food (preferably below 4°C).
- ✓ Keep cooked food piping hot (more than 60°C), prior to serving.
- ✓ Do not store food too long, even in the refrigerator.
- ✓ Do not thaw frozen food at room temperature; place in refrigerator or under running water.
- ✓ Do not thaw frozen food in warm or hot water.
- ✓ After seasoning, place meat in fridge to marinate; do not leave on countertop/at room temperature.

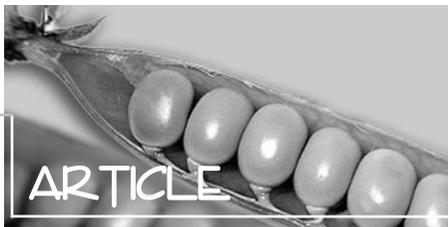
### WHY?

*Micro-organisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of micro-organisms is slowed down or stopped. Some dangerous micro-organisms still grow below 5°C*

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## The Importance of Food Safety to CARICOM Countries

*Fitzroy Henry and Lloyd Webb<sup>a</sup>*

The global outbreaks of the influenza viruses among the human population and the misconceptions associated with such outbreaks (particularly as they relate to transmission through food) emphasize the need for strong sub-regional, regional and international mechanisms to support the required global actions to deal with such trans-boundary diseases. These mechanisms revolve around the formulation of policies and plans based on scientific evidence to debunk myths and fears, but also to inform detection and alert response systems whenever appropriate actions are required to address issues on food safety preservation and health.

There are other major factors that compel actions to address food safety. One key aspect relates to diseases that may be transmitted through raw and improperly manufactured, processed, cooked or handled foods that may give rise to public health concerns. Another aspect is the introduction and rapid spread of various agricultural pests and diseases, such as have recently been taking place in the Caribbean.

This illustrates the need to develop regional strategies for the prevention, early detection, control and eradication of pests and diseases and rapid sharing of information on emerging issues that threaten agriculture and livestock production, and which may directly or indirectly affect human health. Further, the traditional focus of inspection of foods has generally been weak in the Caribbean. This is further exacerbated by the very weak, ineffective inspection systems at ports of entry. Recently, the rise of terrorism related events around the world has caused a heightened concern over biological and chemical contaminants that could be intentionally introduced into imported food supplies through bioterrorism.

Bioterrorism that utilizes the food supply has the potential to cause significant morbidity and mortality, and widespread socio-economic disruption in any country. The Caribbean sub-region is particularly vulnerable to food bioterrorism since a great portion of food is imported from other countries outside of the Caribbean sub-region. This is

<sup>a</sup>*Dr. Henry is Director, CFNI and Dr. Webb is the Subregional Advisor on Veterinary Public Health at CFNI.*

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significant and causes some concern for Caribbean countries, as an extremely large number of North American and European visitors come to the Caribbean sub-region on a daily basis. Communicable diseases therefore must be prevented in the Caribbean so that adverse publicity will not affect the tourist industry. Therefore, the need is great to reduce the health, social and economic burden that such diseases can cause. Most tourists come to enjoy the cuisine and hospitality of the Caribbean people. The large number of visitors has forced the Caribbean governments to increase their food imports to meet the consumption demands. Governments in the sub-region are also motivated to improve nutrition, food safety and security, and sustainable public health.

National Authorities generally have limited human resources and limited access to funds to meet many of the requirements regarding the monitoring, inspection and control of foods and other cargo imported into these developing states. Very few countries in the Caribbean have adequate food-borne disease surveillance programs, and as mentioned earlier, the inspection of foods at ports of entry is often done in an ad hoc way, and without the necessary tools and equipment to facilitate appropriate monitoring and control. The inadequate port monitoring infrastructures in these developing states with an 'open-border' entry

system present the right targets for terrorist interventions. Therefore, the countries have recognized the importance of strengthening inspection, surveillance, and preparedness and response mechanisms for foods imported into, and which are consumed by tourists that visit the Caribbean.

In spite of all of these achievements, there are still several challenges related to foods and food-borne diseases that exist at ports of entry and in-country. Therefore, at present it is urgent for Caribbean governments to intensify their actions to build greater capacity at ports of entry for detection, control and containment or eradication of unwanted food hazards. These should be accompanied by timely and effective laboratory testing to identify offending disease agents associated with imported food. These issues further highlight the need to strengthen the capacity of Caribbean countries to protect human, plant and animal health, as they relate to production and domestic and international trade.

Food safety is now so important that it has reached the agenda of not only the Ministers of Health and the Ministers of Agriculture but also the Heads of Government of CARICOM. Since the November 1999 meeting of Heads of Government there was a commitment to food safety which underscores the linkages that exist between food safety systems

international trade and tourism. Although some progress has been made over the years there are six compelling issues that need urgent attention that can capture this political support.

### Legislation

We must seek updated, current food legislation that is equivalent to international standards. Although each country will have to develop its own we should aim for harmonization of the Food Safety Legislation among CARICOM countries. This process has already been undertaken by the CARICOM Secretariat, but the harmonization process is yet to be finalized. The process includes design of model legislation in keeping with international requirements to improve national Food Control Systems, a process that has been receiving some attention in selected CARICOM states. At the same time we have to enhance the capacity of policy makers, producers and the general public to comply with internationally accepted standards for production, marketing and trading of foods and host training activities to improve the human resource capacity for surveillance, monitoring and auditing of food safety.

### Surveillance

Active Surveillance and effective disease outbreak investigations are powerful tools to detect, prevent and

control new and emerging food borne diseases. We must therefore rapidly move from a passive to an active surveillance system. In some countries data are collected and sent weekly to national centers. But the collation, analysis and dissemination are not carried out in a very timely manner. The Caribbean sub-region has been experiencing frequent episodes of food borne disease outbreaks. *Salmonella sp* is among the pathogens of great public health concern.

For example, the Caribbean Epidemiology Center (CAREC) has reported that *Salmonella enteritidis* is increasing in its prevalence as a cause of illness among tourists in the Caribbean. This means that several Caribbean countries, most of which depend on tourism as a major revenue earner, can suffer great economic demise, as the probability for tourist non-visits would be high. As we attempt to expand tourism to smaller hotels, guest houses, and support for street food vendors, etc. the need for proper food safety measures becomes paramount.

It should be recognized that even if we are able to achieve good commercial food safety practices, these can be negated if food is not properly handled in the home. Nonetheless, the strengthening of the surveillance system for human, animal and plant health is imperative at this time.

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## Laboratory Strengthening

The expeditious identification of causative organisms is an essential factor in Disease Outbreak investigations. Of more importance, it is critical to the rate of recovery of patients from diseases. Quick identification can also protect countries from adverse publicity related to food borne illness or other diseases that impact tourism. Accurate diagnosis as referred to before, will also facilitate prompt detection of new and emerging agents especially now that we are consuming increasing amounts of foods that originate from all parts of the globe. This need for laboratory strengthening relates not only to disease transmission but also to genetically modified foods which we now consume.

In general laboratory infrastructure improvement is required for the upgrading of equipment and the provision of supplies.

## Networking

There is no doubt that a genuine attempt at the networking of laboratories and other data systems can be of tremendous benefit to the Caribbean. Such networking could be facilitated by Veterinary Public Health Units, but several countries in our region do not have Veterinary Public Health Units. This is another clear case for shared services. Networking within countries must include essentially the farm-to-table continuum for which there is the

need for closer collaboration between the Ministries of Health and Agriculture, among others, and the timely dissemination of information. The establishment of the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) will advance this linkage. But even so, public and commercial sectors should cooperate with each other so that our knowledge of hygienic food handling is put into practice. Until the time comes when all our countries decide to form a National Food Agency (as is the case in Belize), aimed in part to strengthen greater linkage among health and agriculture, an effective means of ensuring the exchange of information, remains necessary.

## Training

In recent years several agencies have become involved in HACCP training and these workshops have been aimed to sensitize and educate personnel on this methodology as a means to improve on basic food safety procedures. This is a welcome development. We now need to standardize the procedures and the concept of the HACCP methodology. Further, there is need to harmonize the approaches to avoid duplication and ensure that the key target audiences are reached.

Training packages now exist for the certification of food handlers by national authorities of CARICOM countries. We hope countries will soon start to utilize these packages.

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Another critical need in our food safety plan relates to food labeling, and the training associated with it at all levels. Food labeling normally informs the consumer of the nutrient content of food. But this label can be extended to include other aspects of food that are of interest to the consumer and to public health. In light of the current irreversible trends in globalization, free trade and free markets of products and services, there is now a need for Caribbean countries to legislate, implement, monitor and regulate food labeling and marketing procedures.

### Consumer Education

A nutritionally adequate diet is of little value if it contains toxins or organisms capable of causing disease. Very often our attempts at health and hygiene education are, at best, gratuitous and uninformed. We need a consumer education program which is science-based, where product compliance and handling can foster the right climate by which policy makers, regulators, producers and consumers at the national level can become receptive and motivated towards the adoption of internationally accepted food safety concepts and standards.

To achieve our Food Safety goals requires resources both at the national and individual levels. We cannot forget the economic realities and the presence of poverty in the very communities with the greatest

need for safe food. As an example, the absence of water, soap, proper toilet facilities, clean clothing, waste disposal bins, drainage, and so on are factors often influenced by poverty. These can have profound limitations to consumer education programs. This, however, should not deter us from developing effective national food safety plans.

CARICOM Member States therefore should strengthen programs which stress that the solutions to addressing food safety issues lie in part with collaboration and interaction of many partners, particularly by those that are linked to food production, and all its variables inclusive of animal feeding practices, animal and plant husbandry, the use of antibiotics, pesticides and other chemicals; and food preparation, storage, distribution and consumption; while not overlooking the importance of the overall environment.

### CAJANAQUOTE

#### Tips to Healthy Eating & Active Living!

- Remove salt shaker from the table to avoid adding salt to meals at table.
- Bake, broil or grill instead of frying your foods.
- Use little or no sugar in hot or cold beverages.
- Add some fruits to your vegetable salad.

## Benchmarking Food Control Management

Cajanus

Vol 42, No. 1, 2009

*Lloyd Webb<sup>a</sup>*

Perhaps one of the most important components in a food safety programme is that of food control management. According to the Food and Agriculture Organization (FAO) in its publication *Strengthening National Food Control Systems: Guidelines to Assess Capacity Building Needs*, food control management is “the continuous process of planning, organising, monitoring, coordinating and communicating, in an integrated way, a broad range of risk-based decisions and actions to ensure the safety and quality of domestically-produced, imported and exported food for national consumers and export markets as appropriate”. It is further described as an embodiment of policy and operational responsibilities of the respective competent authorities for food control.

In Caribbean states, there are many competent authorities, each with its own written (but more often unwritten) policy for food.

Herein rests the major challenge, with food control management in a setting in which many players have separate lead roles and there is the absence of a coordinating machinery in-country. Consider at least four or five major partners in a small island state, each having to develop and implement food control policies, strategies and plans to reflect the commitment of government. Each, no doubt, will consider the government as seen through the eyes of his own Ministry that he represents. Yet it is well known that four or five ministries in a single state must represent a single government. How then can the food control be managed in such a situation without a coordinating body or consensual acceptance of the partnerships in a particular country? A written national policy then becomes paramount.

### **Stating the Commitment**

Caribbean governments are committed to protect the health

<sup>a</sup>*Dr. Lloyd Webb is the Sub-regional Advisor on Veterinary Public Health at CFNI.*

and interests of their consumers and to ensure fair practices in food trade. They have for several years sought to do just that by seeking to make provisions for an effective food control programme. Numerous attempts have been made over several years.

Only within recent times however, has there been a very apparent move to formulate more written government policies that impact food and nutrition. In 2007, for example, the CFNI embarked on a series of policy formulations for various countries, but all related to the topic of National Food and Nutrition Policy. The focus of the Institute has always been to support governments and encourage them to develop such policy based on integration, science-driven risk analysis, transparency, consultation and collective planning by multi-sectoral groups.



### Understanding Organisational Capability and Performance<sup>a</sup>

Policy development is often fabricated on the knowledge of the

existing management structure and capability. There are many parameters that could be used to understand the performance of organisations in matters related to food safety as in other matters.

These include:

- Organisational coordination among all agencies involved in food safety at the national level.
- Existence of an administrative structure with clearly defined roles, responsibilities and accountabilities (e.g. a single food safety agency; a coordinating food safety committee/board, etc).
- Development and implementation of an integrated national food control strategy and operation inclusive of risk analysis principles.
- Ability to set regulations and standards based on sound science and in accordance with international recommendations.
- Existence of strategic and operational plans (with established priorities, targets and indicators) for food safety and quality, which are reviewed regularly.
- A system in place to effectively allocate and manage available

<sup>a</sup>Paraphrased from *Internationally accepted benchmarks for food control management* (FAO)

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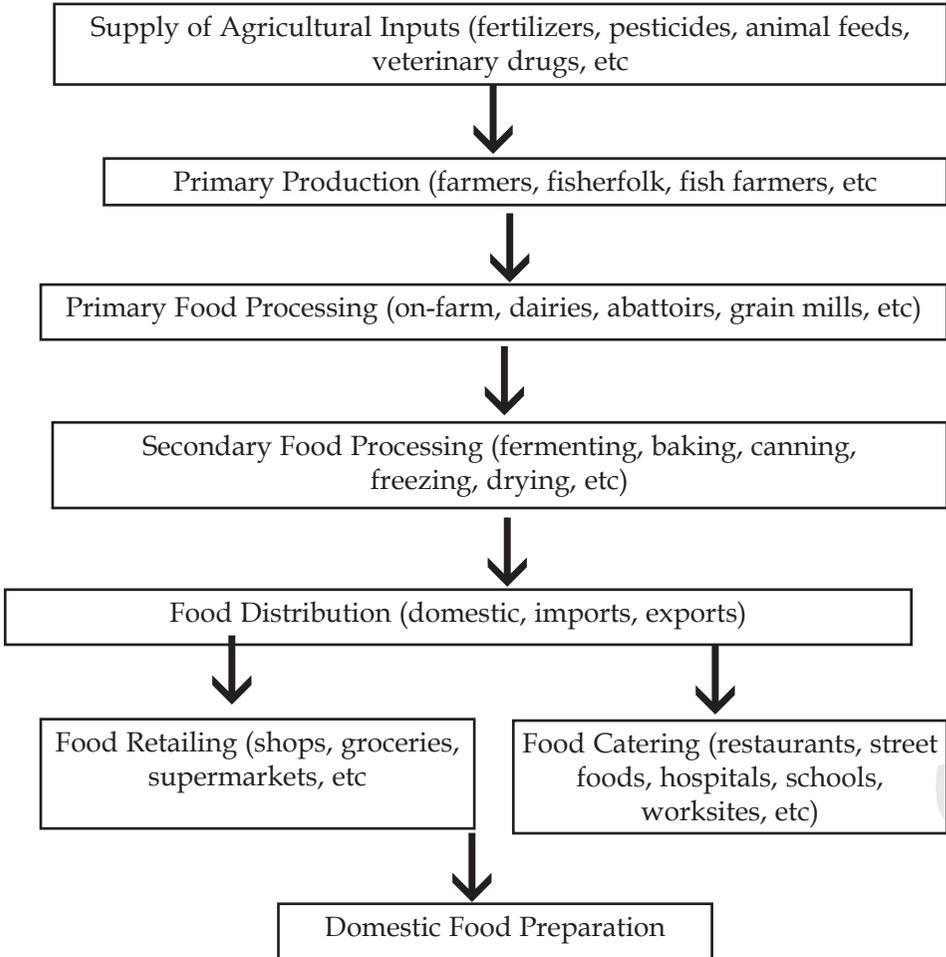
- resources for the existing food control management or to reallocate resources to high priority areas when the need arises.
- System in place to continuously review and evaluate the overall food safety management structure.
  - Existence of a documented food legislation enforcement policy including preventive approaches.
  - Existence of a documented procedure for the authorisation of officers, including food inspectors and analytical personnel.
  - Documented procedure for the authorisation of official food control laboratories.
  - Existence of a national food control database for the systematic collection, collation, reporting and analysis of food-related data (inspection visits, food analysis and testing, etc).
  - Existence of an internal programme for information, education (training at all levels), and upgrading of knowledge and skills and for communicating with relevant government and non-government agencies.
  - Existence of established procedures for consultation with different stakeholders.
  - Ability to respond to and manage food-related crises.

### CAJANAQUOTE

“The best medicine may be as near as your kitchen. Vegetables and fruits, say scientists, are our most potent allies against cancer.”

*Health*  
*May/June*  
1996

**Figure 1**  
**Principal Stages of the Food Supply Chain**



## Developing Food Safety Policies in the Caribbean – Rationale

Lloyd Webb<sup>a</sup>

Caribbean governments have for several years, through various national ordinances, sought to address public health issues related to food safety. National authorities have continuously emphasised their recognition that the Caribbean people have a right to expect that the foods they purchase, prepare and consume are safe, healthy and of good quality. The road to ensure that foods for human consumption are safe is arduous, as there are numerous challenges that must be overcome.

The principal stages of the food supply chain are well documented in the recommendations of the WHO publication that provides guidelines for improving food safety systems reference. The improvement of such systems must embrace agricultural inputs (pesticides, fertilizers, animal feeds, veterinary drugs and antibiotics, etc); primary production (farmers, growers, fisherfolk, etc); primary food processing operations (abattoirs, dairies, grain mills, etc); secondary food processing opera-

tions (freezing, drying, food preservation, canning, etc); food distribution for import, export and domestic consumption; food retailing (grocers, supermarkets, etc); food catering (street food vending, restaurants, workplace and school environment, nursing homes, etc); and preparation of foods within households. It is clear therefore, that a safe food chain would not be possible without addressing all of these factors. Unfortunately, it cannot be overstressed that to meet the food safety requirements, it requires multiple partners to adequately deal with the many determinants of safety along the food continuum.

Food Safety, as defined by the FAO/WHO Codex Alimentarius, is the “assurance that food will not cause harm to the consumer whether it is prepared or eaten according to its intended use”. The definition of “food” as defined by National Authorities in various pieces of their legislation compares favourably with the definition as given by Codex Alimentarius.

<sup>a</sup>Dr. Lloyd Webb is the Sub-regional Advisor on Veterinary Public Health at CFNI.

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Codex defines food as “any substance, whether processed, semi-processed or raw, which is intended for human consumption and includes drinks, chewing gum and any substance which has been used in the manufacture, preparation or treatment of food, but does not include cosmetics or tobacco or substances used only as drugs”.

Food safety begins with what goes into the food chain from the beginning which is usually the production stage, and then at every other stage as the food moves along the continuum. In many Caribbean countries, it is not always possible to determine the inputs at production. This is so as many of these countries are net importers of food and many of the on-farm inputs in the food imported would have taken place during food production and processing steps within the country of export. Consequently, importers may have very little knowledge of the food safety practices which have been applied, and must rely on trust in the suppliers. But some steps could be taken even at the point of entry of such foods to determine to some extent the degree of safety of the foods. Caribbean Member States would do well to put mechanisms in place to assist in determining the reliability of the safety of imported foods instead of continuing to rely on the trustworthiness of suppliers

that the foods are safe. The criteria used to import foods into the Member States vary. Many foods and food products are imported from the more developed countries, but some intra-regional importation of foods occurs from trade amongst Member States of Caribbean.

Generally, there is under-inspection of imported foods, and in some cases, there is almost no inspection of imported foods, with the possible assumption that all imported food supplies and products have been obtained from suppliers of safe foods. This assumption is not unfounded. At the same time, Caribbean governments are committed to provide safe foods to their people. Nonetheless, most of the foods brought into the countries do not receive adequate inspection, nor is there usually a proper sampling plan to evaluate imported foods. This deficiency may be as a result of having an inadequate national infrastructure, lack of tools, and sometimes lack of competence; all of which are often needed to support food safety. In some cases, there is not enough human resource to do a proper inspection of the foods. In other cases, a sampling plan is not implemented as sampling supplies and materials are not available. In still other cases, if samples are collected, the laboratory infrastructure to test the

## ARTICLE 3

specimens may be absent. The issues of lack of inspection and sampling are not only related to imported foods. Local foods and food products often are not inspected also.

Food regulators are thus challenged to achieve the measure of food safety required by the consuming public. Several countries are sometimes disadvantaged by having little or no means to obtain scientifically-generated evidence on the safety of foods. This situation gets more frustrating as the international food trade broadens and countries import foods from a wider network of suppliers globally. Through well-defined national food safety policies, governments in the Caribbean could better establish adequate programmes in food safety to monitor and ensure the safety of both imported and domestically produced foods that are to be consumed by nationals and visitors to the countries. The provisions promulgated through a proper Food Safety Policy could also facilitate action for a suitable public education campaign and for appropriate training of all persons who handle food along the food chain.

Internationally, the Codex Alimentarius Commission imple-

ments the FAO/WHO Food Standards Programme<sup>b</sup> and develops the minimal international food standards aimed at protecting the health of consumers. These standards could, and should be used within the Caribbean Community, to promote their respective national requirements for food safety. Food safety regulations and standards in the Caribbean sub-region vary, even though all countries have acknowledged the Codex Alimentarius Commission and have expressed the willingness to adopt the Codex standards. Codex Standards have not, in all cases, been adopted for use at the respective country level. The tendency is to refer to the Codex Standards in principle, but without insisting on having the legal powers put in place by which the standards could be adapted and enforced nationally.

### **Experiences in Addressing Food Safety**

Regionally, approaches have been made and actions taken at conferences as far back as the Food Safety and Control Conference held in Antigua in 1983 (Reference....). That conference was co-sponsored by the CARICOM Secretariat, the Pan American Health Organization (PAHO) and the Food and

<sup>b</sup>FAO/WHO Codex Alimentarius Food Import and Export Inspection and Certification Systems (2005).

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Agriculture Organization (FAO), and produced some firm recommendations that would have improved the food safety programmes considerably. However, there are still many countries that have not been able to adopt the recommendations for various reasons.

In 1999, the CARICOM Secretariat in partnership with the United States Agency for International Development (USAID), PAHO and the Inter-American Institute for Co-operation (IICA), conducted overall assessments of food safety infrastructure in Caribbean countries. The findings showed that there was some level of programmatic effort in all sectors of human, animal and plant health, based on historical precedence, but that, in general, programmes were not all up-to-date with international standards. For example, it was not typical to find legislation, regulation and enforcement policies that met World Trade Organization (WTO) requirements or other trade requirements for food. CARICOM countries had known that these deficiencies existed, but the legislative process had been moving too slowly to keep current with trade requirements, and protect their trade economies.

The assessment reports were documented in the Report of the Caribbean Food Safety Initiative (CFSI) that revealed the following common needs:

### *Human Health Needs*

- Updated and comprehensive legislation, regulation and enforcement policies.
- Food safety training programmes for food industries.
- Inspectors trained in modern food safety systems.
- Laboratories upgraded to meet requirements of trade and public health initiatives.
- Laboratories with efficient access to regional laboratories for specialised pathogen, biotoxin and residue analyses.
- Laboratories with international accreditation.
- Laboratory staff trained in current diagnostic methods and quality control programmes.
- Enhanced epidemiological systems to survey for foodborne diseases.
- National food handler training and certification programmes for the retail, processing and farm industries.
- Food safety campaigns for consumers.
- Product standard systems.
- Databases for imported and domestic foods, including inspections.
- Technical and business support for cottage industries.

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- Strengthened extension systems

## *Animal Health Needs*

- Updated and comprehensive WTO-compatible legislation, regulation and enforcement policies.
- Databases for census of farm animals and their disease status.
- Surveys of bovine TB and brucellosis.
- Upgraded laboratories for isolation of selected pathogens.
- Efficient regional laboratory infrastructure for specialised tests.
- Databases for imported animal products
- Epidemiological surveillance systems for selected animal diseases.
- Animal disease emergency preparedness.
- Upgraded/new animal quarantine stations.
- Training on animal disease risk assessment.
- Animal disease surveillance systems.
- Veterinary Services Divisions with mandates to inspect meat and certify local and export products.

- Accreditation of laboratories

## *Plant Health Needs*

- Upgraded plant health legislation that is WTO compliant.
- Extension personnel trained in IPM, Good Agricultural Practices and HACCP.
- Laboratory staff trained in pest identification and other specialised skills.
- Adequate facilities at ports to accommodate inspections.
- Incinerators to destroy contaminated shipments.
- Cost-recovery through legislative authority.
- Improved plant quarantine infrastructure.
- National disease monitoring systems.
- Trace-back systems for plant pests and diseases.
- Upgraded laboratory facilities.
- Plant quarantine offices equipped with adequate computers, Internet access, and reference materials.
- Adequate number of trained inspectors.
- Pest risk analysis systems.
- Regional specialty laboratories.
- Emergency action response plan.

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- Training programmes for farmers, exporters and the general public.
- Approved pesticides for ethnic crops.
- Modified HACCP guidelines and training for packinghouses and farms.
- Programmes to control and monitor pesticide use .

Several years<sup>c</sup> after the USAID project findings , not a great deal has changed.

It is believed that well-designed and properly executed food safety policies have the great potential for sustainability of food safety initiatives. In formulating national policies, there should be wide reviews and consultations at the country level, allowing as many stakeholders as possible to become involved. The findings of the reviews should then be utilised for information sharing and to guide the next steps, inclusive of the hosting of a National Consultation. At the Consultation, as many stakeholders as possible should also be given the opportunity to critique the results and to make their input on ways to improve on or utilise the background data and help in formulating the design of the policy. The Consultation is a critical and important vehicle to

enable the building of consensus and through which important elements could be identified to positively impact the policy. From there, the way could be paved for the finalisation of the draft National Food Safety Policy and Action Plan. It would then be the responsibility of the National Authorities to advocate for the adoption of the policy document by the sitting National Cabinet after its careful scrutiny.

The formulation of the food safety policy should take into consideration at least three levels of the national systems, viz:

- How the national organisations, groups and individuals that are involved in food safety and quality operate in their respective countries, taking a look at existing policies, legislation and relationships among critical stakeholders on the farm-to-table continuum;
- The existing national resources, information, procedures and protocols, structures, decision-making processes, and overall infrastructure in government agencies, the food inspectorate in general, food industries, food laboratories and consumer interests;
- The knowledge, skills, competencies, work ethic of food

<sup>c</sup>Excerpts from the USAID Caribbean Food Safety Initiative Report.

# ARTICLES

inspectors, processors, distributors, producers, manufacturers and the consumers.

## Agencies Involved in National Food Safety



*Dr. Lloyd Webb addressing Food Safety Workshop.*

As further background to the formulation of the Food Safety Policy, it would be essential to document all of the various agencies or bodies involved in carrying out functions to meet the food safety objectives of the national food safety programme and their respective supportive legal frameworks. In most English-speaking Caribbean countries, the key national food safety agencies tend to come from amongst the Ministries of Agriculture, Health,

Trade, Fisheries, Consumer Affairs, Tourism and Finance.

In most countries, the Ministry of Health has for several years been entrusted with the responsibility to ensure that foods produced, sold and consumed are safe. The purview of the health sector usually provides compatibility with each country's and populace's food safety needs. This makes it reasonable for the Ministry of Health to be charged with the responsibility for coordinating the national food safety programme. For example, in the case of Grenada, the health sector vision is "to improve the quality of life through improved health status thus ensuring that individuals, families and communities attain and maintain a state of optimum wellness".<sup>d</sup> If a proper job is to be done in meeting the national food safety requirements in the countries, the constraint presented by the lack of resources must also be considered in designing the Food Safety Policy. This is so as policy formulation would be taking place when there is a general sentiment that CARICOM governments need to reduce public sector spending. The proposed policy should as far as possible be formulated utilising the current national frameworks and infrastructure as the basic

<sup>d</sup>CFNI *Food and Nutrition Policy and Plan of Action for Grenada (2007)*.

pillars. This approach could lead to some cost saving measures. But in some instances, the newly proposed structure may require advocacy to encourage governments to review their public sector staffing needs.

### **Addressing the National Perspective**

Most, if not all Governments within the Caribbean Community, are signatory to the WTO agreement and as such are bound to comply with WTO requirements, inclusive of food safety procedures and rules. In order to meet these requirements, it is necessary to have intersectoral linkages in place for greater food and nutrition coordination. The commitment of the Caribbean Governments to food safety, as mentioned earlier, was made previously in 1983. There was a Food Safety and Control Policy Statement that was "to promote a gradual strengthening of national food safety and control infrastructures and, at the same time, bring about greater inter-country cooperation.<sup>e</sup> The overall food safety policy statement of the conference was: "The member countries of the Caribbean Community, desirous of improving the wholesomeness and safety of food for all their peoples, do hereby

establish coherent national food safety policies which, collectively, constitute the regional food safety programme, with its requisite components and corresponding legislation and financial support". Most Caribbean governments have not been able to keep that promise.

Sixteen years later in 1999, CARICOM countries participated in the CFSI. The recommendations that emanated from that initiative were detailed in three areas: human health, animal health, and plant health. Although the status of each country in these three targeted areas was clearly articulated, not too many countries have utilised the findings to advocate for improvement to their own national food safety programme.

The details of the CFSI provide a wealth of information that could successfully guide the process in advancing the overall national food safety programme. In this document, attempts are made to show how this could be achieved through the preparation of individual National Food Safety Policy documents with supporting Action Plans.

### **The Current Food Safety Framework**

In the Caribbean Community is no well-organised or standardised

<sup>e</sup>*Food Safety and Control in the Caribbean: Strategy and Plan of Action, St Johns, Antigua, November 6-11, 1983.*

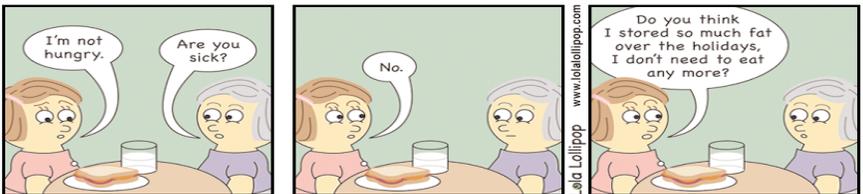
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mechanism with a defined legislative framework whereby coordination of activities related to relevant national laws governing food safety has been effectively taking place in the sub-region. For example, in about 2004, Jamaica began development of a draft Food Safety Policy that is still to be approved and enforced. Attempts were also made earlier, with the help of IICA to establish administrative country structures with clearly defined roles, responsibilities and accountabilities for agricultural health and food safety. That too has made some strides, but to date, no country in the community has a functional administrative structure, based on the IICA proposal. Different countries are at varying stages of advancement in this process. In some countries, even though a central agency was not established to address all food safety issues, a National Agricultural Health and Food Safety Committee was created to provide leadership and coordination to the food safety programme.

It has been well recognised that

such a committee, or better still a single agency, brings great benefits to food control (*WHO Guidelines for Strengthening a National Food Safety Programme*). But a Single Agency may not easily “meet the requirements and resources of every country’s socioeconomic and political environment”. In the Caribbean sub-regional context therefore, it may be best to design the policy using an integrated food control system approach and one which has proven to be more readily acceptable. A proper policy could then be used to guide the overall food safety programme.

It was in this context that CFNI and its partners have worked with Grenada, and is committed to supporting other countries in developing a policy document that would be designed using a multisectoral approach inclusive of agencies, divisions, ministries and the private sector partnering in a public-private sector relationship to address the many food safety issues in the countries.



"People are so worried about what they eat between Christmas and the New Year, but they really should be worried about what they eat between the New Year and Christmas."  
— UNKNOWN

## Developing Food Safety Policies in the Caribbean – Adopting a Common Approach

*Lloyd Webb, Ballayram, Audrey Morris and Lisa Indar<sup>a</sup>*

**N**o Caribbean country has been successful in developing a national food safety policy, which would serve to guide the protection of public health and trade in food. This paper provides an approach to the development of national food safety policies and plans.

### **Vision Statement**

A model vision statement would be prepared and shared with the countries so that they could identify their own statement, recognising that there is an almost common vision that is shared by the countries of the Caribbean sub-region in which the statement is: “to protect human, animal, and plant health through a shared, collaborative effort for meeting the highest level of food safety possible”.

### **Goal**

The key goal of the policy would be centred on the establishment of a central authority, whether through a

Single Food Agency or as a functional Steering Committee with adequate empowerment. In either situation, there must be the responsibility to ensure the protection of human, animal and plant health along the food chain from the farm to the table, reviewing performances of personnel in the food continuum and making recommendations for upgrading skills, knowledge and training as required.

### **Policy Statement**

The policy statement should declare the recognition, and acknowledge the food safety principles and practices that must exist throughout the food and produce industry. Furthermore, it must consider the key players in the management and implementation of food safety as critically necessary, along with having monitoring mechanisms to ensure food safety compliance. The Food Safety Policy, among other deliverables, must be able to assess the related health

<sup>a</sup>*Dr. Webb, Dr. Ballayram and Ms. Morris are staff of CFNI; Dr. Indar is a staff of CAREC, another Specialised Center of the Pan American Health Organization.*

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issues of the entire population, domestic and visitors or immigrants alike. The policy must also allow for the detection of causes of health problems related to foods, as well as provide solutions to solve such problems. Finally, the policy must facilitate trade and the provision of evidence upon which sound evidence-based decisions could be made nationally. As an additional factor, the policy should encourage the identification of potential interventions that could give rise to research, preventive measures and the advancement of knowledge and skills as required at all levels of the food continuum.

### Policy Objectives

The objectives of the food safety policy should be elaborated to ensure that:

- All food, whether imported, domestically produced, or exported, is produced, stored, handled, prepared, transported and sold or offered for sale in accordance with relevant legislative requirements and appropriate safe food standards, principles and practices;
- Food providers at all levels, inclusive of handlers of raw and cooked foods, have appropriate and adequate controls and as far as possible, management systems are in place, commensurate with the existing type of food operation.

- All premises where food is received or from which food is delivered must meet approval of the national competent food authorities.
- All risks and hazards associated with the provision of food are reduced to a tolerable level.
- All food handlers have the necessary competence to undertake their duties in accordance with the general requirements outlined in this food safety policy and detailed in the plan of action.

### Application

The food safety policy should apply to all food handling activities and operations undertaken by any food handler along the farm to the table continuum. The policy should require that given the multisectoral nature of food safety activities, its application must induce a closer relationship among critical stakeholders from the public and private sectors, bringing together industry and government personnel as well as embracing the participatory role of civil society.

### Rationale

The rationale would elaborate the commitment of the individual Caribbean Sub-regional Governments to protect the consumers' health and interests, and to ensure fair practices in food trade,

minimising duplication of effort and using an institutional structure that provides for greater national coordination of food safety activities and practices. Such a rationale was already detailed in principle in the 1983 Food Safety and Control Conference held in Antigua.

The National Food Safety Policy could be based on an integrated approach, and be science-based, with benefits being derived from the use of the application of risk analysis principles. This latter approach could prove beneficial since knowledge of the potential risk is almost always helpful in decision-making. The policy must also be transparent and, while encouraging the participation of all stakeholders from the farm to the table, it must facilitate broad consultation in developing and implementing food legislation and other standards and procedures. It must also incorporate the involvement of national, sub-regional and international fora in planning dimensions of food safety and quality.

### Guiding Principles

The National Food Safety Policy should be guided by the following principles expressed by the WHO in its *Guidelines for Strengthening a National Food Safety Programme*:

#### **Principle 1: Shared Responsibility:**

It would be in the best interest of the CARICOM Member States to

establish a comprehensive integrated approach to food safety utilising team work, consultation and communication and technological exchanges, among other mechanisms. This concept could be extended to include a multi-country approach in which shared responsibility could be embraced for the regional good of the countries within the Community. This will ensure that an acceptable food safety programme will not simply reside in a single institution and be fabricated on the examination of end-products or routine inspections at selected food operations, but will be dependent upon an improved coordination of all activities that impact on the national food safety programme and in which different agencies/



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ministries and public-private sector entities are involved. For example, there are potential beneficial effects from ensuring the safety of food products from contamination during primary production when soil, air, water, fertilizers, veterinary drugs and other chemicals such as pesticides and other chemical agents may otherwise contaminate the products and food. There are many other examples that could be cited along the food chain. It will therefore ultimately be dependent upon all stakeholders to avoid physical, microbiological and chemical contamination of food along the food continuum, paying special attention and providing effective sanitary measures and prevention strategies for that part of the spectrum that relates directly to the respective stakeholder. The inclusion of multiple partners would help build the national capacity so that there could be better analysis, monitoring and control of imported food, domestic food production, and the processing and distribution of food nationally.

The following groups of stakeholders and some areas of concerns to the specific groups are listed below to highlight the new approach of inclusiveness to food safety in the countries.

### *Government Personnel:*

1. Food Legislation and Enforcement.

2. Advice for Industry/Trade.
3. Consumer Education.
4. Information Gathering and Research.
5. Provision of Health-related Services.

### *Consumers:*

1. Educated and Knowledgeable Public.
2. Discriminating and Selective Consumers.
3. Safe Food Practices in the Home.
4. Community Participation.
5. Active Consumer Groups

### *Industry/Trade:*

1. Good Practices by Primary Producers, Distributors and Farmers.
2. Quality Assurance and Control of Processed Food.
3. Appropriate Processes and Technology.
4. Trained Managers and Food Handlers.
5. Informative Labelling and Consumer Education.

### *Principle 2: Coordination*

While coordination is a subset to many of the principles outlined in a policy document, it is to be singled out for its critical importance as an instrument to streamline the much

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needed mechanism that will promote awareness and establish buy-in for the multisectoral input of all partners in food safety from the farm to the table. This is always a challenging task for any national coordinating body in-country. A lead partner, say the Ministry of Health, could coordinate the overall programme. Legislatively, the Ministry of Health is usually the ministry that has the legal mandate to ensure food safety. This is customarily done by, and should continue to be supported by the Environmental Health Department. As leader, the Ministry of Health should play a key role in coordinating and overseeing the food safety systems, and seek to reduce the ill-effects of fragmentation that often gives rise to inefficiency and ineffectiveness in existing programmes. The Ministry of Health must be broad-minded and see its role as a neutral partner among partners, seeking to ensure that its efforts are based on regulation, coordination and evaluation, with joint partnerships, while recognising that food safety can only be attained and maintained through the combined efforts of every stakeholder on the farm-to-table continuum. The Ministry should therefore be required or mandated to advocate for all sectors to adopt minimal standards that should be required for ensuring national food safety.

Coordination between the public and private sectors is an imperative. The food industries should be encouraged to put in place food production and safety systems, preferably in keeping with the Hazard Analysis Critical Control Point (HACCP) principles, and to adopt hygienic handling practices to ensure compliance with international standards for food safety. Further-more, stakeholders from the public and private sectors are to be encouraged to, as far as possible, join forces for the inspection of foods for importation and/or exportation; food manufacturing, processing, storage and distribution. It may be essential for partners to become more involved in research and in the development of methodology aimed at reducing the prevalence of food-borne pathogens, and in conducting risk assessments. Additionally, they should assist in carrying out educational campaigns for the food industry and the consuming public. Where necessary, partners should enter into agreements through Memoranda of Understanding to specify how each will carry out its mission, while ensuring that a coordinated national approach is taken regarding food safety.

In seeking to have better coordination in the national food safety programme, a Cabinet-appointed National Agricultural Health and

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Food Safety Committee should be established. Where it already exists, it should be strengthened to provide the leadership and to motivate partners to work in an integrated way, so that all common food safety issues that are integrally linked and arise from human, animal and plant health could be adequately addressed. This would entail dealing with regulatory control, inspection services, imports/exports, laboratory testing, clinical diagnostics, the design and execution of training programmes and other related areas of importance. Additionally, the Food Safety Committee should promote consumer participation in food safety matters in order to develop consumer pressure as a form of advocacy for public and private sector companies and interests to improve food safety practices along the entire food chain.

It would be beneficial to build on the experiences and best practices that are already in place nationally, and where strides have been made through the efforts and working relationships of the respective national partners currently involved in multisectoral activities related to food safety. This coordination should take into consideration the numerous Acts and Regulations that impact on food safety in the country, coordinating activities across the jurisdictional boundaries as required,

and seeking strong, binding agreements amongst the various agencies, departments/ministries.

Ultimately, the Food Safety Committee should facilitate the management of national food control by ensuring that as far as possible all organising, planning, monitoring, communicating and evaluating measures are followed in a clear and transparent way, with minimal overlap in duties and responsibilities of the various personnel. This overlap could be minimised, if agencies are allowed to list their roles and functions with regard to the various stages along the food chain continuum. Additionally, stakeholders should be discouraged from entering into "turf disputes", and instead seek to share resources, funding, expertise, personnel and information. Ultimately, institutional services should be promoted and conducted in accordance with the policy of the Government, and where possible, should seek to ensure the adoption of cost-recovery measures.

Based on the previous observations, the following elements must therefore be considered in the coordinating activities:

- Food laws and supporting regulations.
- Food control management.
- Food inspection systems and services.

- An integrated approach to foodborne disease surveillance that will better detect disease outbreaks, and facilitate effective disease outbreak investigation, both of which aim to strengthen the monitoring of food pathogens; food sampling and testing during production, processing and distribution/sale; and recognising consumer complaints about food safety.
- Laboratory diagnostics.
- Food biosecurity with prevention of deliberate or unintentional adulteration of foods by individuals or terrorists.
- Information exchange, communication, training and education at all levels of the food chain.
- Systems for recall and trace back of products.

### *Principle 3: Risk Analysis*

A formal risk analysis mechanism should be introduced to cover all three components of analysis (risk assessment, risk management and risk communication). Efforts should be made to establish a cadre of Risk Analysts who will conduct risk assessments on various food safety concerns and share the reports with all persons on whom the results impact. A country could align itself

*<sup>b</sup>"Guidelines for the Application of the Hazard Analysis Critical Control Point (HACCP) System", Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, Rome, 1993.*

with another, or with other countries, to conduct risk assessments when such measures would prove beneficial, and more cost-effective, for the individual country and its partners.

In the case of risk management, mechanisms should be established and enforced to ensure that all required measures are introduced to manage any known or perceived risks to the national food safety programme. Finally, a communication network should be established so that information on food safety risks and mitigating measures for such risks would be communicated to public and private sectors inclusive of civil society. Among those to whom information should be channelled, should be persons involved at all levels in the food trade and in school feeding projects and serving consumer groups.

### *Principle 4: Use of Resources*

Human and financial resources should be carefully evaluated and where deficient, should be provided to ensure that they are adequate to address critical problems in the food safety chain, while putting emphasis on the industry-driven HACCP methodology and principles. The Governments of the CARICOM Member States have been moving towards reduced public sector

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spending with re-prioritisation of their organisational arrangements. However, through the Ministries of Health, Finance, Planning, and other ministries, efforts must be made to either increase the available human resource pool for the food safety programme; establish appropriate structures and/or realign the programmes of work of the various partners so as to ensure that an acceptable level of output is achievable; and/or ensure that the existing human resources could be more effectively utilised in the most efficient way. One alternative that could greatly assist in meeting the human resource demands of the inspection services would be to encourage or better yet, persuade members of the food industry to adopt the HACCP methodology.<sup>b</sup>

Entrusting the food industry with the responsibility for the identification, evaluation and control of hazards will allow for the Food Inspectors of the state to put greater emphasis on monitoring food operations through a more audit-oriented approach. Traditional inspection of food establishments and operations will then give way to the process of auditing "as a systematic and functionally independent examination to determine activities and related results comply with planned objectives."<sup>c</sup>

To maximize the benefits that could accrue from a move towards HACCP implementation, the National Authorities could join forces with the private sector to embark on training industry personnel in the HACCP principles. It must, however, be kept in mind that if costs to implement HACCP are passed on to the consumer by the industry, this may affect the poorer individuals in the society who have a lower income earning ability.

### *Principle 5: Food Hygiene Practices*

Countries should use the internationally recommended Code of Practice enunciated by the Codex Alimentarius Commission, as the main food safety instrument on hygienic practices. General principles of food hygiene have been recommended by the Commission with Codex identifying those principles, essentially needed to make food safe with support of the use of HACCP methodology just mentioned. Efforts should be made to have the Codes adapted nationally with the requisite supportive legislative powers for enforcement, as required. Nationally, the food safety programme can benefit greatly from using those food standards that may have already been prepared with national input,

<sup>c</sup>FAO/WHO Codex Alimentarius Commission Recommended International Code of Practice General Principles of Food Hygiene (1999).

and promoted by the competent national authority.

***Principle 6: Laboratory Support***

Countries must also seek to improve their diagnostic capacity for identification of diseases, disease agents and for detection of food-borne diseases. This will mean ensuring that the principal laboratories used to test food samples are upgraded to meet the acceptable level and ensure that the testing capability and reliability are in accordance with one suitable of accreditation or certification. Additionally, improved mechanisms for sampling foods and for getting them tested in the laboratory, as well as for reporting of laboratory test results for diseases of importance to food safety, should be developed and implemented after taking into consideration the specific needs and the reasons for taking samples and conducting tests. To elaborate further, a more science-based process for food sampling and the utilisation of sampling protocols and laboratory testing must be carried out. Information derived from sampling results should be shared with the relevant agencies and sectors upon which the information impacts directly or indirectly. The entire food chain must be considered as far as possible, and the appropriate diagnostics pursued, to ensure that potential diseases are detected or

managed to avoid health risks to the consumer and constraints to national, regional and international trade.

Financial resources should be continuously mobilised in response to the need for such resources. The performance of tests should be based on strategies aimed at ensuring that food samples are collected and laboratory tests performed in accordance with the food safety needs of the country. In such cases, sampling will be done in order to find out about disease prevalence based on several parameters (human sickness, trade concerns, outbreaks, consumer complaints, etc).

***Principle 7: Transparency***

All parties involved in the farm-to-table continuum must be required to use transparency in dealing with issues of food safety affecting consumers, producers and regulators, through a process of open communication, making results of test and controlled studies available, as well as information on food safety activities as public as far as possible unless unduly constrained.

***Principle 8: Traceability***

National Authorities should adopt a practice of using adequate procedures to facilitate traceability of feed, food and ingredients along the food chain, making sure that procedures are put in place to have feed or food withdrawn from the market where a risk is posed to the

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health of consumers of such foods offered for sale to the public.

### *Principle 9: Recall*

The principle of recall is aimed at ensuring that all foods or products in which food safety risks are detected, could be removed from the food chain until corrective action has been taken to make them safe again for the consumer's use.

### **Statements of Strategies**

Having an effective food safety policy means that there must be updates on the current food safety situation and on any aspects that develop futuristically in the respective national food safety systems. This requires that there must be periodic examination and re-examination of all factors that impact on food safety, evaluating at the same time, the performances and programmes of all stakeholders. There are usually three key strategic approaches to control the food safety system and to facilitate the achievement of successful systems.<sup>d</sup> These are optionally, a system based on:

1. Multiple agencies responsible for food control.
2. A single agency with responsibility for food control.
3. A national integrated approach.

<sup>d</sup>FAO/WHO. *Assuring Food Safety and Quality: Guidelines for Strengthening National Food Control Systems.*

Of the three approaches just mentioned, perhaps the one that may favour most Caribbean states is that of the integrated system. This system type would allow countries to follow at least four levels of operation:

1. The formulation of policy, risk assessment and management, and development of standards and regulations.
2. The coordination, monitoring and auditing of the food control activities.
3. Inspection and enforcement.
4. Education and training.

Using this integrated approach, the following statements could be utilised in countries, designed to pave the way to the specific strategic approaches that should be used as outlined hereafter.

### • **Information Gathering and Food Surveillance**

There must be clear policy directives that require that data be collected and collated from all major food safety operations and processes from which disease prevention and control initiatives related to food hazards may be established. Such data could then be adequately reviewed and interpreted and disseminated for appropriate action

and decision-making. The National Epidemiological Unit in a country must play a lead role in data gathering and in the foodborne disease surveillance programme, liaising with the important partners as required. Other units such as the Veterinary Public Health Units (VPHUs) of the Ministry of Health, or the Veterinary Services Division of the Ministry of Agriculture, should coordinate data relating to animal health issues but where there are public health implications, and forward the data to the Epidemiological Unit within the Ministry of Health for appropriate collation and action.

- **Regulatory Measures**

Laws and regulations for food safety should be reviewed and upgraded periodically to ensure that a modern framework is maintained, and that the appropriate authorities are assigned their due responsibilities in accordance with their competence and legal instruments. Countries of the Eastern Caribbean that received support from the USAID-funded project on Modernization of the Legislative Framework for Animal, Plant and Human Health, would do well to revisit the draft Food Acts that were prepared as they provide a relatively updated legal platform on which to conduct an effective national food safety programme. These are to be supported by the monitoring of

systems for performance and for food control management.

- **Enforcement**

All food laws aimed to protect the consumer against unsafe, adulterated foods being offered for sale must be enforced. It is essential to note that in conceptualising the enforcement of laws, there should be room to avoid becoming too prescriptive and allow for exercise of discretion by the Inspectors. This is significant because there are behavioural changes that must be made among persons who are involved in the food business, in order to achieve full compliance. A food system in which there is some degree of discretion and informal exchange is sometimes perceived to be more readily able to succeed than one that is made to strive on strong, prescriptive, punitive, legal mandates. A proper training programme to ensure that all persons with responsibility for enforcement of the national food laws are well trained in the principles of enforcement should be undertaken.

- **Protocols and Procedures**

Where food laws are truly outdated or do not exist to facilitate the modern inspection and monitoring systems, procedures and protocols must be developed until such laws are put in place. This will help to minimise or prevent the occurrence of food hazards that may arise from poor agricultural practices, improper food hygienic

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practices throughout the food chain, poor manufacturing and processing practices, inadequate food storage, preparation and distribution, and the misuse of chemicals (food additives, veterinary drug residues, pesticides and other chemical contaminants), and other unacceptable and unsafe materials and ingredients used in foods that are ultimately made available for human consumption.

- **Training**

All persons that need training in proper food handling and hygienic techniques at all levels of the food chain must receive adequate training. Persons may represent the public or private sectors, households or industry. A training programme that is built with involvement of the national Community Colleges such as the one developed in Barbados, with the assistance of the Barbados Community College, could prove to be very beneficial to the national training needs.

- **Inspection Services**

A cadre of well-trained public personnel should be identified and empowered to conduct the national inspection services, and to oversee the various food operations of the industry, trade and to protect the wider public. Personnel could be pulled from several sectors and trained to provide the inspection services. The design and use

of cross-training modules to ensure that all Government-employed inspectors are knowledgeable in the inspection processes would be of great advantage to the food inspection and control services and to the national food safety programme.

- **Laboratory**

Laboratories which perform analysis of foods must be mandated to undergo evaluation and be upgraded to ensure that the adequate numbers of trained staff members, suitable facilities and equipment are in place. Laboratory consumables should be made available in a sustained, timely manner to allow for the conduct of microbial and chemical analyses in keeping with the mandate of the laboratory. This will facilitate greatly the reliability and availability of analytical results that are important to evidenced-based decision-making. It would also be advantageous for use in the courts of law in situations in which enforcement issues arise. Where routine tests cannot be carried out, steps should be taken to ensure that the required tests are conducted at another facility within or outside of the country in a reasonably timely manner.

- **Information and Education**

The development and delivery of information and educational materials to all stakeholders are critical imperatives of the new food safety strategy proposed. Information

sharing and the education of all persons whether from the public or private sector, from industry or from amongst the consuming public are critical to the achievement of food safety goals and objectives. As far as possible, the train-the-trainer approach to education and training should be encouraged. Consumer education may become a great imperative if the HACCP system is adopted and industries become more involved in following the HACCP principles and methodology. The reason is that in such a situation, there may be need for the inspectors to conduct detailed audits and less routine inspection. Additionally, the inspectors could use some of the time saved not doing routine inspections to conduct more training sessions for food handlers and consumer groups. In so doing, the focus should be on training the consumers to use their organoleptic skills to identify obvious hazards and potential risks in the foods they will consume. This approach will allow for greater monitoring of food operations. The consumer then becomes his own inspector, taking a major responsibility for monitoring the safety of the foods he/she consumes.

- **Important Linkages and FBD Surveillance**

Stronger linkages along the food chain are imperative. This is particularly so between the various diagnostic laboratories which test foods and those testing clinical human

specimens for food-related illnesses or diseases. The exchange will be essential to enable the access to reliable, up-to-date information on food-borne pathogens and their associated diseases or illnesses. This linkage is most critical in addressing epidemiological investigation and foodborne disease surveillance. The National Epidemiologist, as mentioned before, must have access to information on clinical cases of public health importance and arising from both animal and human sources, in order to make the appropriate linkages and draw associations or rule out non-determinants in the occurrence of foodborne diseases in the respective country.

#### **Acceptance of the Policy**

As soon as possible after developing the draft document, the Ministry of Health with support from its multisectoral partners should aim to lead the process for obtaining the approval of the Cabinet for the Policy. The Minister of Health could be the main champion of this initiative in collaboration with at least, the Minister of Agriculture and the Minister of Finance.

#### **Plan of Action**

A Plan of Action outlining some important future steps to be taken, should be drawn up, and then carefully studied. Expected results should be assigned to the Plan, and timelines included for early execution.

## Factors to Consider in Guiding the Food Safety Policy Formulation Process in the Caribbean

Lloyd Webb<sup>a</sup>

1. Some Caribbean Member States such as Dominica and Grenada have geographical placements of most ministries in a centralised complex. This could potentially lend itself to a greater opportunity for networking, information exchange and decision-making at the political, technical and administrative levels.
2. Some countries within the sub-region also have informal, multi-disciplinary teams, committees, councils, comprising staff members from different ministries, and through which, whether because of legal appointment, by cooption, memoranda of understanding or ad hoc partnerships, there is an enormous potential for establishing an effective coordination programme for food safety.
3. The current global focus on Risk Analysis is one upon which the development and implementation of an integrated national food control strategy could be pursued with focus on the application of risk analysis principles in a food safety context.
4. Several Caribbean countries already have Epidemiological Units that use a multidisciplinary team (epidemiologist, surveillance nurse, doctor and the PHIs). The utilisation of these Units presents a great opportunity for networking and development of greater coordination for food safety.
5. The Food Safety Policy should take note of the coordinating potential of the Epidemiological Unit to request and obtain data on food-related pathogens arising from human clinical data, and from the Public Health or Analytical Laboratories, as well as from animal data coming from Veterinary Diagnostic Laboratories; and the Units potential ability to collect, collate, analyse and disseminate the results for better decision-making in national food safety issues.
6. It will be essential to address the inadequacy of resources (human and financial) to meet the needs

<sup>a</sup>Dr. Lloyd Webb is the Sub-regional Advisor on Veterinary Public Health, posted at the Caribbean Food and Nutrition Institute

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- of current programmes in the absence of greater coordination and networking, as if this is not done, it will continue to pose significant challenges to the development of more cohesive regulations and standards based on sound scientific findings nationally.
7. Generally, countries within the Caribbean sub-region do not have systems in place whereby strategic and operational plans and their targets, priorities and indicators for food safety and quality could be reviewed regularly, or continuously, to evaluate the national food safety programme and supporting structures.
  8. National Authorities must have at least one system put in place to effectively allocate and manage available resources for the existing food control management or to reallocate resources to high priority areas whenever the need arises.
  9. It is essential to have a documented food legislation enforcement policy aimed at ensuring that preventive approaches are taken into consideration by all parties in a more coordinated manner.
  10. It may be necessary to revisit the procedure for the authorisation of officers, including food inspectors and analytical personnel and to ensure that there are sufficient personnel in place to regulate the food safety programme.
  11. It is beneficial to document procedure for the authorization of the official food control laboratories and to seek to ensure networking and exchange of critical information among them and important national decision-makers.
  12. An internal programme for information gathering, dissemination and particularly for facilitating education (training at all levels), and upgrading of knowledge and skills as well as for communicating with relevant government and non-government agencies needs to be developed.
  13. Procedures need to be established for consultation with different stakeholders.
  14. A coordinated response plan to respond to and manage food-related crises is required, taking into consideration the multi-sectoral committees and groupings that may currently be involved in food safety control.
  15. Modern equipment for, traceability/tracking, analysis, tamper-proof certification and or condemnation of products must be urgently procured along with computer hardware/software for global scanning, recalls and other food safety concerns.
  16. A consideration for remuneration to all staff working outside of

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normal working hours, and making provisions to equip them with tools and gear (e.g. thermometers, rapid test kits, etc)

to conduct their duties will be a major benefit to raise the level of effectiveness and efficiency of the food inspectorate.

### FIVE KEYS TO FOOD SAFETY



#### KEEP CLEAN

1. Wash your hands before handling food and often during food preparation.
2. Wash your hands after going to the toilet.
3. Wash and sanitize all surfaces and equipment used for food preparation.
4. Protect kitchen areas and food from insects, pests and other animals.



#### SEPARATE RAW AND COOKED FOOD

1. Separate raw meat, poultry and seafood from other foods.
2. Use separate equipment and utensils such as knives and cutting boards for handling raw foods.
3. Store food in containers to avoid contact between raw and prepared foods.



#### COOK THOROUGHLY

1. Cook food thoroughly, especially meat, poultry, eggs and seafood.
2. Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer.
3. Reheat cooked food thoroughly.



#### KEEP FOOD AT SAFE TEMPERATURES

1. Do not leave cooked food at room temperature for more than 2 hours.
2. Refrigerate promptly all cooked and perishable food (preferably below 4°C).
3. Keep cooked food piping hot (more than 60°C), prior to serving.
4. Do not store food too long, even in the refrigerator.
5. Do not thaw frozen food at room temperature.



#### USE SAFE WATER AND RAW MATERIALS

1. Use safe water or treat it to make it safe.
2. Select fresh and wholesome foods.
3. Choose foods processed for safety, such as pasteurized milk.
4. Wash fruits and vegetables, especially if eaten raw.
5. Do not use food beyond its expiry date.

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## Establishing a Methodology for the Policy Formulation

Lloyd Webb<sup>a</sup>

The following is an abbreviated list of some important elements worth considering in the development of a National Food Safety Policy.

**Table 1**  
**List of Elements (Animal, Plant and Human Health)**

Elements	Findings
Relevant institutions	List all known institutions (whether related to animal, plant or human health) that are involved in food safety (regulatory, inspection, policy, import, export, services - laboratory diagnostics, clinical diagnostics, etc).
Physical infrastructure present	Detail all existing physical structures related to food safety (e.g. abattoirs, processing plants, grocers, restaurateurs, hoteliers, etc), taking note of geographical locations in-country and logistical challenges to access and reporting.
Legislation	List all known legislation (Acts and Regulations) used nationally and related to food safety.
Laboratory infrastructure	List all laboratories that are involved in any form of diagnostic support to the national food safety programme.
Traceability systems	Detail all known processes that are used to facilitate traceability of foods and product recall when necessary in-country.
Human Resources	List all personnel involved in the national food safety programme, seeking to capture the farm-to-table spectrum, and detailing posts, grade, number of years before retirement, etc

<sup>a</sup>Dr. Lloyd Webb is the Sub-regional Advisor on Veterinary Public Health, at CFNI.

Table 1 (cont'd)

## List of Elements (Animal, Plant and Human Health)

Elements	Findings
Private Sector	List all private sector agencies that impact the food safety programme seeking to identify their respective roles in the food safety continuum from the farm to the table.
Agricultural Inputs	Determine and list all agricultural inputs that impact the food safety programme inclusive of pesticides, fertilizers, animal feeds, veterinary drugs, use of veterinary antibiotics.
Primary Production	As a separate category of agricultural inputs, obtain as much data as possible relevant to farmers, plant growers, major farm producers, fisherfolk.
Processing Operations	List all known local primary and secondary food processors, identifying as far as possible, the type of industry in which they are involved; considering abattoir personnel, dairies, granaries, etc; among secondary processors, consider those in operations associated with freezing, food preservation, canning, etc.
Food Distributors	List all import and export distributors as well as domestic suppliers mentioning the type of operations in which they are involved.
Food Retailing	List all known food retailing operations inclusive of grocers, supermarkets, markets, etc, and detailing geographical locations when possible.
Food Catering	Similar to food retailing operations, list all food catering operations inclusive of food vending operations, restaurants, workplace and school operations, nursing homes, etc
Training/Continuing Education	List all areas in which training is provided or needed, noting frequency of training schedules, by whom training is provided and whether training is voluntary or mandatory, as well as who pays for the training.
Consumer Involvement	Attempt to determine the extent of involvement of the consumers in all matters related to the food safety activities.

## Developing Food Safety Policies in the Caribbean

*Lloyd Webb<sup>a</sup>*

The proper legislative framework is critical to a successful food safety policy and to the overall delivery of a food safety system. A project on Modernization of the Legislative Framework on Food Safety, Animal Health and Plant Health was developed by the Office of Caribbean Programme Coordination (OCPC) of the Pan American Health Organization (PAHO), and received financial support from the United States Agency for International Development (USAID). It was one of the follow-up activities to the Caribbean Food Safety Initiative that was initiated in 1999 to support CARICOM states in addressing concerns related to expanding their capacity for international trade and economic competitiveness. The project produced a series of legislative drafts which could only impact the Caribbean Community after they had been reviewed, accepted and enacted by the respective countries.

The legislative project took into consideration that for several decades, Caribbean governments

had enunciated their concerns for food safety at national and sub-regional levels. In former times, it seemed that the target may have been somewhat elusive, but beginning with the technical and scientific assessments carried out with previous funding by the USAID in 1999, there was a clear direction for harmonising the disparate national and regional legislation on agricultural health and food safety. Since the USAID assessment in 1999, various agencies have become involved in providing assistance in selected areas of agricultural health and food safety in the Caribbean. But Caribbean governments still needed to promote or establish policies and strategies to guide their national and regional matters and to fill the legislative gaps in agricultural health and food safety. Furthermore, the Caribbean Single Market and Economy (CSME) was a particularly sensitive matter that was of concern and for which attention was needed to resolve issues related to enhanced trade and economic competitiveness.

<sup>a</sup>*Dr. Lloyd Webb is the Sub-regional Advisor on Veterinary Public Health at CFNI.*

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Therefore, between October 2002 and February 28, 2005, the project on *Modernization of the Legislative Framework for Food Safety, Animal Health and Plant Health* was designed and coordinated by the Office of Caribbean Programme Coordination of the Pan American Health Organization/ World Health Organization (PAHO/WHO), which took every opportunity to foster as far as possible, partnerships with the Food and Agriculture Organization (FAO), the Inter-American Institute for Cooperation in Agriculture (IICA), the OECS Secretariat and the CARICOM Secretariat. The execution phase was carried out taking into account the provisions of Article 9 of the Agreement on the Application of Sanitary and Phytosanitary Measures. It was desirous to help Member States achieve their health goals while expanding trade and economic growth, and enable them to develop their national legislative infrastructure.

### Outputs of Project

With the project having come to an end on February 28, 2005, it was perceived that the project outputs would have proven to be invaluable to Caribbean governments and the private sector in the establishment of mechanisms for ensuring a greater confidence in the production, marketing, and sale of safe foods for which appropriate controls would

have been developed to prevent, reduce, or minimise the risks associated with the production, preparation and consumption of such foods along the farm-to-table continuum.

The activities were all geared towards establishing an enabling environment for agricultural health and food safety using the modernised legislative framework as the instrument for capacity building and for the protection of foods from biological, chemical, and physical hazards and their risks. Specifically, the new or revised laws regarding food safety, animal health, plant health and pesticides and toxic chemicals were expected to have built support for strengthening the national capacity to meet the World Trade Organization/Sanitary and Phytosanitary (WTO/SPS) measures, while creating a measure of confidence so that as sovereign states, the countries supported would not adopt measures of protectionism and establish trade barriers to regional and international trade.

The major outputs of the project had been enhancement of the legislative framework that continues to embody the following revised and modernised legislation at that time:

- Food Safety Act and Food Safety Regulations including:
  - i. Food Safety (Food-Establishments and Caterers) Regulations

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- ii. Food Safety (Food Production handling and Processing) Regulations
- iii. Food Safety (Food Inspections) Regulations
- iv. Food Safety (Sampling) Regulations
- v. Food Safety (Street Vending) Regulations
- Animal (National and International Movement and Disease Prevention) Act and Regulations including:
  - i. Biological Residues (Control) Regulations
  - ii. Animals (Quarantine Inspection and Certification Fees) Regulations
  - iii. Anthrax Regulations
  - iv. Foot and Mouth Disease Regulations
  - v. Slaughterhouse (Hygienic Practices) Regulations
  - vi. Meat (Post Mortem) (Boneless Meat) Inspection Regulations
  - vii. Meat (Post Mortem) Inspection Regulations
  - viii. Poultry Disease Regulations
  - ix. Cottage Poultry Processors (Food Safety) Regulations
  - x. Swine fever regulations
  - xi. Bovine Spongiform Encephalopathy (BSE) Regulations
- Pesticides and Toxic Chemicals Control Act and Regulations
- Plant Health Act

- Environmental Health Services Act

### Methodology

The methodology used in carrying out the project deliverables included conducting several country visits by legal consultants who, along with national authorities, noted all matters arising out of discussions, consultations and meetings, and incorporated them into the drafting/redrafting of the various Acts and Regulations. In order to maximise the limited resources, the process of consultation was effectively two fold:

- Using the consultants to ensure that as much intervention by the stakeholders as possible was obtained during their consultations with the national stakeholders,
- Funding and supporting national consultations in response to the demands of the countries as were deemed necessary to gain public acceptance and comments from the national stakeholders on the new legislative framework.

At those national consultations, policy guidelines were often evaluated so that the tasks for appropriate design and implementation of a modernised framework were made possible. The results were incorporated into the legal provisions and all laws were rewritten as necessary. In some cases, new Acts had to be prepared

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with provisions compatible with one or several of the international codes - CODEX Alimentarius (CODEX), the Office of International Epizootics (OIE) Code, and measures elaborated by the International Plant Protection Commission (IPPC). As far as possible and in accordance with the terms of the USAID grant, training activities and workshops were designed and conducted to ensure that the key stakeholders developed the necessary skills and knowledge to support the sustained efforts of the project as well as to ensure that the new legislative mechanisms were understood and enforced.

## Results of the Project

The Acts and Regulations were drafted so that they covered a broad range of WTO/SOS measures as well as public policy requirements to agricultural health and food safety. There was value-added support in the new legislative framework since that was the first time that some Member States had developed legal provisions that referred to clearly identified relevant Competent Authorities to effectively and efficiently implement the control measures necessary for providing assurance of a safe food chain from farm to table. The assistance provided through that project therefore undoubtedly

provided help for restructuring of the individual country-specific agricultural health and food safety programmes. Furthermore, the project activities had made significant contribution to the building of capacity for human resource development to assist trade liberalisation and institutionalisation of trade-related matters.

Ministries of Health and Agriculture and by extension, Bureaus of Standards, Ministry of Trade and Tourism in Barbados and the OECS countries, had been provided with tools and some key prerequisites to meet the demands of agricultural and health determinants that impact on human health and well being, socio-cultural concepts, food quality, food safety and food security.

## Constraints and Challenges

During the execution of the project, there were some difficulties in resolving issues linked to unclear delineation of responsibilities among national authorities and the duplicative roles of personnel from inter-ministerial bodies. In one country for example, the area of unclear delineation of roles was a major constraint in providing the greatest assistance to the country. This was more apparent with the draft Food Safety Act, which offered the greatest challenge since it required more careful deliberation by the

key stakeholders for its adoption in the particular country environment. Significantly, however, the work done through the project activities served as a catalyst to guide the stakeholders in a way that could more clearly assist the policy makers.

OCPC/PAHO had availed itself of opportunities to partner with other agencies (the CARICOM Secretariat, the Inter-American Institute for Cooperation in Agriculture, and the Food and Agriculture Organization) to enhance the effective outcome of the project deliverables. One area that was of significant benefit to the sustainability of the project deliverables was the partnership with those agencies to deal with matters related to the establishment of a CARICOM coordinating body, the Caribbean Agricultural Health and Food Safety Agency (CAHFSA). CAHFSA as the proposed Single Agency for agricultural health and food safety had been designated to serve as the principal instrument for harmonisation of all agricultural health and food safety issues, inclusive of the new legislative framework. The alliance with the other agencies gave invaluable assistance for finalising an effective mechanism for institutionalising CAHFSA. This also was of direct benefit to the work of the Council of Trade and Economic Development (COTED) of CARICOM.

An exclusive alliance among PAHO/WHO, IICA, FAO and the CARICOM Secretariat determined the placement of CAHFSA in response to a mandate from the Ministers of Agriculture and Trade for the placement of the CAHFSA into an existing regional institution. The Caribbean Agricultural Research Development Institute (CARDI) was selected as the institution to host CAHFSA. As a follow up to that, COTED mandated the CARICOM Secretariat to prepare the relevant legal framework for the establishment of CAHFSA within CARDI. This was seen as a significant achievement seeing that CAHFSA, as the Caribbean Regional Agency, would ultimately ensure that the legislative framework for all CARICOM States is kept current and harmonised with international standards.

#### *Agricultural Health and Food Safety Systems*

The project activities have made significant contributions to the overall Caribbean Food Safety Initiative and the expansion of the capacity of the selected CARICOM states for international trade and economic competitiveness. The way had been paved for Caribbean governments to attain desired goals for strengthened national capability to regulate Agricultural Health and Food Safety Systems in an infrastructure enhanced for

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agricultural production, trade, food service inspection and communication. The new legislative framework had also embraced concepts that would have enhanced the national laboratory infrastructure, disease surveillance capacity building at the national and sub-regional levels, foodborne disease outbreak investigations, organisational programmes for consumer education, and risk analysis.

In so doing, countries had been provided with an enhanced legislative capacity to better monitor farm production practices; develop trace-back mechanisms for food products implicated in disease outbreaks associated with on farm practices; and detect and eliminate possible sources of disease-causing organisms (Salmonella, E. Coli 0157:H7, tuberculosis, brucellosis, and others). Additionally, governments were provided with a means to obtain greater legal powers to provide for more assurance for the safe processing, distribution, and use of foods. The achievements could also have facilitated the development of instruments that could have influenced better farmer and consumer education as the information and knowledge gained could have been used to strategise on programmes that targeted consumers, farm producers, grocers, restaurateurs, hoteliers, food service workers and health institutions, among others. The

achievements are beneficial to the adoption of improved safe handling, storage and the preparation of foods at different establishments. Ultimately, the experience that was gained from the new legislative framework would have served well for improving public awareness on the risks associated with eating certain foods, whether raw or undercooked, contaminated or improperly stored.

## Specific Achievements

Inherent during the execution of the project activities was the overall concern for the increasing incidence of Food Borne Diseases (FBDs). Such diseases were well known to impact tourism and trade leading to economic burdens and human suffering. This was deemed a matter of great importance to Caribbean countries that have traditionally derived their economic prowess almost exclusively from tourism. Failure to regulate foods and to detect and eliminate food hazards would continue to lead to severe financial losses.

In another way, consultants were able to collaborate with national authorities to carefully evaluate existing systems, identify the gaps, and find means of filling those gaps in order to achieve greater compliance of WTO measures. Filling those gaps had the potential to greatly reduce

fragmentation in regulating agricultural health and food safety in the countries. Furthermore, since most food issues are often affected by animal and plant health issues and to a lesser extent, pesticides and toxic chemicals, legislation affecting those areas had been included and reviewed. Following are the summaries of the provisions of the drafts that had been prepared in the project. There were several similarities in the final legislation to allow for harmonisation of the laws among all the project countries, and in keeping with international requirements.

#### *Food Safety Act*

A new Food Safety Bill was prepared for each of the respective project countries. The Acts/Bills make provisions for the safety of foods produced, packaged and imported into, or exported from, these countries. The provisions therein were aimed at ensuring integrity and safety of foods, and the protection of humans from the consumption of unsafe foods and the adverse effects of biological, chemical or physical hazards. Moves had also been made to allow for more effective regulation of the production, processing, manufacturing, preparation, handling and sale of food at food establishments (inclusive of street vending operations), taking into consideration food that is usually

distributed as prizes, rewards, or for advertising and overall retailing and trade.

This legislation made provision for administrative arrangements and the establishment of a National Food Authority as the Competent Authority to administer and enforce the Act and its Regulations. The Food Authority was charged with the duties of coordinating and integrating the food safety system. Additionally, the Food Authority was to provide support for the maintenance of the national programme, to continue to be harmonised with regional and international food safety standards, and respond to appropriate WTO/SPS requirements in the interest of the state. In the new legislation, a National Food Safety Committee was identified to give additional support to the Food Authority which was the body empowered in the Act to give immediate advice to the Minister charged with the responsibility for the Act.

The draft Act and its regulations in the new framework, empowered the competent authority and the inspectors to carry out the full discharge of their duties related to food manufacturing, processing, preparation, distribution, to the identification of hazards, the assessment of risks, sampling, testing and evaluation of foods, and seizure, detention and confiscation of suspect foods, and

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overall control and inspection of foods for human consumption, while considering that the food safety issues were of direct consequences for other trade issues regulated under the Animals (National and International Movement and Disease Prevention) Act.

The draft Food Safety Act also took into account matters related to the registration and licensing of food businesses in a two-fold way. It provided for suitable regulatory enforcement and made allowances for the industry to become engaged through improvement notices, so designed to allow for remedial action for non-compliance. Recognising the scarcity in human resources in the respective Member States, the Act deliberately left room for the Minister to appoint Food Inspectors from a wide range of competent, well-trained national professionals that were duly qualified to conduct the functions of the Food Inspector. The Food Inspector had been given powers to enter and inspect and make decisions in the interest of public health on all matters related to food safety. However, the Food Inspector was prohibited from entering and searching food premises with respect to activities regulated under the Animals (National and International Movement and Prescribed Diseases Prevention) Act and other Acts that regulate other clearly defined and

specified areas of agricultural health and food safety.

### *Animals (National and International Movement and Disease Prevention) Act*

The draft Animals (National and International Movement and Disease Prevention) Act had regulatory provisions developed to allow the Member States to have had a more effective regulatory framework for animal health programmes, while taking into consideration the complementary role in food safety issues previously mentioned in the comments on the Food Act and its Regulations. The Regulations that had been developed through the project had sought to address key issues enshrined in the WTO/SPS Agreement with specific concerns for matters related to the International Office of Epizootics (OIE) Code.

The Act and its Regulations had introduced fundamental changes from the previous Animal Health legislation, National (Animals Diseases and Importation) Act. The Veterinary Competent Authority was clearly defined in the Act, and the roles, functions and duties specified therein. A Veterinary Advisory Council was identified to facilitate the execution of the Act and its Regulations by the Competent Authority. Some functions

to be carried out included diagnostics, inspection of animals and animal products, research, animal movement and control and quarantine measures. It was believed that the enactment of the Act would have made the countries more compliant with international requirements, particularly with reference to OIE requirements.

The provisions of that piece of legislation had provided enablement for the examination and inspection of animals in order to detect and eliminate sick animals prior to slaughter or through post-mortem inspection to avoid unfit meat and meat products from being sold or consumed by humans. The schedules to the Regulations specified which diseases were of national importance in that regard, detailing whether such animals were to be condemned or declared suspect. Additionally, the Regulations made provisions for cost recovery through specified fees and certificates. The Regulations also provided for sampling of animal and animal products and for identification of biological residues and other hazards. In general, however, there were legal obligations placed on veterinary surgeons, the police, farmers and occupiers of premises where animals or animal diseases had been identified, to deal with any infected animal or place. Poultry

and poultry diseases will also be regulated by that Act.

### *Plant Health*

The draft Plant Health Act was redrafted using the model Act for CARICOM countries, prepared by the Food and Agriculture Organization (FAO). It was refined to meet the respective country needs. It had provisions that would have assisted in preventing the introduction and controlling the spread of plant pests and diseases in order to protect the plant resources thereby facilitating trade in plants and plant products, and regulating other related matters. It also empowered the Minister to designate responsibilities to the National Plant Protection Organization (NPPO) as the appropriate government unit responsible for Plant Health. A Plant Protection Board was also to be established to advise the Minister on issues of plant protection, much like the other Advisory bodies in the Acts mentioned before. A series of provisions had been made to deal with imports and exports, issues of cost recovery, the containment and eradication of diseases and pests of plants. While the Act made reference to the establishment of regulations, the details of such regulations had not been spelt out, and it was the view that country-specific regulations would have been developed later. In general,

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the several schedules strengthened the effectiveness of the Act and its enforcement in that they covered many issues including quarantine pests, phytosanitary certification, permits, fees, detention, confiscation, port health facilities and requirements, and Emergency Action Plans for Exotic Pests.

### *Pesticides and Toxic Chemicals Act*

The draft Pesticides and Toxic Chemicals Act was expected to repeal and replace the then existing Pesticides Control Acts in the countries. It should be noted that of all the countries, St Lucia and St Kitts and Nevis at the time of the review had already had modern Acts that were eventually used as Model Acts for developing the drafts for the other countries (Antigua and Barbuda, Barbados, Dominica, Grenada and St. Vincent and the Grenadines). The draft Act therefore and its Regulations provided a more comprehensive framework for regulating pesticides and toxic chemicals. But additionally, it implemented the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction. In so doing, the legislation addressed domestic concerns of health and safety, protection of the environment, and met international obligations under the Chemical Weapons Convention.

The immediate and long term advantages were expected to be a

reduction in the administrative burden, and promotion of efficient implementation. The legislation provided for a Board as the Competent Authority with responsibility for regulating all toxic chemicals. Much like in the other Acts previously discussed for other areas of agricultural health and food safety, that Act made provisions for the issuance of licences, permits, notifications, labelling, and advertising, and the overall operation and requirements for facilities. While the sanctions included fines and imprisonment, a ticketing scheme was provided for in respect to minor offences.

### *Environmental Health Services Act*

All the new legislation discussed so far, had focused mainly on SPS measures. However, there had several SPS measures that were intrinsically linked to public health. Many of those were under the responsibilities of Environmental Health Officers while others were related to other public officials such as Veterinarians and Plant Health specialists. An Environmental Health Services Act was proposed, and if accepted, it would have resulted in the repeal of the Public Health Act. Consequently, it was necessary to revisit the provisions as specified in the Public Health Act in each individual country, to determine the impact of repeals, and to ensure that the areas of that Act that would be repealed as a result of the new

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legislative provisions, would not adversely affect the proper functioning of the overall Environmental Health Programme. This action was critical, since the Public Health Acts, though very outdated, were generally the overarching Public Health instruments for enforcement of matters related to Public Health, and under which the Environmental Health Officers received their greatest regulatory powers. A new Act the Environmental Health Services Act had therefore been drafted to serve as the nexus between critical public health functions and matters of importance to agricultural health and food safety. Provisions had been made in the Environmental Health Services Act to observe those sensitivities that were enshrined in the standards and provisions related to SPS measures dealt with in the Food Safety Act, the Animal Health Act and the Pesticides and Toxic Chemical Act, and for which there could have arisen the possibility of commission of offences and nuisances.

### Conclusions

The project outputs showed that the Policy issues on food safety no doubt, were still essential factors in the delivery of successful agricultural health and food safety programmes within the English-speaking Caribbean. The new legislative framework would have had to serve as an inherent component to the successful adoption of adequate policy.

Since Caribbean governments had become signatories to the WTO Agreement to carry out the rules, and to institute requirements for Sanitary and Phytosanitary measures, the laws that had been reviewed, updated, and be enacted, were expected to meet the WTO demands. More importantly, the reformation of the laws in agricultural health and food safety were more precise in application, more specific in scope and were intended to meet consumer expectations.

Reforming the legislative framework with input from the public and private sector was expected to play a major role in ensuring that the foods produced or processed were safe and of good quality, since the laws as redrafted, had made provisions for ensuring that acceptable standards and practices could have been in place for a wide range of food establishments. Those establishments included food service establishments such as hotels and restaurants, cottage industry including home operations that catered for the public and street food vending operations. They also included manufacturing establishments, and food-processing plants such as poultry processing plants, pluck shops, and abattoirs, and on-farm operations.

The above industries had been given the tools to assist in their compliance with established rules or guidelines that were appropriate for good manufacturing practices, good handling practices and good agricultural practices and for

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adequate monitoring of such compliance.

To a lesser extent, the employees of the industry had been sensitised on issues related to adherence to defined food safety guidelines. Those would have had direct consequences for the success of the industry and the eventual impact on the health of the consuming public.

The activities of the project had therefore, brought added value to the Caribbean countries participating in the project, through not only the drafting of modern legislation, but in the building of human capacity and diagnostic support, and the training of public and private sectors in specific areas related to the national and sub-regional agricultural health and food safety programmes.

In general, through the project, CARICOM states had been strengthened for better delivery of programmes that impacted on safer foods, enhanced tourism, greater trade competitiveness and the overall safety of their citizens and visitors alike.

CARICOM states had still remained constrained by limitations associated with scarce human and financial resources. But the strides that had been made in the project activities were expected to assist in development of an integrated approach to national programmes that would have been a great asset for dealing with the challenging issues, through strengthened inter-ministerial and inter-sectoral collabo-

ration and coordination between critical partners in the food continuum from farm to table.

Furthermore, the strengthened alliance between PAHO/WHO and its regional and international partners and the USAID should have greatly helped in promoting the respective programmes and the attainment of some level of sustainability in the programmes associated with agricultural health and food safety.

If properly applied, countries could have embarked on comprehensive national and regional programmes that took on board systems-based approaches. The technologies and management practices of agricultural health and food safety from farm to table could have been more closely studied to determine food hazards that may have been potentially dangerous to the health of visitors to, and the peoples of, the English-speaking Caribbean.

Data could have ultimately been generated for decision making, and there was a platform upon which the enhanced partnership could have facilitated the design and execution of surveillance and research aimed at identifying the presence of hazards and critical points to eliminate or minimise associated risks from the farm production level through the intermediary stages of harvesting, manufacturing and processing, marketing and distribution, up to the consumption level.