Food and Agriculture Sector-Specific Plan

An Annex to the National Infrastructure Protection Plan

2010

Homeland Security

Department of Agriculture

Food and Drug Administration

Preface

The National Infrastructure Protection Plan (NIPP) provides the unifying structure for the integration of critical infrastructure and key resources (CIKR) protection efforts into a single national program. The NIPP provides an overall framework for integrating CIKR protection and resiliency programs, strategies, and activities. It identifies the need for a Sector-Specific Plan (SSP) for each of the sectors, which are strategically based by design - the intention of the SSPs is to complement the response-based National Response Framework. The SSPs describe the application of the overall risk management framework for each of the 18 critical infrastructure sectors.

The Food and Agriculture SSP contained herein is a result of over 13 months of collaboration between the private sector, Federal, State, local, tribal and territorial government organizations. This collaboration has resulted in a document which portrays the sector's current all-hazards protective posture and resiliency strategies, as well as a forum which illustrates a myriad of initiatives, resources, programs, and tools which can be applied by sector partners to:

- Assist in the identification and implementation of risk mitigation activities;
- Reduce the vulnerability of the food supply;
- Deter threats to the sector; and
- Minimize the consequences from and aid in the development of resiliency strategies to assist the sector in recovering from large-scale incidents.

Since the writing of the 2007 SSP, the sector has made progress toward achieving its sector goals. Examples of Food and Agriculture Sector accomplishments since 2007 include the following:

- Developed the Food and Agriculture Sector Criticality Assessment Tool (FAS-CAT) for use by States to identify their critical assets.
- Developed and tested information-sharing protocols that leverage HSIN and FoodSHIELD to improve information sharing and collaboration within the sector.
- Expanded the sector's exercise program, including a large-scale, multi-stakeholder exercise.
- Developed training and education materials for food defense awareness among food industry professionals and for the training of State and local officials in food-related disaster management.
- Expanded the Food Emergency Response Network for analysis of food samples for food safety and food defense agents of concern.
- Expanded the GCC membership.

Moving forward, the SSAs intend to provide further evidence of the partnership that exists within the sector. This will be demonstrated through ongoing collaboration with and feedback from our sector partners and completion of the SCC and GCC

value propositions, the establishment of yearly goals, as well as the refinement of risk mitigation activities to be provided in Sector Annual Reports.

Several examples of some of the Food and Agriculture Sector's risk mitigation activities include the revalidation of previously conducted vulnerability assessments, the conduct of new vulnerability assessments, as well as the addition of a new risk mitigation activity to focus on transportation and related critical interdependencies.

Each year, the Food and Agriculture Sector CIKR Protection Annual Report will provide updates on the sector's efforts to identify, prioritize, and coordinate the protection of its critical infrastructure. The Sector Annual Report provides the current priorities of the sector as well as the progress made during the past year in following the plans and strategies set out in the Food and Agriculture SSP.

The Food and Agriculture Sector Coordinating Council (SCC) and Government Coordinating Council (GCC) acknowledge their continuing commitment to:

- Communicate with all sector partners as described within this document to aid in the future revision of this Plan and its stated goals;
- Coordinate and expand upon, to the extent possible, the strategies contained within this document and the partnership model; and
- Collaborate with the other 17 CIKR sectors to protect the food and agriculture supply of the United States of America and make the sector more resilient.

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Executive Summary

Protecting the Nation's food and agricultural critical infrastructure and key resources (CIKR) is an important responsibility shared by Federal, State, local, tribal, and territorial (SLTT) governments and private industry partners. Interference with the food or agricultural infrastructure could have a devastating impact on the Nation's public health and economy. Adequate protection and resiliency of infrastructure in the Food and Agriculture (FA) Sector requires all sector partners to undertake a number of integrated processes and procedures. Accordingly, this Sector-Specific Plan (SSP) has been developed using the National Infrastructure Protection Plan risk management framework to describe these processes in each SSP chapter.

1. Sector Profile and Goals

The FA Sector comprises complex production, processing, and delivery systems. The mission of the FA Sector is to protect against a disruption in the food supply that would pose a serious threat to public health, safety, welfare, or to the national economy. These food and agriculture systems are almost entirely under private ownership, and they operate in highly competitive global markets, strive to operate in harmony with the environment, and provide economic opportunities and an improved quality of life for U.S. citizens and others worldwide.

Differences in commodity type, farm size, operator, and household characteristics complicate prevention and protection efforts for individual operations and, ultimately, the sector as a whole. In recent years, changes in the rules of trade, shifts in domestic policy, and new developments in technology have altered the competitive landscape of global agriculture and challenges facing American farmers.

Securing this sector presents unique challenges because food and agriculture systems in the United States are extensive, open, interconnected, and diverse, and they have complex structures. Food products move rapidly in commerce to consumers, but the time required for detection and identification of attacks and contaminations, such as animal or plant disease introduction or food contamination, can be lengthy and complex. Therefore, attacks and contaminations on the FA Sector could result in severe animal, plant, public health, and economic consequences.

The Sector-Specific Agencies (SSAs), Government Coordinating Council (GCC), and Sector Coordinating Council (SCC) work collaboratively to accomplish the FA Sector mission and fulfill the vision, and they are the primary method of coordination for sector partners. The GCC, with representation from Federal and SLTT governments, is the public sector portion of the food and agriculture public-private partnership; the SCC is a self-governing body representing the food and agriculture industry.

2. Identify Assets, Systems, and Networks

Chapter 2 explains the processes used to define and identify FA Sector CIKR systems and assets. The focus of this identification is on consequences and associated criticality. The sector uses the Department of Homeland Security data call process and taxonomy, in addition to its own FA Sector—Criticality Assessment Tool (FAS-CAT).

After all FA Sector partners have identified their critical assets, the assets are verified according to numerous internal sector processes. To ensure accuracy of the information, the sector reviews the assets annually.

3. Assess Risks

The National Infrastructure Protection Plan risk management framework calls for CIKR partners to assess risk from any scenario as a function of consequence, vulnerability, and threat. Chapter 3 describes how the FA Sector has undertaken this task. The FA Sector has several mechanisms for evaluating all three variables, including FAS-CAT; operational risk management (ORM); and **Criticality, Accessibility, Recuperability, Vulnerability, Effect, Recognizability, + Shock** (CARVER+Shock). Chapter 3 also describes how each variable is used collectively to protect the Nation's food supply.

4. Prioritize Infrastructure

Prioritization of assets occurs at the national, State, and local levels. Government and private sector representatives work collectively to create an overall sector prioritization, and the processes are based on earlier work that identified assets and determined risk. Currently, the FA Sector uses a risk-based approach, while striving to create metrics for prioritization.

5. Develop and Implement Protective Programs and Resiliency Strategies

Protective programs in the FA Sector are based on congressional mandates, the findings from vulnerability assessments, previous food contamination incidents, suggestions from State health and agriculture departments, and sector-specific information provided by the intelligence and law enforcement communities and Department of Homeland Security's Homeland Infrastructure Threat and Risk Analysis Center (HITRAC). Many of the sector's protective programs are undertaken by owners and operators, making the role of SSAs one of guidance and information dissemination.

6. Measure Effectiveness

Chapter 6 describes the evaluation methods used to determine a program's effectiveness. The chapter also describes the FA Sector's intention to create working groups, including one work group charged with establishing metrics. The sector's ability to evaluate investments and recommend alterations in mitigation strategies will gain strength from this group's product.

7. CIKR Protection Research and Development

The overall goal of the FA Sector's Research and Development (R&D) efforts is to improve the use of state-of-the-art technology by all sector stakeholders. Chapter 7 describes how each individual stakeholder undertakes R&D and how the SSAs operate as a central repository of this information.

8. Managing and Coordinating SSA Responsibilities

For many CIKR sectors, including the FA Sector, developing and implementing a national plan that coordinates sector protective activities is a challenge. Chapter 8 describes many of the management and coordination activities that are performed to address these challenges.

This chapter specifically addresses various areas, including: (1) SSAs responsibilities; (2) processes for maintaining and updating the SSP; (3) satisfying Sector Annual Report requirements related to CIKR protection; (4) resources and budgets of sector partners; (5) CIKR protection training and education; (6) implementing the sector partnership model; and (7) sharing and protecting information.

Introduction

Protecting the critical infrastructure and key resources (CIKR)[1] of the United States is essential to the Nation's security, economic vitality, and way of life. CIKR includes assets, systems, and networks that provide vital services to the Nation. Terrorist or other manmade attacks on CIKR and natural disasters, also known as "all-hazards," could significantly disrupt the functioning of government and business alike and produce cascading effects far beyond the affected CIKR sector and physical location of the incident.

The protection of the Nation's CIKR, therefore, is an essential part of the homeland security mission of making America safer, more secure, and more resilient from terrorist attacks and other natural and manmade hazards. Protection includes actions to guard or shield CIKR assets, systems, networks, or their interconnecting links from exposure, injury, destruction, incapacitation, or exploitation. In the context of the National Infrastructure Protection Plan (NIPP), this includes actions to deter, mitigate, or neutralize the consequence, vulnerability, or threat associated with a terrorist attack or other incident. Protection can include a wide range of activities, including: hardening facilities; building resilience and redundancy; and implementing cybersecurity measures. The NIPP provides the framework for the unprecedented cooperation that is needed to develop, implement, and maintain a coordinated national effort that brings together all levels of government, the private sector, and international organizations and allies.

The NIPP and its complementary Sector-Specific Plans (SSPs) provide a consistent, unifying structure for integrating both existing and future CIKR protection efforts. It also provides the core processes and mechanisms to enable government and private sector partners to work together to implement CIKR protection initiatives.

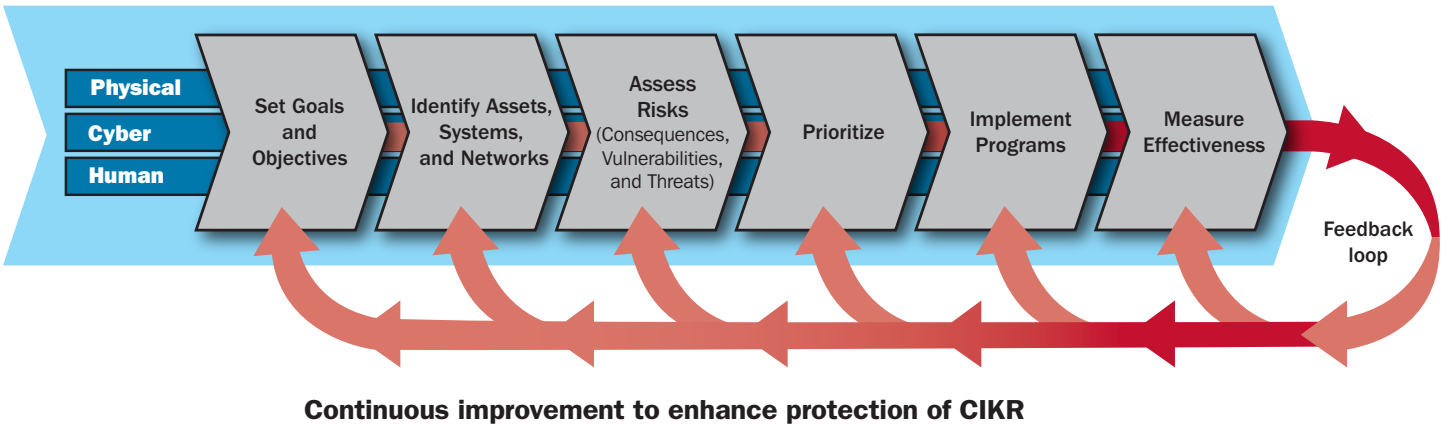
The United States Department of Agriculture (USDA) and Department of Health and Human Services/Food and Drug Administration (HHS/FDA) are designated as Sector-Specific Agencies (SSAs)[2] for the Food and Agriculture (FA) Sector by Homeland Security Presidential Directive 7 (HSPD-7). The SSAs and Department of Homeland Security (DHS) share the responsibility for the overarching implementation of the NIPP risk management framework with their partners. The SSAs are responsible for leading sector-specific risk-reduction programs and ensuring that the sector-specific application of the risk management framework is addressed in their respective SSPs. DHS supports these efforts by providing guidance, tools, and analytical support to SSAs and other CIKR partners. DHS is responsible for using the results obtained in sector-specific risk management efforts to conduct cross-sector risk analysis and management in collaboration with other CIKR partners. This includes: the assessment of dependencies, interdependencies, and cascading effects; identification of common vulnerabilities; development and sharing of common threat scenarios; development and sharing of cross-sector measures to reduce risk; and identification of specific research and development (R&D) needs.

[1] Appendix A.1.1 contains a list of acronyms and abbreviations.

[2] **www.usda.gov** and **www.fda.gov.**

The cornerstone of the NIPP is its risk management framework. Risk, in the context of the NIPP, is defined as the potential for loss, damage, or disruption to the Nation's CIKR resulting from destruction, incapacitation, or exploitation during some future manmade or naturally occurring event. The NIPP risk management framework establishes the process for combining consequence, vulnerability, and threat information to produce a comprehensive, systematic, and rational assessment of national or sector-specific risk that drives CIKR protection activities. The framework applies to the general threat environment and to specific threats or incident situations. Figure I-1 illustrates the NIPP risk management framework.

Figure I-1: NIPP Risk Management Framework



The FA SSP follows and supports the NIPP risk management framework, which includes the following six sequential steps represented as chevrons in figure I-1 and described in subsequent chapters of this SSP:

- **Set Goals and Objectives:** Define specific outcomes, conditions, end points, or performance targets that collectively constitute an effective protective posture (chapter 1).
- **Identify Assets, Systems, and Networks:** Develop an inventory of the assets, systems, and networks, and the critical functionality they provide, including infrastructure located outside the United States, that make up the Nation's CIKR, and collect information pertinent to risk management (chapter 2).
- **Assess Risks:** Determine risk by combining potential direct and indirect consequences of a terrorist attack or other hazards (including dependencies and interdependencies associated with each identified asset, system, or network), known vulnerabilities to various potential attack vectors, and general or specific threat information (chapter 3).
- **Prioritize:** Aggregate and analyze assessment results to determine assets, system, and network criticality, and present a comprehensive picture of national CIKR risk to establish protection priorities and provide the basis for protection planning and the informed allocation of resources (chapter 4).
- **Implement Protective Programs:** Select appropriate protective actions or programs to reduce the risk identified and secure the resources needed to address priorities (chapter 5).
- **Measure Effectiveness:** Use metrics and other evaluation procedures at the national and sector levels to measure progress and assess the effectiveness of the national CIKR protection program (chapter 6).

DHS uses information from metrics and other evaluation tools to support a constant feedback loop. Activities are implemented based on a dynamic threat environment. The resulting output is sector-specific strategies to protect assets. The ultimate objective of this SSP is to have Federal, State, local, tribal, and territorial (SLTT) governments and the private sector partners work with the SSAs and DHS to implement plans in a way that is consistent, sustainable, effective, and measurable.

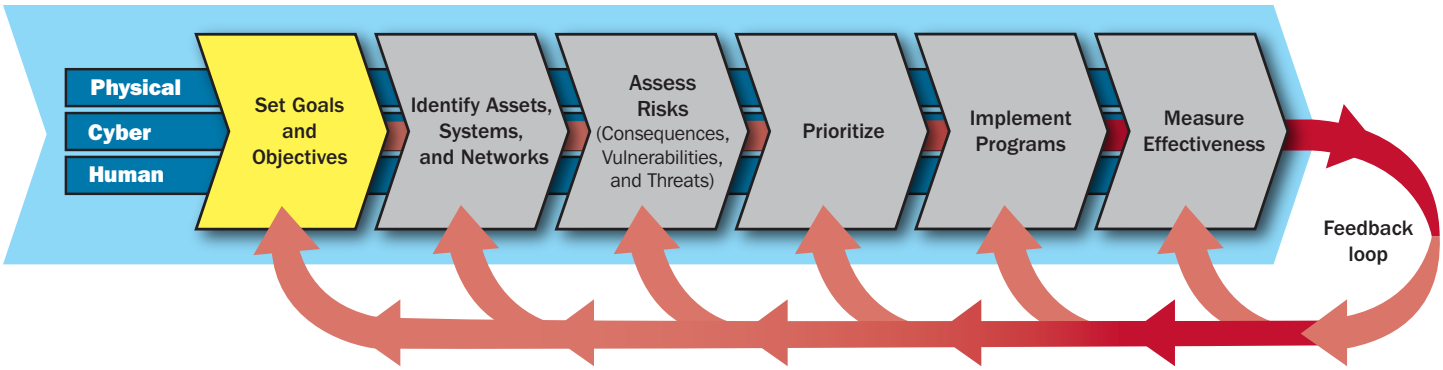
In 2007, the FA Sector developed two separate SSPs and published them together in a single document. In this 2010 triennial SSP rewrite, the SSAs have prepared one comprehensive SSP for the FA Sector. This SSP was developed with contributions from Federal and SLTT government and private sector partners. To better meet the needs of sector partners, each chapter provides a concise description of the central issue, including a diagram with a highlighted chevron representing each step in the NIPP risk management framework. Complementary information was moved to the appendices, including URL links to specific sites for further information, along with responses to related NIPP and SSP frequently asked questions in appendix A.1.3.

Since the publication of the 2007 SSP, the FA Sector has realized tremendous growth in collaboration and coordination in the sector, as well as strengthened relationships with SSAs from other sectors. FA Sector partnerships, relationships, and coordination can be exhibited in innumerable ways, such as: the development of this SSP; Information Sharing Working Group (ISWG); Sector Coordinating Council (SCC) value proposition; Sector Annual Reports; and subsequent research aspects.

Several high-profile food safety events in the last three years have illustrated the need to further fortify and bolster the resilience of the FA Sector infrastructure (e.g., trained workforce and personnel, laboratory capacity of State and local agencies). Similarly, the private sector has been plagued with the untoward effects of poor public perception and subsequent loss of revenue in the face of several nationwide recalls in the sector.

This document presents a strategic overview of the methods, programs, and activities that the FA Sector uses to continuously enhance CIKR protection efforts in the sector; however, this document does not describe in great detail the operational and functional responsibilities of various partners that comprise the FA Sector in response to a large-scale food emergency. These duties, functions, and roles can be found in various planning and guidance documents, including the National Response Framework and guidelines from the Council to Improve Foodborne Outbreak Response (CIFOR), among others.

1. Sector Profile and Goals



Continuous improvement to enhance protection of CIKR

Chapter 1 of the FA SSP provides the reader with an overview of the sector. To illustrate the enormity and complexity of the sector, demographic information is provided. The data demonstrate social, economic, and health related impacts a disaster could cause. Adding to the potential for disaster are the dependencies and interdependencies that the sector shares with other CIKR sectors. An event affecting another sector could potentially have cascading effects on the FA Sector that need to be planned for equally.

Numerous partners undertake efforts to protect the sector and its physical and cyber assets. Chapter 1 provides a brief introduction to the entities engaged in the process and their roles. Particular attention is paid to the SSAs, Government Coordinating Council (GCC) and SCC members. Successful implementation of protective programs and resiliency strategies requires participation from Federal and SLTT governments and private sector partners. This chapter explores how each is engaged in the sector.

Chapter 1 presents FA Sector long-term goals. The SSP will describe the ways in which the sector collectively is working toward accomplishing the stated goals.

1.1 Sector Profile

The FA Sector is composed of complex production, processing, and delivery systems and it has the capacity to feed people and animals beyond the boundaries of the United States. These food and agriculture systems are almost entirely under private ownership, operate in highly competitive global markets, strive to operate in harmony with the environment, and provide economic opportunities and an improved quality of life for United States citizens and others worldwide. The sector accounts

for roughly one-fifth of the Nation's economic activity.[3] One-fifth of our agricultural production is exported, generating $115.5 billion in 2008, creating a positive trade balance of roughly $35 billion, and thereby fueling the U.S. economy.[4]

The United States has approximately 44,000 food processors, 113,000 food warehouses, and in excess of 1.2 million retail food facilities. Also, the United States has roughly 2.2 million farms, encompassing 920 million acres of land. Collectively, American farms produce $181 billion in crop production. The top five cash-producing industries are grains and seeds, milk, poultry and eggs, fruits and nuts, and nurseries and greenhouses.[5]

Beyond domestic food production, the FA Sector also imports many ingredients and finished products, leading to a complex web of growers, processors, suppliers, transporters, distributors, and consumers. Changes in the rules of trade, shifts in domestic policy, and new developments in technology have altered the competitive landscape of global agriculture and challenges facing American farmers. By providing food aid in disaster and poverty stricken areas around the world, these farmers also make a global humanitarian impact.

For the purposes of this document, the definitions of agriculture and food and the difference between food defense and food safety are provided below. Other terms requiring definitions are contained within appendix A.1.2 Glossary of Terms.

Agriculture and Food

DHS has developed an Infrastructure Data Taxonomy (Appendix A.3.5) to enable transparent and consistent communication about CIKR between government and private sector partners. The FA Sector Taxonomy provides the following definition for agriculture and food:

> *"Agriculture comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats. Food establishments transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food and beverage products. The food and beverage products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers."*[6]

The FA Sector Taxonomy is divided in the following categories:

1. Agriculture and Food
   - 1.1 Supply
   - 1.2 Processing, Packaging, Production
   - 1.3 Agricultural and Food Product Storage
   - 1.4 Agricultural and Food Product Transportation
   - 1.5 Agricultural and Food Processing Product Distribution

[3] National Agricultural Statistics Service, Agricultural Statistics Board, 2008.

[4] Foreign Agricultural Trade of the United States. Total value of U.S. agricultural trade and trade balance, monthly (2008). **http://www.ers.usda.gov/data/FATUS/monthlysummary.htm** available online on 10/14/2009.

[5] National Agricultural Statistics Service, 2007 Census of Agriculture.

[6] The complete FA Sector Taxonomy appears in appendix A.3.5.

1.6 Agricultural and Food Supporting Facilities

1.7 Regulatory, Oversight, and Industry Organizations

1.8 Other Agriculture and Food

The Bioterrorism Act of 2002 defines "Food" in Section 201(f) of the Federal Food, Drug, and Cosmetic Act as "(1) articles used for food or drink for man or other animals, (2) chewing gum, and (3) articles used for components of any such article." Examples of "food" include:

- Dietary supplements and dietary ingredients;
- Infant formula;
- Beverages (including alcoholic beverages and bottled water);
- Fruits and vegetables;
- Fish and seafood;
- Dairy products and shell eggs;
- Raw agricultural commodities for use as food or components of food;
- Canned and frozen foods;
- Bakery goods, snack food, and candy (including chewing gum);
- Live food animals; and
- Animal feeds and pet food.

Food Defense and Food Safety

Food defense is not the same as food safety. Food defense focuses on protecting the food supply from intentional contamination from chemical, biological, radiological, or nuclear agents. Intentional acts are generally hard to predict. Food safety addresses the accidental contamination of food products by biological, chemical, or physical hazards. This unintentional contamination of food products can be reasonably anticipated based on the type of processing.

The National Strategy for Physical Protection of Critical Infrastructures and Key Assets defines the FA Sector as "the supply chains for feed, animals, and animal products; crop production and the supply chains of seed, fertilizer, and other necessary related materials; and the post-harvesting components of the food supply chain, from processing, production, and packaging through storage and distribution to retail sales, institutional food services, and restaurant or home consumption." In general terms, the sector comprises agricultural production and food systems that span the farm-to-table continuum.

1.1.1 Sector Dependencies and Interdependencies

The FA Sector has numerous dependencies (one-directional reliance of an asset, system, or network) and interdependencies (mutually reliant relationship between entities) with other sectors. The nature and extent of these dependencies and interdependencies increase the risks borne by the sector, based on the function and role of those dependencies and interdependencies, and may lead to future integrations and collaborations to assist with the identification and fortification of existing vulnerabilities. It is apparent from the various CIKR sectors that have the most direct impact on human life (e.g., Food and Agriculture, Water, Healthcare and Public Health) that these Life Support Sectors inherently have numerous dependencies and interdependencies in their systems.

The National Infrastructure Advisory Council (NIAC) was charged with examining interdependencies between and among the CIKR sectors in the wake of a pandemic, among other things. In its 2008 report, *Chemical, Biological, and Radiological Events and the Critical Infrastructure Workforce, Final Report and Recommendations by the Council*,[7] NIAC said:

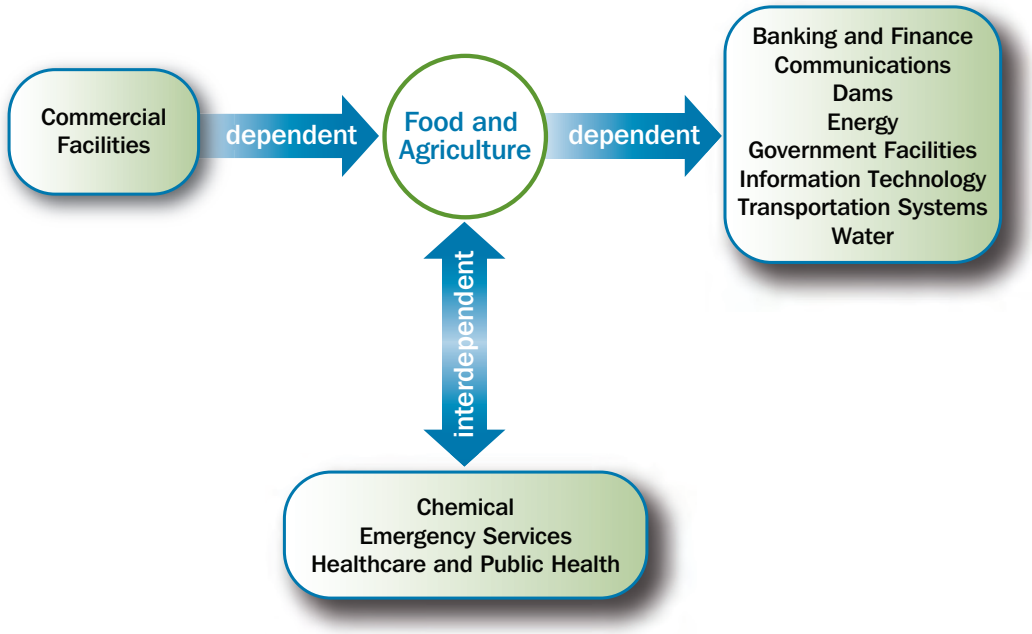
> "the complexity of interdependencies among CI/KR sectors cannot be understated. Furthermore, as business operations change and criticalities evolve, interdependencies shift in importance. The Study Group believes that these interdependencies must be mapped clearly so sectors are better able to protect their critical assets in the wake of a severe pandemic influenza and better prepared to defend themselves against potential cascading failures across sectors."

The NIAC report makes numerous other references to interdependencies and the need for additional study and research to adequately capture and describe these relationships. Specifically, the report states that the key findings of the survey included the following:

- **Interdependencies across critical infrastructure sectors** are exceptionally high in a biological event and must be fully understood. The interdependent relationships most often cited were for the basic municipal and other infrastructure support requirements, including energy, information technology, communications, and water.
- **Subtle interdependencies between critical goods and services and the CI worker,** including basic physical security requirements, financial services for businesses and workers, and food and healthcare to sustain workers and their families, are no less important than the direct interdependencies.
- **Supply chain interdependencies,** specifically the essential role transportation plays as a bridge between all levels of the supply and distribution chain, are yet another venue to be further studied and understood.

Figure 1-1 illustrates the three types of relationships that can exist between CIKR sectors: (1) sectors dependent on the FA Sector, (2) FA Sector dependence on other sectors, and (3) FA Sector interdependencies.

Figure 1-1: FA Sector Dependencies and Interdependencies



[7] **http://www.dhs.gov/xlibrary/assets/niac/niac_CBR_FINAL_REPORT.pdf** available online on 10/14/2009.

As a description of figure 1-1, the FA Sector is dependent on the Water Sector to provide a continuous supply of potable water and adequate wastewater facilities. Water is necessary for processing facilities, livestock production, and crop irrigation at the farm level, where water sources often include rivers, reservoirs, lakes, and groundwater. In addition, food and ingredient manufacturing relies on water, and especially municipal water and wastewater systems, for processing. A water shortage would limit the ability of farmers to irrigate crops, but the Water Sector would not be directly impacted by a large scale FA Sector disruption. Similarly, the Transportation Systems Sector provides the means for delivering inputs to the farm, including items such as seeds, seed stock, fertilizer, and feed required for agricultural production. The FA Sector is dependent on the Transportation Systems Sector for the delivery of these agricultural products to processing facilities, then to distribution facilities and retailers, and finally to the consumer. The FA Sector relies on fertilizers and pesticides supplied by the Chemical Sector for the production of economical and plentiful agricultural products.

Conversely, the Commercial Facilities (CF) Sector could be significantly impacted and experience losses in revenue by a large scale disruption of the FA sector, specifically at the retail level, whereas the Commercial Facilities Sector relies on the outputs from retail food venues to support consumer demands for food and beverages at sporting events, mass gatherings, and other venues with mass attendance.

The FA Sector, in collaboration with other sectors and DHS, seeks to illustrate and further examine these dependencies and interdependencies. Some benefit could be realized from the Life Support Sectors to begin to address overlaps and interdependencies to aid in future planning, integration, and coordination not only to eliminate redundancy in efforts, but to create a synergistic relationship in which each sector can benefit from its respective overlaps. These overlaps could identify the existing strengths and potential vulnerabilities that could be in need of improvement or resiliency strategies.

1.1.2 Cyber Infrastructure

Because cyber attacks on food and agriculture CIKR offer little financial gain and likely pose only minimal economic disruption, the sector does not perceive itself as a target of such an attack. DHS has not identified the FA Sector as a target of cyber crime; therefore, sector partners agree that addressing cybersecurity issues is not a top priority. The FA Sector will periodically revisit the need to address cybersecurity. Cyber threats and attack tools evolve rapidly; the cyber attacking community shows ingenuity. Most attacks can be blocked by continuously updated computer security programs. Such programs involve: adherence to procedural safeguards for the system; an effective, continuously adaptive firewall; the application of intrusion detection and intrusion prevention systems for detecting, reporting, and preventing external threats to the network and information systems; surveillance programs for detecting insider threats; continuing training of users of the system concerning proper security procedures; use of passwords resistant to hacker compromise; and related safeguards. Sector partners use cybersecurity measures as part of good business practices. Appendix A.2.5 describes SSA-related cybersecurity practices. Moreover, through participation in the Cross Sector Cyber Security Working Group (see chapter 8), the SSAs for the sector can maintain steady-state awareness of current activities and trends in cybersecurity initiatives.

1.2 CIKR Partners

HSPD-7 assigns USDA and FDA the task of SSA for the FA Sector. USDA and FDA share SSA responsibilities for food safety and defense and have an obligation to provide leadership for sector infrastructure protection activities, including establishing information-sharing relationships and developing collaborative sector protection plans with sector CIKR partners. As noted previously, the FA Sector comprises a set of private industries (owners and operators) represented by the SCC and government (Federal and SLTT) entities represented by the GCC; therefore, protection and resilience for the sector require close collaboration between government and industry.

The SCC, which is a self-governing body representing the food and agriculture industry, provides a forum for members of the private sector to discuss infrastructure protection issues among themselves or to communicate with the government through

the GCC. The GCC, with representation from Federal and SLTT governments, is the public sector component of the food and agriculture public-private partnership framework. The objective of the GCC is to provide effective coordination of food and agriculture protection and resiliency strategies and activities, policy, and communication across government and between government and the sector to support the Nation's homeland security mission.

Significant progress in the FA Sector on homeland security goals can only be accomplished through a partnership effort among all levels of government and critical infrastructure owners. The FA Sector's main planning and coordination mechanisms for security and CIKR partners are the SCC and the GCC. USDA and FDA, in concert with DHS, recognized the need for a mechanism to facilitate interaction with sector partners. The goal of establishing such a partnership is to leverage complementary resources in government and between government and industry to ensure a more robust, resilient, and secure sector.

Tables 1-1 and 1-2 list SCC and GCC members, respectively. The SCC Governance Principles and Operating Procedures and GCC charter with additional partner information and Web sites are available in appendices A.2.6 to A.2.9.

Table 1-1: Sector Coordinating Council Members

Agricultural Retailers Association
American Farm Bureau Federation
American Frozen Food Institute
American Meat Institute
CF Industries, Inc.
Food Marketing Institute
Grocery Manufacturers Association
International Association of Refrigerated Warehouses
International Dairy Foods Association
International Foodservice Distributors Association
International Inflight Food Service Association
International Warehouse Logistics Association
Kraft Foods Global, Inc.
McCormick & Company, Inc.
National Association of Convenience Stores
National Cattlemen's Beef Association
National Corn Growers Association
National Food Service Security Council
National Grain and Feed Association
National Milk Producers Federation
National Pork Board
National Pork Producers Association
National Restaurant Association
National Retail Federation

United Fresh Fruit & Vegetable Association
United Fresh Produce Association
USA Rice Federation

Table 1-2: Government Coordinating Council Members

American Association of Veterinary Laboratory Diagnosticians
Association of Food and Drug Officials
Association of Public Health Laboratories
Association of State and Territorial Health Officials
Intertribal Agriculture Council
Multi-State Partnership for Agriculture Security
National Assembly of State Animal Health Officials
National Association of County and City Health Officials
National Association of State Departments of Agriculture
National Environmental Health Association
National Plant Board
Southern Agriculture and Animal Disaster Response Alliance
State, Local, Tribal, & Territorial GCC
U.S. Department of Agriculture*
U.S. Department of Commerce
U.S. Department of Defense
U.S. Department of Homeland Security
U.S. Department of Justice
U.S. Department of the Interior
U.S. Environmental Protection Agency
U.S. Department of Health and Human Services/Food and Drug Administration*
* FA Sector-Specific Agencies

1.2.1 Sector-Specific Agencies

The SSAs for the FA Sector are USDA and FDA. USDA has responsibility for production agriculture and shares SSA responsibilities for food safety and defense with FDA. Specifically, FDA is responsible for the safety of 80 percent of all food consumed in the United States. The SSAs have been assigned responsibility for overseeing and coordinating protection and resiliency efforts, as well as disseminating guidance through the SSP.

1.2.1.1 USDA Leadership for SSA Responsibilities

At USDA, leadership for SSA responsibilities rests with the Office of Homeland Security (OHS), which coordinates with all USDA agencies and offices to meet sector goals. USDA has statutory responsibilities to ensure plant and animal health, and the safety of meat, poultry, frozen, dried, and liquid egg products, and catfish. USDA is also a research leader in human nutrition, animal and plant health protection, and new crop technologies that allow producers to grow more food and fiber using less water and pesticides. USDA helps to ensure open markets for U.S. agricultural products and provides food aid to people in need domestically and overseas. USDA also provides a financial safety net to producers through market and disaster assistance programs and loans and a nutrition safety net for children and low-income people through the domestic nutrition assistance

programs. Appendix A.2.1 summarizes USDA's key authorities and appendix A.2.3 describes USDA's agencies and their jurisdiction in the farm-to-table continuum. The nexus between these responsibilities and homeland security, specifically infrastructure protection, lies in the relationship between a safe and plentiful food supply and ensuring public health nationwide. The nexus is also demonstrated in the jobs that depend on it. Farming and ranching are the foundations of $1 trillion in food and fiber business, with nearly $60 billion in annual exports. They generate almost 15 percent of the total economic activity in the Nation, as well as providing nearly 18 percent of the country's jobs.[8]

USDA has a long record of working with other governmental entities and private industry to support U.S. agriculture and food industries in ensuring the safety of our food supply. USDA agencies and offices are very active in outreach activities to accomplish its mission. The agencies help develop the productive and cooperative relationships of the large and diverse food and agriculture community through the creation of strategic alliances with stakeholders; however, these relationships have not typically included the appropriate security or defense-related entities and have not included the entire range of stakeholder entities from farm-to-table. Table 1-3 presents USDA agencies by Mission Area.

Table 1-3: USDA Agencies by Mission Area

USDA Mission Area	Agency
Farm and Foreign Agriculture Services	• Farm Service Agency (FSA) • Foreign Agricultural Service (FAS) • Risk Management Agency (RMA)
Food, Nutrition, and Consumer Services	• Center for Nutrition Policy and Promotion (CNPP) • Food and Nutrition Service (FNS)
Food Safety	• Food Safety and Inspection Service (FSIS)
Natural Resources and Environment	• Forest Service (FS) • Natural Resources Conservation Service (NRCS)
Research, Education, and Economics	• Agricultural Research Service (ARS) • Economic Research Service (ERS) • National Agricultural Statistics Service (NASS) • National Institute of Food and Agriculture (NIFA)
Rural Development	• Rural Business Service (RBS) • Rural Housing Service (RHS) • Rural Utilities Service (RUS)
Marketing and Regulatory Programs	• Agricultural Marketing Service (AMS) • Animal and Plant Health Inspection Service (APHIS) • Grain Inspection, Packers, and Stockyards Administration (GIPSA)

1.2.1.2 FDA Leadership for SSA Responsibilities

The FDA regulates $417 billion worth of domestic food, $49 billion of imported foods, and $60 billion of cosmetics sold across State lines. This regulation takes place from the products' point of U.S. entry or processing to their point of sale, with numerous food establishments (including food manufacturers, processors, and warehouses) and cosmetic firms. In addition, roughly

[8] **http://www.nasda.org/cms/7196/7349.aspx** available online on 10/14/2009.

935,000 restaurants and institutional food service establishments and an estimated 114,000 supermarkets, grocery stores, and other food outlets are regulated by State and local authorities that receive guidance, model codes, and other technical assistance from FDA. FDA enhances its programs by supporting State and local authorities with training and guidance to ensure uniform coverage of food establishments and retailers. Appendix A.2.2 summarizes FDA's key authorities and appendix A.2.4 provides a summary table of USDA and FDA jurisdiction over food.

The FDA also regulates animal feed through its Center for Veterinary Medicine (CVM). A safe animal feed supply helps to ensure the health of animals and people. To that end, CVM monitors and establishes standards for feed contaminants, approves safe feed additives, and manages the FDA's medicated feed and pet food programs.

The FDA Office of Regulatory Affairs (ORA) is the lead office for all FDA field activities. Each of FDA's five major program areas (human drugs, devices, biologics, food and cosmetics, and animal drugs and feeds) has a complementary field component responsible for supporting the centers that ensure compliance with FDA regulations. ORA accomplishes this by: inspecting regulated products and manufacturers; conducting sample analysis on regulated products; maintaining import data entry systems; and advising key officials on regulations and compliance-oriented matters that impact policy development and execution and long-range program goals. Table 1-4 shows FDA Program Activities parameters.

Table 1-4: FDA Program Activity: Fiscal Year (FY) 2008 Parameters[9]

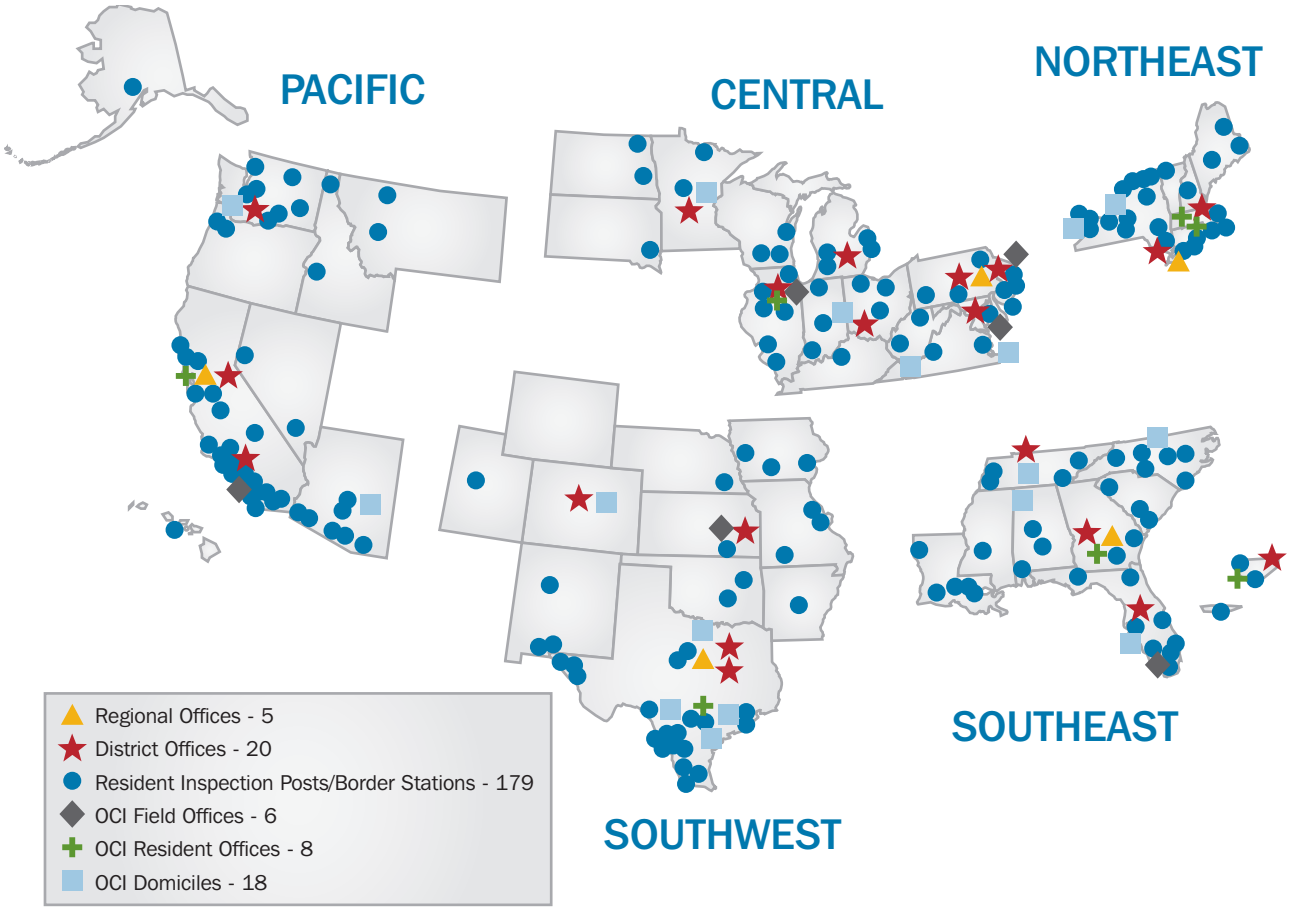
	Foods	Cosmetics	Drugs	Biologics	Animal Drugs and Feeds	Devices
Foreign and Domestic Inspections	16,277	92	2,392	1,728	8,196	10,601
Import Field Exams	100,718	1,892	2,863	36	2,930	6,566
Import Samples Analyzed	23,052	301	346	_	594	1,110
Import Line Entry Decisions	9.441 M	1.558 M	0.321 M	0.0633 M	0.245 M	5.567 M

The ORA supports 3,314 full-time employees that are dispersed throughout the United States. Over 85 percent of ORA's staff works in five regional offices, 20 district offices, 13 laboratories, and 179 resident posts and border stations. This includes the Office of Criminal Investigation (OCI), with staff located throughout the organization in field offices, resident offices, and domiciles in 32 cities throughout the United States. FDA maintains offices and staff in the metropolitan area of Washington, D.C.; U.S. Virgin Islands; Puerto Rico; and in all States except Wyoming. Figure 1-2 shows ORA offices in the United States.

The FDA primarily regulates food products sold in interstate commerce, whereas products made and sold entirely within a State are regulated by that State. In addition, formal agreements with the States for conducting inspections enhance FDA's ability to meet its public health mission. FDA personnel work with State agriculture and health departments to resolve food safety concerns and economic fraud cases.

[9] **http://www.fda.gov/AboutFDA/ReportsManualsForms/Reports/BudgetReports/ucm153374.htm** available online on 10/14/2009.

Figure 1-2: Office of Regulatory Affairs, 236 Offices in 2007



Division of Planning, Evaluation, & Mgmt - ORA Offices.ppt - 2/12/07
OCI Domiciles Source: Office of Management Operations, ORA
Source for All Other Locations: Office of Real Property Services, OC

1.2.2 CIKR Owners and Operators, Including Private and Public Entities

Regional and national organizations that represent the owners and operators have regular communication with the SSAs through conference calls and meetings to discuss protection and resiliency projects and initiatives underway by sector partners. SSAs continue to collaborate with these organizations on development and implementation of protection and resiliency strategies. The organizations can call on their members to provide additional knowledge and technical expertise across the full range of critical infrastructure protection (CIP) activities and issues.

1.2.3 Department of Homeland Security

The FA Sector interacts with the DHS National Protection and Programs Directorate (NPPD) Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) that identifies and assesses current and future threats to the Nation's physical and information infrastructure derived through the Strategic Homeland Infrastructure Risk Analysis (SHIRA) process that is designed to assess and analyze key risks to the Nation's CIKR: terrorists; nation-states; malicious insiders; industrial accidents; lone-wolf assailants; and natural disasters. This information is communicated to the sectors through the Homeland Security Information Network (HSIN).

The Office of Infrastructure Protection (IP) Partnership and Outreach Division (POD) within NPPD also has a key role in coordinating interagency, sector-wide, and cross-sector activities. Because of the importance of this division, the GCC and SCC have committed to selecting Federal, State, and private sector subject matter experts for assignment to POD. The FA Sector also interacts with the DHS Science and Technology Directorate (S&T).

The following information describes the DHS Office of Health Affairs (OHA) and IP roles and responsibilities:

- **NPPD-IP roles and responsibilities:** According to HSPD-7, DHS is responsible for coordinating the overall national effort to enhance the protection and resilience of the CIKR of the United States. In DHS, this overarching responsibility is delegated to IP.
- **OHA-Food, Agriculture, and Veterinary Defense (OHA-FAVD) division role and responsibilities:** OHA-FAVD provides oversight and management of DHS implementation of HSPD-9 by integrating efforts of other DHS components and coordinating those efforts with appropriate Federal departments and agencies, SLTT governments, and the private sector.

1.2.4 Other Government Departments and Agencies

The SSAs have interagency agreements with many other Federal and State agencies to delineate responsibilities for food and feed safety and animal and crop health. These agreements are the foundation for mapping relationships and delineating responsibilities among these Federal partners.

The SSAs maintain close communication with GCC Federal partners and other Federal agencies, including the Department of Commerce's National Marine Fisheries Service, the Centers for Disease Control and Prevention (CDC), DHS Customs and Border Protection (CBP), the U.S. Environmental Protection Agency (EPA), the Federal Trade Commission, the Department of Transportation, the Consumer Product Safety Commission, and the Department of Justice (DOJ). SSAs also receive information from other governmental security agencies and guidance from the Office of Management and Budget (OMB).

1.2.5 State, Local, Tribal, and Territorial Governments

The SSAs work closely with SLTT entities. The program areas covered and jurisdictional lines can vary significantly, depending on each State or regions in the United States. Primarily, State and local food protection and agriculture agencies have jurisdiction of the food supply at the retail and wholesale levels, including the receipt of agricultural products in the local jurisdiction. More than 3,000 SLTT agencies have primary responsibility to regulate the retail food and foodservice industries in the United States. They are responsible for the inspection and oversight of over one million food establishments — restaurants and grocery stores, vending machines, cafeterias, and other outlets in health care facilities, schools, and correctional facilities.

1.2.6 International Organizations and Foreign Countries

Globalization is a fact of 21st century economic life. As a result, United States markets comprise a myriad of imported goods that consumers want and need. The FDA has identified China, India, the Middle East, Europe, and Latin America as areas in which to establish a permanent in-country presence, based on the volume of imported products from specific areas, problems associated with products over the years, and value to be derived from leveraging the activities and resources of trusted foreign counterpart regulatory authorities.

1.3 Sector Goals

Homeland security is not the responsibility of one department or agency in government, but rather, it is a partnership effort. Significant progress in the FA Sector homeland security goals can only be accomplished through a partnership effort between all levels of government and the critical infrastructure owners.

The vision of the FA Sector is twofold: (1) "The Food and Agriculture Sector acknowledges the Nation's critical reliance on food and agriculture" and (2) "The sector will strive to ensure that the Nation's food and agriculture networks and systems are secure, resilient, and rapidly restored after all-hazards incidents. Public and private partners aim to reduce vulnerabilities and minimize consequences through risk-based decision making and effective communication."

To meet this vision, the sector is working to ensure that the food and agriculture industry has incorporated concepts of HSPD-7 in their own asset protection, vulnerability and risk reduction, and continuity of operations (COOP) plans. The sector provides leadership on food and agriculture-related issues based on sound public policy, the best available science, and efficient management.

In early 2009, the SCC and GCC updated the FA Sector vision statement. The sector constantly revisits its strategy and goals to ensure that they continue to be relevant and appropriate. Table 1-5 presents the FA Sector Vision Statement and long-term goals.

Table 1-5: Vision Statement and Long-Term Sector Goals

Sector Vision Statement	
The Food and Agriculture Sector acknowledges the Nation's critical reliance on food and agriculture. The sector will strive to ensure that the Nation's food and agriculture networks and systems are secure, resilient, and rapidly restored after all-hazards incidents. Public and private partners aim to reduce vulnerabilities and minimize consequences through risk-based decision making and effective communication.	
Long -Term Sector Goals	
Goal 1	**Work with State and local entities to ensure that they are prepared to respond to incidents.** The sector will ensure that the combined Federal, State, local, and, tribal capabilities are prepared to respond quickly and effectively to a terrorist attack, major disease outbreak, or other disaster affecting the national food and agriculture infrastructure.
Goal 2	**Improve sector analytical methods to enhance and validate detection of a wide spectrum of threats.** Laboratory capabilities and capacities will be increased to address threat agents that could be used in an attack on food and agricultural products, as well as traditional human pathogens that contaminate foods. This enhanced system will also accommodate requirements that could result from a bioterrorist attack on the food supply.
Goal 3	**Improve sector situational awareness through enhanced intelligence communication and information sharing.** There will be more and better reporting of food and agriculture incidents and threats among industry security partners, law enforcement, and the intelligence community. Government-developed threat information will be shared expeditiously with the food and agriculture industry to facilitate threat-appropriate security measures.
Goal 4	**Tailor risk-based, performance-based protection measures to the sector's physical and cyber assets, personnel, and customers' products.** Protection measures will be scalable to accommodate both the steady state and periods of heightened threat, as well as organizations of various sizes within the sector. Specific security measures will address authentication of sector personnel engaged in the food and agriculture industry.
Goal 5	**Address response and recovery at the sector level, not just as separate enterprises. Standards and planning for sector-wide continuity of operations should be developed.** The sector will facilitate a close partnership with the public health community to enable rapid identification and treatment of a bio-incident in the Food and Agriculture Sector. There will be advanced identification of protocols and resources to respond to and recover from an incident in the sector.
Goal 6	**Expand laboratory systems and qualified personnel.** The ability to effectively diagnose and treat animal disease outbreaks and crop contamination will be strengthened to prevent, respond to, and recover from an incident in the Food and Agriculture Sector. State budgets for inspection, detection, and training protocols will be revisited to provide for such initiatives.

1.4 SCC Value Proposition

As of the printing of this document, the SCC is nearing completion of its value proposition. After the value proposition is completed, the GCC plans to address the need for a value proposition as well.

1.5 Conclusion

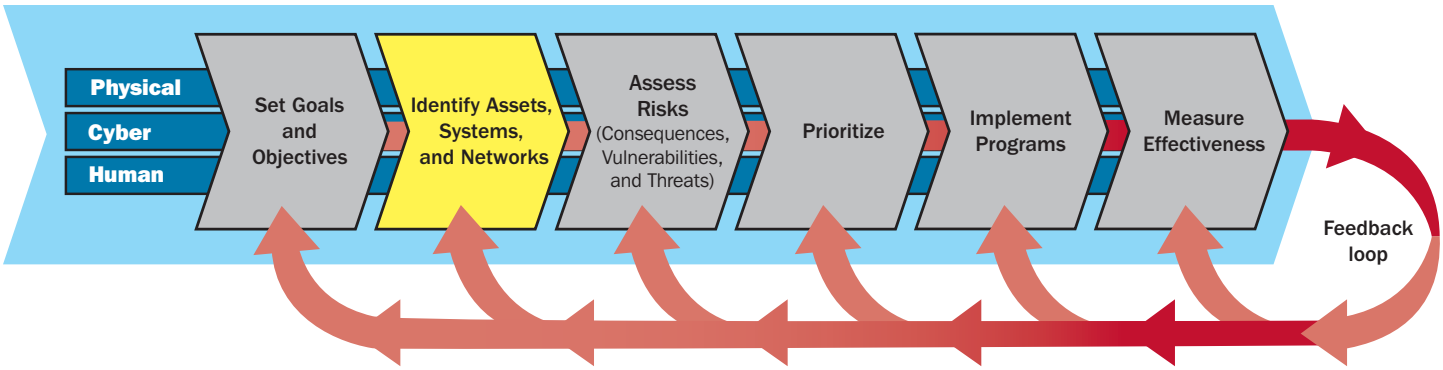
The FA Sector provides an abundant and safe food and fiber supply for families across the Nation and around the world through commercial trade and food aid. Protecting the assets, systems, and networks in the FA Sector and the well-being of all that depend on the sector for food represents a difficult, yet critically important responsibility. The development of a comprehensive and strategic SSP for protecting the sector's critical assets, systems, and networks will help meet this responsibility. The SSP and planning processes identified here will succeed only if they are fully supported by Federal and SLTT governments and private industry. The FA Sector is unique in many ways, including its use of dual SSAs and its highly diffuse nature.

The planning process is made more challenging by the FA Sector's innate characteristics, which are fragmented, dispersed, and resilient in some cases, but concentrated and interdependent in others. Understanding and communicating these complexities requires the sustained commitment of both private and governmental CIKR partners because the potential consequences to domestic and global human health, as well as the societal and economic environment, are enormous. The lessons learned in the development of the SSP will enable private sector and government interests to work together to better meet sector goals. The lessons will enable all parties to make informed choices about allocating the scarce resources where needed to improve the readiness and resilience of the sector.

Although chapter 1 has addressed some of the complexities and challenges of the FA Sector, it is intended to serve merely as an overview of the sector. Chapter 2 addresses, in more detail, the challenges that face the FA Sector on systems that comprise the intangible assets in the sector and the difficulties in quantifying these assets for assessment, monitoring, and evaluation. Chapter 2 sets the stage for the subsequent risk assessment in the sector (chapter 3); prioritizing infrastructure (chapter 4); developing and implementing protective programs (chapter 5); measuring progress (chapter 6), CIKR protection R&D (chapter 7); and managing and coordinating SSA responsibilities (chapter 8).

The responsibility for protecting the food and agriculture infrastructure is shared by many groups. FDA and USDA fill the role of the SSAs, but the GCC and SCC represent CIKR partners with a vested interest. Collectively, the GCC and SCC created the goals presented in chapter 1. These goals serve as a driving motivation for CIKR protection and resiliency efforts within the sector.

2. Identify Assets, Systems, and Networks



Continuous improvement to enhance protection of CIKR

Chapter 2 explains the FA Sector process to define, identify, collect, and store food and agriculture CIKR systems information that is pertinent to risk management. The focus of this identification is on systems in the sector which, if damaged, would result in significant consequences on national economic security, national public health and safety, public confidence, loss of life, or some combination of these adverse outcomes. The chapter addresses a myriad of existing efforts on information collection practices and methodologies that support existing government regulation and oversight and private sector operations and logistical functions. In addition, this chapter describes CIKR identification and information collection efforts, challenges, and barriers and describes procedures for protecting sensitive and classified information used to guide CIKR sector protection decision-making activities.

The FA Sector infrastructure, because of its unique, complex, broad-based, globally distributed, and highly integrated nature, is a system of systems (i.e., systems of individual assets that are closely dependent on each other). Because of its complexity, the sector has struggled to define its most critical assets, systems, and networks. While the sector understands its individual systems and basic interrelationships, the challenge has been in understanding and extrapolating data from the innumerable end points. Differences in the terminology used by sector partners contribute to the complexities to identify interdependencies across the farm-to-table continuum on regional, national, and international scales. The complexities of the sector not only make data collection and updating of CIKR information difficult; they make the verification of that information nearly impossible.

To meet requirements of the NIPP for a strategic approach to CIKR protection, the FA Sector must understand its critical systems and subsystems. The sector endeavors to establish methods and processes by which these systems can be evaluated; to assist in consideration of potential threats; to assess vulnerabilities; and to develop and implement protective measures and mitigation strategies. Also, it is perceived that these methods and processes can help address R&D needs and measure successes. Protective

efforts for the sector must begin on the farm with inputs (e.g., fuel, fertilizer, livestock), move through processing and manufacturing (e.g., transportation, storage, transferring of supplies), and end with the consumer. Efforts must be made to identify and consider interdependencies and dependencies that exist with other sectors. (See figure 1-1 for a listing of sectors.)

The Food and Agriculture Sector-Criticality Assessment Tool (FAS-CAT) is used to help define and identify critical assets. All State partners are encouraged to utilize FAS-CAT and are expected to participate in the identification of critical assets; the nature of the sector makes this a nearly impossible task for any one entity; a partnership approach is needed to complete this criticality assessment.

The critical asset information is collected through the DHS data call process and maintained in the DHS Infrastructure Data Warehouse (IDW), a central Federal data repository for analysis and integration, to provide DHS with the capability to identify, collect, catalog, and maintain a national inventory of information on assets, systems, and networks that may be critical to the Nation's well-being, economy, and security.

Collected proprietary information is protected by the sector and DHS. After the information is collected, it needs to be verified and updated. Data verification is a multifaceted process that varies according to the entities that submitted the data. The process is being revised to ensure an even higher quality of data. Each year the existing data will be updated as part of the data call process.

The critical starting point for risk analysis is to define and identify CIKR assets, systems, and networks and, in many cases, their associated functions. This definition and identification is the foundation for conducting a risk analysis (chapter 3), prioritizing infrastructure systems (chapter 4), and identifying the appropriate mix of protective programs and actions that will most effectively reduce risk (chapter 5).

2.1 Defining Information Parameters

This chapter illustrates the basic framework used to define FA Sector CIKR information parameters. The sector has set forth the use of FAS-CAT to assist with the definition, identification, collection, verification, and updating of infrastructure information. DHS and the FA Sector have partnered with one of the DHS Centers of Excellence—the National Center for Food Protection and Defense (NCFPD)—to develop FAS-CAT as an assessment tool to assist States in determining and documenting the most critical elements, systems, and subsystems in the FA Sector infrastructure at the State level. FAS-CAT version 1.0 was first released in early 2008, and FAS-CAT version 1.2 with enhancements based on State feedback is now available on the NCFPD Website.

As part of food safety responsibilities and food defense recommendations, the Federal Government and all SLTT regulating partners must be able to identify and locate individual establishments, facilities, and firms from one end of the farm-to-table continuum to the other. For response and recovery efforts, the FA Sector needs the ability to identify those innumerable systems that might be affected by a terrorist attack, natural disaster, or man-made accident to know the status of the regulated facilities following a natural disaster. This represents an enormous challenge.

The FA Sector comprises systems of individual assets that are closely dependent on each other. Because of its complexity, the sector has struggled to define its most critical assets, systems, and networks. While the sector understands its individual systems and basic interrelationships, the challenge has been to understand and extrapolate data from innumerable end points. Differences in the terminology used by sector partners contribute to the complexities and interdependencies across the farm-to-table continuum at regional, national, and international levels. The sheer number and breadth of facilities in the sector makes the collection and updating of information difficult and the verification of that information a challenge.

Therefore, when determining and assessing vulnerabilities, the FA Sector defines its CIKR mainly in terms of systems as opposed to individual facilities. By taking a systems-based approach to identifying critical assets, systems, and networks, it is possible to identify the food types and systems most at risk for contamination and look within those systems to determine

the most vulnerable points in the farm-to-table continuum. As new developments in the definition of FA Sector infrastructure information occur, the SSAs will capture and provide this information in the Sector Annual Report.

In the FA Sector, no overarching plan for the definition and identification of all CIKR information exists; however, a tremendous amount of background, day-to-day work exists that generates sector information collected across the spectrum of sector regulatory, enforcement, and oversight activities. Similarly, laboratory-related assets, systems, and networks, while performing these day-to-day activities, are also producing, analyzing, and comparing infrastructure information. The compilation and assessment of these data may illustrate CIKR information, but singularly, the information may not have the appearance of CIKR-related information. Additional SSA information parameters are provided in appendix A.3.1.

The FA Sector is vast, with an excess of 100,000 production and processing facilities located throughout the country, and countless facilities overseas in foreign countries that export foods and food products to the United States. Because multiple facilities throughout the country produce and distribute the same or similar products, destruction of a single establishment, in many instances, will not have a substantial impact on the Nation's food supply. The system has significant ability to compensate for naturally occurring events (flooding, wild fires, and hurricanes). The naturally occurring phenomena occur quite frequently, and responsible authorities can prepare, train, mitigate, respond, and recover in a more definitive and effective manner. The ability of the FA Sector to compensate for unforeseen manmade hazards or intentional contamination is daunting.

2.1.1 Infrastructure Data Taxonomy

In November 2008, DHS released an updated version of the DHS Infrastructure Taxonomy (see appendix A.3.5) that established a standard vocabulary as the foundation for the DHS IDW and other DHS tools and systems designed to identify and categorize the Nation's CIKR. This taxonomy sets forth language that the SSAs intend to use in the sector as a means of effective communication with all sector stakeholders. The SSAs, along with other government and private sector partners, have provided input for developing the taxonomy. The SSAs intend to encourage sector partners to use the taxonomy to facilitate consistent communication and dissemination of CIKR information. The SSAs will continue to review this Infrastructure Data Taxonomy and work with sector partners and the DHS IP Infrastructure Information Collection Division (IICD) to refine the specific categories of information that need to be collected.

2.1.2 Infrastructure Data Warehouse

DHS maintains a national inventory of the assets, systems, and networks that are nationally significant and those that may not be significant on a national level, but which are, nonetheless, important to State, local, or regional CIKR protection, incident management, and response and recovery efforts. The IDW serves as an IP integrated repository of infrastructure data that contains key reports, maps, imagery, enhanced critical infrastructure protection assessments, and Protective Security Advisor (PSA) visit information for facilities nationwide. The IDW provides access to relevant information supporting incident response and maintains basic information about the relationships, dependencies, and interdependencies among various assets in and across sectors and geographic regions.

Currently, the inventory and associated attributes are maintained through the Infrastructure Information Collection System, accessible in geospatial context using the capabilities provided by the Integrated Common Analytical Viewer suite of tools. The SSAs and DHS work together and in concert with SLTT governments and private sector partners to ensure that the inventory data structure is accurate, current, and secure.

2.2 Collecting Sector CIKR Information

This chapter describes the process by which the FA Sector has and continues to collect sector-specific CIKR system data and the mechanisms for making data collection efforts more manageable and less burdensome. Collecting the necessary CIKR

information on systems in the sector requires a collaborative effort. While the SSAs provide much information to DHS, a significant amount of valuable information generally is held by CIKR owners and operators. Ideally, owners and operators will submit their data voluntarily. Encouraging voluntary data submission requires that all CIKR partners work collaboratively to develop and maintain processes for collecting, storing, and protecting data that meet their individual and collective needs and address particular concerns of the sector. The SSAs, as a direct result of the relationships developed through partnerships with the SCC leadership, have a working knowledge of sector-based data sources and can facilitate information-sharing agreements with the owners of CIKR data.

HSPD-7 directs the Secretary of DHS to lead efforts to reduce the Nation's vulnerability to terrorism and deny the use of infrastructure as a weapon by developing, coordinating, integrating, and implementing plans and programs that identify, catalog, prioritize, and protect CIKR in cooperation with all levels of government and private sector entities.

As previously stated, the diverse and complex nature of the sector poses a challenge to the task of determining which sector assets are critical. The CIKR information collection effort includes an outreach component so that sector partners in industry and the SLTT governments understand the purpose and criteria of the information needed. The SSAs have promoted the use of the FAS-CAT for FA Sector CIKR data collection. Through the DHS yearly CIKR data call, the SSAs have worked with SLTT governments and private sector partners in an attempt to collect the CIKR information for the sector. Appendix A.3.2 gives Federal examples of the SSA databases used to identify and define agency-specific information needed in a model to determine sector CIKR systems.

As new developments in the CIKR data collection process occur, the SSAs will capture and provide this information in the Sector Annual Report.

2.2.1 Data Call Process

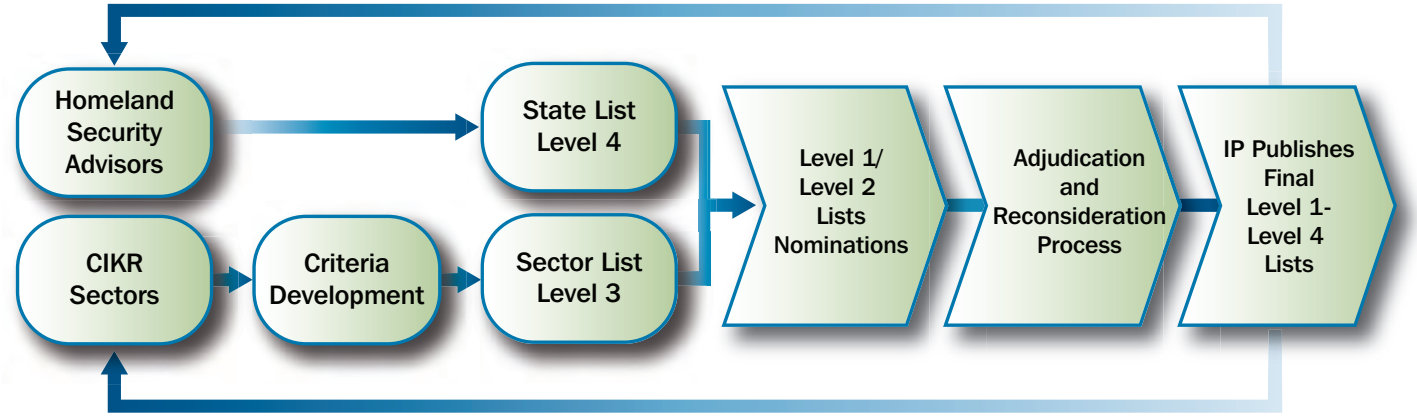
In accordance with the 9/11 Commission Act, DHS is the lead coordinator in the national effort to identify and prioritize the Nation's CIKR. DHS executes this responsibility through the National Critical Infrastructure Prioritization Program, which includes Level 1 and Level 2 data calls to identify domestic infrastructure which, if disrupted, could critically impact the Nation's public health and safety, economic, and national security. The Critical Foreign Dependencies Initiative, which identifies similarly critical infrastructure outside the United States, also helps identify and prioritize CIKR. The Level 1 and Level 2 lists inform State homeland security and other grant programs. They are used during incidents to prioritize Federal, State, and local response and recovery efforts. The ultimate goal is to include critical food and agriculture assets on future CIKR lists so that they may be eligible for DHS grant funding.

The DHS Level 1 and Level 2 (formerly Tier 1 and Tier 2) data calls have been conducted annually over the past three years. The FA Sector is systems-based, not asset-based; therefore, the identification of FA Sector-specific critical assets has been difficult. State personnel have not previously responded uniformly to the request for lists of assets that meet the criteria used, and consequently, DHS has removed many of the submitted assets from the list. The work that many States have put in previous years submissions is recognized and truly appreciated, particularly because the continued support and effort of the States is critical while this process is improved.

The DHS Level 1 and Level 2 data calls focus on the identification of infrastructure that is most significant and consequential if lost or compromised. In addition to the Level 1 and Level 2 lists, DHS has incorporated two additional lists—a sector list (Level 3) developed by each sector and a State list (Level 4) developed by each State and territory. The sector and State lists are designed to identify infrastructure that does not satisfy Level 1 and Level 2 criteria, but which is highly important to a sector or State. The primary reason for this change is to acknowledge and better understand the importance of various infrastructure assets that may not necessarily qualify as Level 1 or Level 2. The development of sector and State lists will ensure that the assets submitted by the States are not lost and efforts are not underutilized.

Changes to the eligibility criteria were incorporated in the 2009 data call. Level 1 criteria remain very similar and include specific thresholds (for death and economic impact) as well as mission disruptions and mass evacuations. Level 2 criteria mirror the Level 1 criteria but have lower thresholds. Both sets of criteria are cross-sector in nature and do not incorporate sector-specific considerations. The SSAs, in coordination with sector partners, developed criteria for the sector list; each State and territory individually developed criteria for the State lists, in accordance with basic guidance from DHS. The sector (Level 3) and State list (Level 4) criteria can be much more expansive than the Level 1 and Level 2 criteria and are meant to be highly flexible to allow sectors, States, and territories to identify infrastructure of importance at the sector, State, or local levels. Figure 2-1 illustrates the DHS data call process.

Figure 2-1: The DHS Data Call Process



The main purpose of all four lists (Level 1–Level 4) is to provide a common basis that DHS and CIKR sector partners can use to develop and implement important CIKR protection programs and initiatives. The lists will continue to be used to focus planning, foster coordination, and support effective incident management, response, and restoration activities by DHS, Federal and SLTT governments, and private sector partners.

2.2.1.1 Using FAS-CAT for DHS Data Calls

As previously stated, with FA Sector guidance and direction, NCFPD created FAS-CAT to help identify critical assets in the sector and provide reporting mechanisms to DHS. This tool is designed to assist States, in partnership with both the private sector and other regional partners as appropriate, in determining the most critical elements, nodes, and systems in the sector's CIKR.

States and territories have been encouraged to use FAS-CAT to determine their critical systems and subsystems for the annual national DHS data call. Each State can submit its top five weighted FAS-CAT scores critical summary, with system and subsystem identification, when nominating CIKR for the State or territory list. The FA Sector will use these systems and subsystems to populate its sector list. States and territories can download FAS-CAT and accompanying guidance documents and tutorials.[10] Assistance on the use of FAS-CAT is also provided by NCFPD.

2.2.1.2 Protected Critical Infrastructure Information

One of the key components for collecting infrastructure information is the ability to preserve the confidentiality of the information submitted by the private sector. In many instances, the data may contain proprietary company information provided voluntarily. Although the private sector would like to share sensitive business or security information with its Federal or State

[10] **http://FoodSHIELD.org/** or **http://www.ncfpd.umn.edu/** available online on 10/14/2009.

CIKR partners, it may hesitate to do so because of concerns about protecting the information from disclosure. For this reason, a level of trust is needed that the information will be used only for the stated purposes and that it will be protected from public release. The sector is aware that the DHS Protected Critical Infrastructure Information (PCII) program offers a mechanism for industry to share and the government to protect sensitive business and security information.[11] The SSAs will continue working with DHS IP-IICD to provide PCII-specific guidance to sector partners as necessary.

State partners have indicated they are prepared to share CIKR information with their Federal partners; however, these contributors have also indicated a need and anticipation for consistent guidance from USDA, FDA, and DHS on the function and use of PCII. Additional information on the PCII program is provided in chapter 8.

2.3 Verifying CIKR Information

Programmatic-based information collected from sources regulated by the SSAs can be easily verified. Because of the complexities and diversity of the sector, however, an overarching formal process to verify CIKR information provided to the SSAs through the data calls has not yet been identified. The SSAs have and continue to work with SLTT governments and private sector partners in an attempt to devise a mechanism to verify CIKR information for the sector. Additional information on SSAs data verification is provided in appendix A.3.3.

Looking forward, a need exists for a process to verify the critical systems and CIKR data identified through FAS-CAT. In contrast, infrastructure information collected by the SSAs for regulatory or other mission-related purposes is verified by data quality control; validated through on-site meetings; and verified through producers and members of industry, other Federal Government agencies, and the States. Although this verification work is part of regulatory requirements and other efforts, it does contribute to the larger CIKR data verification process.

DHS IP PSAs verify CIKR information provided through DHS data calls while performing individual site assistance visits. It is also understood that the IDW will provide the capability to view aggregate similar data sets in the system.

2.4 Updating CIKR Information

SSAs, working with SLTT governments and private sector partners, have devised a mechanism to update sector CIKR information. Sector partners can use FAS-CAT to identify new CIKR information that can help update existing CIKR information. The FA Sector endeavors to establish a formal process to update and verify CIKR information. As new developments in the updating and verification process occur, SSAs will capture and provide this information in the Sector Annual Report. Additional information on the SSAs data update is provided in appendix A.3.4.

2.5 Conclusion

The ability of the sector to define, collect, verify, and update information on its most critical components continues to be a challenge. The FA Sector has made significant efforts to facilitate the DHS 2009 CIKR data call, including conference calls, FAS-CAT training Webinars, and personal outreach. These efforts were designed to support the States in the use of FAS-CAT to define their CIKR systems. Through aggregate review and analysis, the sector intends to depict and subsequently update these data clearly for all sector stakeholders. This process should lead to an overarching sector framework for defining and identify-

[11] Information submitted to satisfy the requirements of the Critical Infrastructure Information Act of 2002 is protected from public disclosure under the Freedom of Information Act, State and local disclosure laws, and use in civil litigation. More information about the PCII program is available at **www.dhs.gov/pcii.** available online on 10/14/2009.

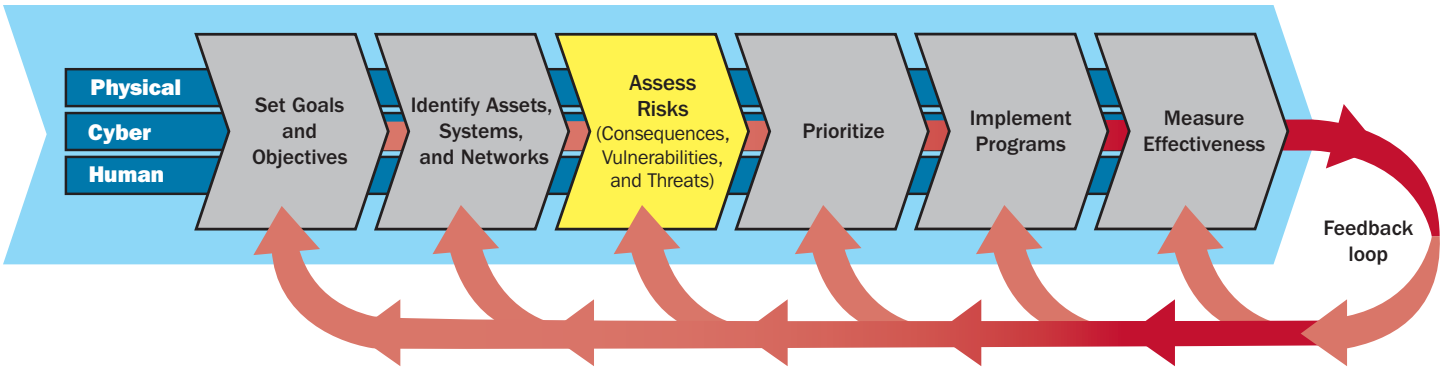
ing, collecting, verifying, and updating CIKR information. The agency-specific programmatic data will continue to sustain and maintain this larger sector effort.

Vulnerability and risk assessments form the basis for criticality identification within the sector. States may look at criticality from a State-centric or regional geographic perspective, and private industry may include high-level, industry-wide considerations, as well as individual company-level considerations. When these criticalities are assimilated according to like products, geography, and distribution, a true picture of the food and agriculture system becomes visible. The SSAs have worked with SLTT governments and private sector partners, and will continue to do so, in an attempt to define the CIKR information for the sector.

As both the data call process and FAS-CAT mature, the long-term vision of the FA Sector is that the tool will be used to collect consistent data in response to future DHS data calls. Data collected through the FAS-CAT process will be used to inform State Homeland Security Advisors (HSAs) of the most critical FA Sector assets in their States, allow for cross-sector comparison, and assist HSAs in allocating grant monies received accordingly. FAS-CAT will give HSAs and DHS a better understanding of the unique complexity of the FA Sector and emphasize the importance of protecting critical sector components in the States. In addition, the collection of standardized data will allow for sector-wide analysis that can be used to inform Federal grant initiatives and request specific grant funding for infrastructure components that are consistently identified as critical in the sector.

The SSAs, using the results from FAS-CAT, will continue to work with sector partners to identify permanent solutions to this process and remain committed to working through this important endeavor. Looking ahead, the critical importance of capturing accurate data as illustrated in this chapter ultimately will be portrayed in the sector's ability to assess risk (chapter 3) for the sector's CIKR.

3. Assess Risks



Continuous improvement to enhance protection of CIKR

Risk, as defined by the NIPP, is derived from an equation that incorporates consequence, vulnerability, and threat. The FA Sector typically focuses on systems and networks instead of on individual assets when conducting a risk assessment. The FA Sector has developed and used specific tools for specific purposes to assess risk.

Operational risk management (ORM) was previously used in the sector to help prioritize food products and commodities for further assessments by evaluating relative public health consequences; this process yielded a risk ranking to facilitate decision making. The CARVER+Shock methodology was developed to help assess vulnerability. For this document, vulnerability assessment tools and approaches will be illustrated. FAS-CAT is used to assess criticality in the sector.

CARVER+Shock—which stands for Criticality, Accessibility, Recuperability, Vulnerability, Effect, Recognizability, + Shock—was designed to identify vulnerabilities in assets, systems, and networks that comprise the FA Sector by encompassing the consequences and threats.

The National Counterterrorism Center (NCTC) is the lead entity in determining threat. All FA Sector threats deemed credible by law enforcement agencies are investigated further with assistance from FA Sector partners.

Consequence is the last component of risk, and it is assessed through the accumulation of reportable data (e.g., illness and death and economic impact). Both USDA and FDA have mechanisms to monitor adverse events. The information is aggregated to produce a clear picture of the consequence for each type of disaster.

The NIPP risk management framework calls for CIKR partners to assess risk from any scenario as a function of consequence, vulnerability, and threat, as defined below. As stated in the NIPP, "it is important to think of risk as influenced by the nature and magnitude of a threat (T), the vulnerabilities to that threat (V), and the consequences that could result (C)."[12]

$$R = f(C,V,T)$$

- **Consequence (C) Analysis:** estimates the potential public health and economic impacts that a successful attack could cause;
- **Vulnerability (V) Assessment:** identifies weaknesses in an asset design, implementation, or operation that can be exploited by an adversary; and
- **Threat (T) Analysis:** estimates the likelihood that a particular target, or type of target, will be selected for attack, and is based on the intent and capability of an adversary.

The NIPP also contains criteria designed to help comprehend consequence, vulnerability, and threat.

Threats posed to the FA Sector are distinct in many ways. The decentralized nature of food production makes a localized terrorist attack or natural disaster limited in the ability of a terrorist to impact the population as a whole. An intentional or unintentional destruction of a particular facility has the potential to severely affect a local economy and it can reduce the availability of a product, but the population will not go without food as a result.

The threats that are more pertinent to the FA Sector are intentional and unintentional food contamination. If an agent is introduced at a point of distribution, the possibility exists of that contaminant being spread over the entire country. The FA Sector, therefore, has targeted numerous efforts on food defense. Various methods for improving food defense have been in practice for decades, predating modern homeland security.

3.1 Risk Assessment in the Sector

Historically, risk assessments have been used to help focus limited protection resources where they can have the greatest impact. Risk assessments of food safety are used to determine the quantitative or qualitative value of risk attributed to exposure to an identified food contaminated with a biological or chemical hazard. Conversely, vulnerability assessments identify, quantify, and prioritize vulnerabilities in an asset, system, or network, and those assessments are an especially useful approach that this large, diverse sector can use to prioritize actions to mitigate identified vulnerabilities. Vulnerability assessments for homeland security are not mandated by regulation; they are voluntary. On the other hand, HSPD-9 directs USDA, HHS, and DHS to expand and continue to conduct vulnerability assessments of the FA Sector and update these assessments every two years. The SCC and GCC are therefore responsible for encouraging vulnerability assessments, as stated in HSPD-9. Private sector owners and operators have conducted vulnerability assessments because it is in the best interests of their companies. The government has not provided financial-based incentives to encourage conducting these assessments; rather, industry is motivated to conduct the vulnerability assessments based on the financial disincentive of an untoward event occurring in the food and agriculture supply.

The vulnerability assessments conducted by the SSAs have looked at systems and networks instead of particular assets. Vulnerability assessments help SSAs identify the products of highest concern, threat agents likely to be used, points in the production process where intentional contamination is most likely to occur, laboratory testing and research needs, and potential countermeasures. For these reasons, the remainder of this chapter describes mechanisms, functions, and elements of vulnerability assessments in the FA Sector.

[12] 2009 NIPP, pg 32, Sec 3.3.

3.1.1 Vulnerability Assessment: Federal Perspective

As an example of risk assessment at the Federal level, USDA and FDA have a history of risk assessment programs and innovations that were initiated for food safety purposes; however, the sector has consolidated vulnerability assessments that have evolved with the need to address food defense. Typically, vulnerability assessments conducted by the Federal Government are not site- or company-specific; they focus on high-level operational or systems processes or a particular industry. These vulnerability assessments are usually classified to protect the infrastructure information and analysis.

The Strategic Partnership Program Agroterrorism (SPPA) initiative provided a coordinated identification and assessment of possible vulnerabilities in the FA Sector. It helped to:

- Distinguish between real and perceived vulnerabilities and risks;
- Identify potential mitigation measures and strategies that may be appropriate; and
- Identify research needs and allocate research investments to address priority needs.

Through the SPPA assessments, participants identified numerous research gaps that would help them plan, mitigate, and respond to threats or actual incidents of terrorist attacks or natural disease outbreaks. The identified research gaps included (but are not limited to):

- Identification of feasible threat agents;
- Investigation into the use of threat agents at industry locations;
- Determination of agent toxic or infectious doses;
- Identification of a means to test for threat agents;
- Assessment of laboratory capacity and capability;
- Application of new technologies;
- Identification of emergency contacts; and
- Consideration of information sharing.

As stated in the conclusion of the SPPA Second Year Status Report,[13] "It is virtually impossible to guard against all threats to the food and agriculture supply. Food and agriculture industries, like all facets of United States commerce, must anticipate the possibility of a terrorist attack on their products and evaluate their preparedness and mitigation strategies to either thwart an attack or, at the very least, mitigate the damage, and recover from the economic and psychological impact of an attack." Additional information on the SPPA initiative is available in appendix A.4.1.

3.1.2 Vulnerability Assessment: SLTT Perspective

Several States and local governments have used risk assessments to identify food and agriculture-related vulnerabilities in their jurisdictions. Some have partnered with the Federal Government and industry to conduct assessments (see section 3.1.1, SPPA). State assessments may be more narrowly focused on particular industries in the State. The protection of this information varies by State law.

[13] **http://www.fda.gov/Food/FoodDefense/FoodDefensePrograms/ucm080992.htm** available online on 10/14/2009.

3.1.3 Vulnerability Assessment: Private Sector Perspective

Private industry assessments are typically focused on a particular company, site, or a process in a specific company or site. Many private companies are choosing to assess their operations to determine how to best use their resources. These assessments, while not classified, are carefully guarded and rarely shared with government partners because they identify specific vulnerabilities in a company, site, or process point. A number of private firms, industries, related trade organizations, and private voluntary organizations have demonstrated a general willingness to work with government partners to conduct vulnerability assessments, as demonstrated during the SPPA initiative. Time constraints, concerns about exposing vulnerabilities, sharing proprietary information, and assessment-related expenses limit the ability of some firms to participate in vulnerability assessments.

3.2 Screening Infrastructure (Risk Assessment Tools)

For screening infrastructure, the FA Sector has used a combination of tools, namely, the ORM methodology and FAS-CAT. ORM concentrates on the components of risk—identification, assessment, analysis— and its subsequent management—making control decisions, implementing risk controls, and supervising and reviewing for effectiveness to manage the risk. FAS-CAT, alternatively, uses its dynamic features to screen the criticality of the data being uploaded into its system.

3.2.1 Operational Risk Management

As previously described (FA SSP, May 2007), ORM was designed to facilitate decision making about the assignment of limited Federal, State, and local public health resources to minimize the risk of intentional food supply contamination, especially by terrorist organizations. It was also designed to help the food industry identify areas where enhancements in preventive measures could increase the security of the food supply. Additional information on ORM is provided in appendix A.4.1.

3.2.2 Food and Agriculture Sector Criticality Assessment Tool

The food and agriculture infrastructure, because of its unique, complex, broad-based, globally distributed, and highly integrated nature, is a system of systems; therefore, before conducting vulnerability assessments, developing protective and mitigation strategies, or focusing limited resources on preventive, protective, or response planning capabilities, it is vital to assess the systems and subsystems that make up the infrastructure. Only then can the systems that are truly critical in terms of consequences to our population, the economy, and the infrastructure's viability be identified. Additional information on FAS-CAT is provided in appendix A.4.1.

It is important to recognize that FAS-CAT is not a risk assessment or vulnerability assessment tool, but rather this assessment is a comparison of systems and subsystems against others in that same commodity or product chain or those in another such chain. Indeed, the objective is to facilitate the identification of food and agriculture infrastructure systems and subsystems that should be considered critical and which, after consideration of various factors, should be prioritized for further vulnerability assessment, protection, or response planning at the Federal, State, local, or private sector organization (i.e., company level).

3.3 Assessing Vulnerabilities

To depict the relationship and contents of this section the following terms, excerpted directly from the NIPP, illustrate the relationship between the opportunity (vulnerability) and outcome (consequence) of an attack in the FA Sector.

Vulnerability is defined as a physical feature or operational attribute that renders an entity open to exploitation or susceptible to a given hazard. In calculating risk of an intentional hazard, the common measure of vulnerability is the likelihood that an attack is successful, if it is attempted.

Many of the FA Sector's interdependent systems defy traditional security practices because they are not brick-and-mortar entities, like buildings, bridges, or dams. Instead, they are open areas (i.e., farms, ranches, or livestock transport areas) and complex systems that span the globe. Many of these systems face natural threats, including livestock and crop diseases and foodborne pathogens. Because of these variables, it may not be feasible to prevent the introduction of threat agents; therefore, the sector has acknowledged the importance of early awareness of threat agents in its systems.

The interdependent relationships within and among 'Life Support Sectors' present numerous vulnerabilities that could be problematic for the sustained and contained provision of services within each sector. Thus, to accurately portray the risk of these interdependencies in the FA Sector, one needs to clearly identify these points of dependence on life support partner sectors, and subsequently coordinate with those SSAs to address, mitigate, and fortify these vulnerabilities. Several examples of these interdependencies are described in chapter 1.

Vulnerability assessment information may be submitted by owners and operators for validation as PCII under the PCII Program (see chapters 2 and 8).

3.3.1 CARVER+Shock

The FA Sector has utilized CARVER+ Shock to fulfill this dual role of vulnerability and consequence assessment. CARVER+Shock is an offensive targeting prioritization tool adapted from the military version (CARVER) for use in the food industry. The tool can be used to assess the vulnerabilities within a system or infrastructure to an attack. It allows the user to think like an attacker to identify the most attractive targets for an attack. By conducting a CARVER+Shock assessment of a food production facility or process, the user can determine the most vulnerable points in their infrastructure and focus resources on protecting the most susceptible points in their system. Additional information on CARVER+Shock is available in appendix A.4.1.

3.3.2 Predictive Analytics

Previously, USDA reported it was developing the Food and Agricultural Biosurveillance Integration System to coordinate USDA data sources. USDA has renamed this project and expanded the scope to monitor and coordinate surveillance information on both unintentional and intentional food and animal health incidents. Predictive analytics (PA) will be a robust, comprehensive, and fully coordinated surveillance system for monitoring and analyzing data housed in USDA's data warehouses. The system will allow agencies to identify trends, patterns, and anomalies in data, including outbreak data and vulnerabilities in food safety systems. Data from PA will allow agencies in USDA to consolidate and analyze their surveillance information, and it will be used to allow for the early detection of unintentional and intentional food, animal, and plant health incidents. Data from PA, after USDA analysis, will also feed into the DHS National Bio-Surveillance Integration System (NBIS), which will integrate systems from various agencies that monitor health, environmental, and intelligence information to provide for the early detection of threats, guide responses to events, and allow for information sharing among agencies.

3.4 Assessing Threats

Threat is defined as a natural or manmade occurrence, individual, entity, or action that has or indicates the potential to harm life, information, operations, the environment, and property. Risk calculation considers the threat of an intentional hazard, and it is generally estimated as the likelihood of an attack being attempted by an adversary. For other hazards, threat is generally estimated as the likelihood that a hazard will manifest itself. In the case of terrorist attacks, the threat likelihood is estimated based on the intent and capability of the adversary.

The Federal Government, under the NIPP, is responsible for providing threat information for each sector. Threat information is available from various sources; however, DHS, law enforcement, and the intelligence community (IC) are the primary sources.

Risk and threat assessments help prioritize resources to protect the sector's infrastructure. The SSAs continue to work with HITRAC to obtain threat information. For risk and threat assessments, the following types of threat products will be used:

- **Common Threat Scenarios:** Present possible terrorist methods that could be used in attacks against U.S. infrastructure. DHS developed these scenarios from analyses of terrorist intentions and capabilities, and DHS plans to update them as required.
- **General Threat Environment:** Assess sector-specific threats that consider known terrorist threat information. General threat environment assessments also include longer term strategic assessments and trend analyses of the evolving threat to the sector's CIKR.
- **Specific Threat Information:** Use real-time intelligence streams and infrastructure-specific information to assess threats. Products will drive short-term protective measures to mitigate risk and contribute to the general threat environment and common threat scenario products produced by DHS.

3.4.1 Federal Perspective

SSAs continue to partner with the IC. Both FDA's OCI and USDA's Office of the Inspector General (OIG) maintain a full-time presence at NCTC. All threat information, foreign and domestic, that is directed against the United States or its interests is received and evaluated by the NCTC. First, threat information determined to be credible is passed to the SSAs to be used as necessary to protect the lives and well being of the public. Second, threat information determined to be both credible and actionable is referred to the appropriate law enforcement agency for action and passed to the SSAs. Operational law enforcement information would not be passed unless failure to do so would result in harm to the public.

The appropriate law enforcement agency in most cases would be one of the Federal Bureau of Investigation's (FBI) Joint Terrorism Task Forces made up of agents from various Federal, State, and local law enforcement agencies. Both OCI and OIG participate on the National Joint Terrorism Task Force. OCI and OIG agents would have a major role in any threat or criminal investigation involving FDA and USDA-regulated products. These agents would also be responsible for the coordination of FDA and USDA assets in the criminal investigation (e.g., subject matter experts, laboratory support).

3.4.2 SLTT Perspective

States and private sector representatives work with local law enforcement to ensure that available threat information is shared with the appropriate Federal officials. The FBI's weapons of mass destruction (WMD) coordinators play an important role in collaborating with the States and the private sector to maintain awareness of threats.

3.5 Assessing Consequences

Consequence is defined as the effect of an event, incident, or occurrence. Consequence reflects the level, duration, and nature of the loss resulting from the incident. For the NIPP, consequences are divided into four main categories: public health and safety; economic; psychological; and governance and mission impacts. The consequences considered for the national-level comparative risk assessment are based on the criteria set forth in HSPD-7:

- **Public Health and Safety:** Effect on human life and physical well being (e.g., fatalities and injuries or illness);
- **Economic:** Direct and indirect economic losses (e.g., cost to rebuild asset, cost to respond to and recover from attack, downstream costs resulting from disruption of product or service, and long-term costs resulting from environmental damage);
- **Psychological:** Effect on public morale and confidence in national economic and political institutions; encompasses changes in perceptions emerging after a significant incident that affect the public's sense of safety and well-being and can manifest in aberrant behavior; and

- **Governance and Mission Impact:** Effect on government's or industry's ability to maintain order, deliver minimum essential public services, ensure public health and safety, and carry out national security-related missions.

The Consumer Complaint Monitoring System (CCMS) is an electronic database used to record, triage, coordinate, and track all consumer complaints reported to USDA. FSIS Directive 5610.1[14] describes the purpose, activities, and maintenance of the CCMS system.

Similarly, FDA uses the Center for Food Safety and Applied Nutrition (CFSAN) Adverse Event Reporting System (CAERS) tool, which provides a single system for tracking and evaluating adverse events and consumer complaints received by FDA concerning food, dietary supplements, and cosmetics. Congressional funding allowed for the development of a basic system for report collection, which includes a document management system that permits data entry and report redaction and allows scanned reports to be seen at reviewers' computer stations.

CAERS also sends a notification to manufacturers of received adverse event reports about their products. Consumers, health professionals, or industry staff contact FDA district offices or FDA MedWatch[15] to report adverse events or product problems, and these reports are forwarded to CAERS for entry in the system. This tool provides CFSAN with a search capability for adverse event data. CAERS aids FDA in identifying new and emerging food, dietary supplement, and cosmetic-related public health problems.

If feasible and appropriate, CAERS information indicating a potential food defense incident may be shared with affected industry sectors and the FA Sector through HSIN. Collection of post-market reports about CFSAN-regulated products improves FDA's ability to identify and analyze food product-related risks.

Reportable Food Registry (RFR)[16] is an electronic portal for industry to report reasonable probability that an article of food will cause serious adverse health consequences. RFR helps FDA better protect public health by tracking patterns of adulteration in food. RFR supports FDA efforts to target limited inspection resources to protect the public health.

3.6 Conclusion

Risk is a multifaceted problem consisting of vulnerability, consequence, and threat. Each component needs to be evaluated individually before risk can be determined. The sector has created several tools to calculate risk and vulnerability, but it also has developed systems for engaging partners to evaluate threat and consequence.

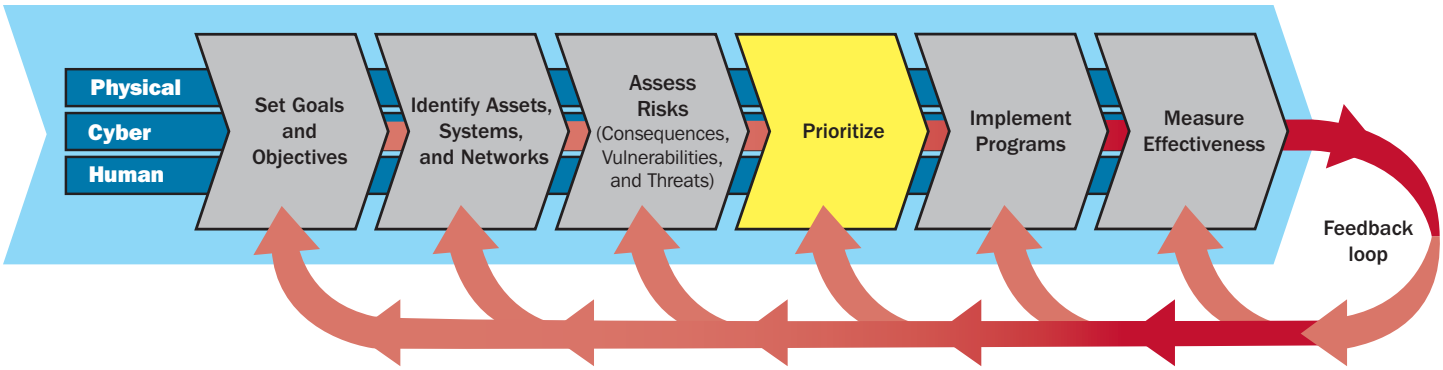
Tools such as FAS-CAT, ORM, and CARVER+Shock have helped to evaluate how risk is assessed and how vulnerability assessments are conducted. Threat is determined by the NCTC, which passes all credible threats to the SSAs and appropriate law enforcement agencies. Sector partners and law enforcement work collaboratively to investigate these threats. Consequence can be determined through the aggregation of data submitted to the SSAs monitoring programs.

[14] **http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/5610.1.pdf.**

[15] **http://www.fda.gov/Safety/MedWatch/default.htm** available online on 10/14/2009.

[16] **http://www.fda.gov/Food/FoodSafety/FoodSafetyPrograms/RFR/default.htm** available online on 10/14/2009.

4. Prioritize Infrastructure



Continuous improvement to enhance protection of CIKR

After potential risks are identified, the sector can then attempt to prioritize its infrastructure. Other sectors look to their SSAs, or to the GCC/SCC partnership to conduct the prioritization. The diffuse nature of the FA Sector makes any universal authority for prioritization impractical and ill-advised. Ultimately, prioritization for the FA Sector needs to be scenario-dependent and the responsibility of sector partners, private sector owners and operators, with assistance from Federal and SLTT governments.

As with any other industry, the owners and operators of facilities and components of the FA Sector use many computer-based systems for information sharing and threat evaluation; however, production and distribution of food is not computer (cyber) dependent. Thus, owners and operators have not considered cyber threats to be a critical risk; and therefore, the sector has not applied many resources to the prioritization of cyber assets. Scarce resources available have instead been allocated for the identification and protection of the physical assets that embody the system.

4.1 National-Level Prioritization

The current prioritization process determines criticality according to consequence-related metrics. The FA Sector is in the process of collecting data and refining risk assessments so that the prioritization can move from a consequence-based metrics approach to a risk-based approach. Because the FA Sector has focused its risk assessments on food and agriculture systems and not specific assets and networks, the results will reflect that approach. The likely outcome is a ranking with systems at the top and networks and assets below, which is a reflection of the sector's composition. Outcomes of the process will be validated by the IDW (chapter 2) so that the SSAs can work directly with owners and operators to develop and implement appropriate

protective measures. It is the expectation of the SSAs that the prioritizations will be reviewed annually as part of the Sector Annual Report development process.

As with other sectors that use the non-specific asset type configuration (i.e., Communications and Transportation Systems Sectors), food and agriculture systems become more critical, depending on the type of incident or event, location, and the specific effects on end users in the impacted area. To determine which assets, systems, and networks are most critical during situational impact analyses, systems-based evaluations of the impact on the sector consider the following criteria:

- Duration of disruption (i.e., assuming return to operations is feasible);
- Complete destruction of facilities (i.e., return to operations is not feasible);
- Relationship of the system to the overall commodity being produced (i.e., loss of acreage of corn fields versus loss of entire specific product);
- Ability of adjacent and nearby facilities to adequately compensate for the loss of production or service;
- Financial markets; and
- CIKR supporting response and recovery.

During incidents, industry and government representatives can work together through the National Response Coordination Center to identify priorities for recovery and restoration. Ideally, the fully mature process can use the criteria listed above to generate priorities based on specific scenarios. With sufficient resources, a library will be created so that the criticality of a particular system will be known before the onset of a disaster because a model was previously generated. In the absence of a fully mature prioritization system, the sector will continue to identify criticality on an as-needed basis with coordination and input from all relevant partners.

4.2 State-Level Prioritization

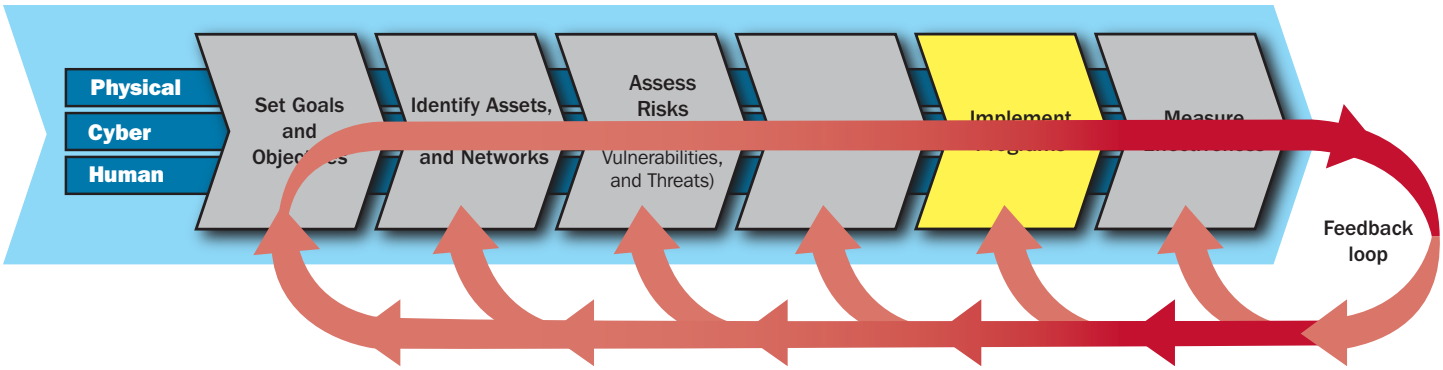
The process of State-level prioritization is attempted through participation in the DHS HITRAC data calls (see chapter 2). States have not uniformly responded to the request for assets meeting the criteria used, and, consequently, DHS has removed many of the submitted assets from the list because of this lack of uniformity in the submissions. The sector is working toward improving the submission process so that critical food and agriculture assets will qualify as Level 2 assets, which can increase the likelihood of eligibility for DHS Homeland Security grant funding. To augment the Level 2 asset lists, DHS has asked each State to compile a State list (Level 4). The State list criteria are to be determined by each State. State-specific criteria are important because criticality can be determined in a number of potential ways, and the justifications provided will help explain these differences. Some States may define a critical facility as one that employs the greatest number of people; another State may prioritize a facility that generates the most income for the community; while a third State may say that the facility with the widest distribution of food is most important. The SSA, in coordination with DHS, will act as a central repository of the State lists. Collectively, the State lists will provide a picture of the sector's prioritized assets that adequately acknowledges regional variability and decentralized systems.

For the past three years, States that participated in the annual data call did so with the intention of not only submitting critical assets and systems for consideration for potential grant funding, but also to help accurately depict the risk borne by the sector in their State. On the other hand, because HSAs can use funding in different ways, it is thought that the FA Sector partners at the State level potentially are under-funded by their HSAs for the amount of energy and effort that goes into the data calls. Anecdotally, one of the States participating in the data call in 2009 indicated that it contributed more than 26,000 hours of personnel time to complete a data call, only to find out that its submissions did not qualify high enough to make the then Tier 1 or Tier 2 listings. These shortfalls and struggles experienced by the States during these data calls have plagued the sector, which is why the SSAs, in partnership with HITRAC, are striving to address this challenge.

4.3 Conclusion

The FA Sector continues to refine the process to prioritize the systemic infrastructure. An evolution from a metrics-driven approach to a risk-based approach is ongoing. As it currently stands, the SCC, in partnership with State HSAs during the HITRAC-driven data calls, is responsible for chronicling and identifying the sector's assets. The goal of a pre-event prioritization is feasible, but obstacles in the near term need to be overcome. Specifically, the sector needs to better articulate the criticality of its assets and the need for funding when submitting data to HITRAC. Because none of the sector's systems identified and submitted through the data calls (see chapter 2) were categorized as either Level 1 or Level 2 (Tier 1 or Tier 2) in 2009, the sector's challenge to capture the needed data is being reinforced by continued roadblocks. At stake are potential funding allocations to fortify sector vulnerabilities and CIKR resiliency program development. In the future, SSAs hope to formalize the process so that owner and operator priorities can be used to reinforce or augment those identified by the FA Sector SSAs or States.

5. Develop and Implement Protective Programs and Resiliency Strategies



Continuous improvement to enhance protection of CIKR

The previous chapter discussed the current process for determining criticality of a particular asset. As it currently stands, criticality is the function of an event and can only be determined as the needs of a response are identified. The result of this type of system is that the FA Sector has developed strong relationships among the partners to ensure that all systems are resilient. One component of the resiliency strategy is to encourage the implementation of protective strategies or risk mitigation activities (RMAs). The protective program development and implementation process builds on the sector goals.

This chapter presents an overview of the sector's strategy and processes to develop and implement protective programs and resiliency strategies. It considers the sector's mature set of RMAs, protective measures, and partnerships, including various government initiatives, as well as initiatives developed and implemented by industry partners. Government-sponsored protective programs enable industry to better work together to address issues that normally would not be addressed collectively because of competition. This document is strategic in its focus, and it is not intended to illustrate response activities; therefore, numerous protective programs, such as those described in detail in section 5.3.1, are provided and referenced to help sector partners prepare for and respond to an incident impacting the FA Sector.

5.1 Overview of Sector Protective Programs and Resiliency Strategies

As part of the 2009 Sector Annual Report writing process, the FA Sector used an informal process to compile a list of 13 non-prioritized key RMAs from sector leadership. To capture the complexity of the sector, the RMAs submitted were groupings of activities rather than individual programs.

As an exercise, the 2010 Food and Agriculture SSP Development Working Group members[17] used the following criteria to support their justification for the rankings:

- Functionality (need for laboratory networks to increase sensitivity needed for communications, capacities, and redundancy);
- Financial (development of tools and exercises and the costs and expenses);
- Complexity of implementation (education and awareness challenges, impossible nature of educating all owners and operators); and
- Perception of importance (surveillance for high impact but low likelihood events).

The following list, while not intended to prioritize in a formal manner, is an attempt to illustrate these RMAs in perceived order of importance by the 2010 Food and Agriculture SSP Development Working Group:

a. Laboratory networks;

b. Information-sharing protocols and procedures;

c. Food and Agriculture response and recovery exercises;

d. Countermeasures for emergency response to a food contamination or animal health event;

e. Pre-harvest risk assessments;

f. Post-harvest (food) risk assessments;

g. Planning and preparedness assistance for owners and operators;

h. Food and Agriculture defense training and awareness materials development and distribution;

i. Pre-harvest surveillance programs for animal and plant pathogens;

j. Post-harvest (food) research and development for biological and chemical agents;

k. Pre-harvest research and development efforts;

l. Post-harvest (food) surveillance for biological and chemical agents; and

m. Programs for recovery assistance development.

5.2 Determining Protective Program and Resiliency Strategy Needs

The relative need for a protective program is based on information from:

- Congressional mandates;
- Findings from vulnerability assessments;
- Previous food contamination incidents;
- State, local, and private sector recommendations; and
- Sector-specific threats identified by law enforcement and the IC.

[17] Appendix 8 captures the 2010 Food and Agriculture SSP Development Working Group membership count.

After the information from these sources is analyzed by the SSAs, in partnership with the SCC leadership, potential gaps in protective programs are identified. The gaps are then submitted to the SCC and GCC for final determination of importance. The criteria used by the SCC and GCC are yet to be formalized, but as it currently stands, each proposed protective program is assessed according to its cost, intended outcome, likelihood of success, replicability in multiple jurisdictions, and sustainability with continued funding. The SCC and GCC provide a forum where members may suggest ideas for protective programs (e.g., develop Incident Command System (ICS) and National Incident Management System (NIMS) training for sector partners). Specifically, the FA Sector Joint Committee on Research (JCR) is a body through which the SCC and GCC can collaborate and identify sector research needs. The process for determining needs at the State level will vary by State, but typically it is derived from the same types of data. Each industry or company has its own process.

The FA Sector should consider conducting a gap analysis to ensure these protective programs are addressing all current, known facets of the sector. This gap analysis could assist in the following activities:

- Development of resiliency strategies;
- Set formal RMA prioritization;
- Illustrate existing regulations and standards that might aid or inhibit the implementation of a given protective program or resiliency strategy;
- Devise a process to develop a new program, in the absence of an existing protective program or resiliency strategy; and
- Define the extent to which sector partners will be involved in the selection and implementation of the protective program or resiliency strategy.

5.3 Protective Program and Resiliency Strategy Implementation

At the Federal level, USDA's implementation and maintenance of protective programs focus on protecting farm animals and crops from disease outbreaks and pest infestations; protecting the supply of meat, poultry, catfish, and egg products; enhancing agricultural and food safety research and laboratory facilities; and improving emergency preparedness and response. In USDA, individual agencies determine responsible staff for implementing and maintaining their programs within budgetary constraints. The OHS coordinates budgets for all USDA food and agriculture security and defense programs. FDA issues regulations in accordance with congressional mandates and produces guidance documents for the private sector that contain suggested food defense practices and control measures according to applicable government regulations. The private sector, to varying degrees, may voluntarily implement applicable countermeasures.

While the development of protective programs and resiliency strategies is determined through a consensus-based process between the GCC and SCC, final implementation of protective programs is determined by industry's ability to fund, incorporate, train staff, and adhere to the characteristics of the programs and strategies.

5.3.1 Sector Protective Programs, Resiliency Strategies, and Tools

In the last several years, the FA Sector has been able to access numerous tools, guidance documents, and reference materials to assist with pre-event planning and conducting RMAs. The SSAs have developed guidance and tools to assist with specific food defense activities. Appendix 4 provides a brief description and URL link of FA Sector-related tools and guidance documents.

5.4 Monitoring Program Implementation

Through the development and adoption of a progress-tracking matrix (chapter 6), it is anticipated that the SSAs can gauge progress and inform sector partners about the status, outcomes, or any additional identified gaps. The progress-tracking matrix

shown in table 6-1 can help working group identification (see chapter 8), direction, guidance, and performance-based outcomes, ultimately resulting in quantifiable metrics. These metrics can support tracking and elucidation and foster further program development. As envisioned, the progress-tracking matrix may be a valuable tool to all of the working groups as metrics are developed to address working group needs.

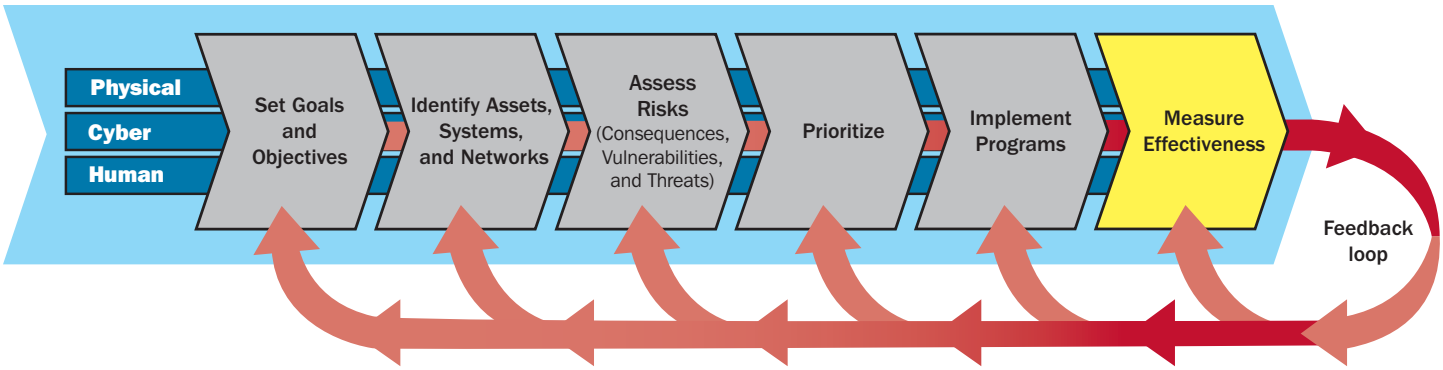
The RMAs will be reevaluated annually as part of the Sector Annual Report process. It is the expectation of the SSAs that if established, the newly created working groups may be able to participate in the FA Sector's RMA revision process by developing and evaluating existing and potentially new RMAs. Each working group will be expected to submit the results of evaluations of its own activities. Any programs deemed by the SSAs to be widely successful will be disseminated to sector partners through various information-sharing mechanisms (chapter 8).

At the center of the program evaluation process are information-sharing tools. They embody the latest in sector technologies and are the most effective means for communicating. The SSAs continue to encourage sector partners to join and become familiar with the various information-sharing tools and platforms. The greater the number of sector partners using the tools, the greater the likelihood of successful programs gaining attention. Appendix A.5.2 provides summary descriptions of information-sharing tools.

5.5 Conclusion

The FA Sector has implemented numerous programs to mitigate vulnerabilities and protect infrastructure. Many of the programs are presented in this chapter to demonstrate the diversity of sector RMAs. The SSAs, GCC, and SCC are continually attempting to evaluate programs to determine where limited resources should be allocated. Part of that process is to establish metrics to seek measurable outcomes, as described in chapter 6.

6. Measure Effectiveness



Continuous improvement to enhance protection of CIKR

The FA Sector needs to measure collective successes based on progress achieved against the goals. These goals will evolve over time according to changes in the sector's risk and business environments. In this chapter, the FA Sector presents a framework to identify, monitor, and evaluate its successes in sector-wide risk management efforts.

This framework and the specific measures contained in this document will be reviewed by industry and government annually and in the aftermath of major events. It will be revisited, as necessary, as the sector's RMAs mature. Although industry's participation in this process is voluntary, participation will help ensure accuracy in performance measurement. With performance results, industry and government can make more informed decisions on protective investments and process improvements. This performance measurement process requires close industry and government collaboration in monitoring sector progress in CIP, response and recovery, awareness, and cross-sector coordination.

As of the writing of this SSP, no overall sector metrics exist. Chapter 6 describes the way the sector currently measures progress, but it also describes a number of proposed working groups. In addition, this chapter provides a few examples of how the products from these working groups can be centralized for the betterment of the sector. Some examples are the (draft) Progress-Tracking Matrix (see table 6-1) and the (draft) Multiyear Exercise Schedule (see table 6-2).

Tracking and evaluating the programs against predetermined metrics will create an improved feedback mechanism. The sector seeks to continually improve its programs and allocation of resources, but it needs credible information as a basis for those decisions. As the working groups are created, it is anticipated that data will become more readily available. Measuring effectiveness is the last chevron of the NIPP risk management framework; it informs the feedback mechanism to ensure the continuous improvement of national and sector CIKR protection activities.

6.1 Risk Mitigation Activities

Because of the complex nature of the FA Sector, theme-based RMAs have been established to document supporting programs, activities, and initiatives spanning the continuum from prevention through response and recovery.

Attachment B to the 2009 Sector Annual Report provides additional information on each RMA, including: a detailed description; type of activity; sectors that may benefit from the activity or be affected by it; hazard or attack methods designed to reduce some component of risk; geographic area where the activity is designed to reduce risk; budget information; sector goals and objectives associated with the activity; and progress indicators when available.

The RMAs identified in section 5.1 will be used as the sector attempts to develop various working groups (see section 6.2) to help gauge progress toward achieving the sector's resiliency posture.

6.2 Process for Measuring Effectiveness

Currently, the FA Sector lacks an overarching, all-encompassing mechanism to measure and evaluate the effectiveness of theme-based RMAs and their supporting programs, activities, and initiatives. At the time of writing this document, no joint GCC and SCC sector-led process exists for establishing metrics and obtaining performance measurements. DHS, through the Sector Annual Report guidance and Metrics Program, requests specific measurements to be reported on food and agriculture protection and resiliency programs. Unfortunately, many governmental bodies request metrics on the same programs, and they are not coordinated and harmonized. Until an interagency effort is undertaken to more effectively reduce duplication of effort and reporting burden while maintaining effectiveness, metrics reporting can only be collected by program managers guided by specific legislative requirements, HSPDs, and other policies.

USDA and FDA agency-specific program managers collect metrics as needed for their own requirements and use for budgetary needs, managing their workforce, and adhering to reporting requirements established by law. Program managers do relay metrics to DHS and other parties (The White House and Government Accountability Office) outside of the law-based requirements because they are normally collected by the owners of the program. This type of sharing is based largely on their comfort level in sharing the information, any associated time constraints, and ease of reporting.

Obtaining performance measurements from non-Federal partners remains challenging. Few States, industries, and other partners are willing to share coveted programmatic data for several reasons (e.g., security of warehousing the data, potential uses of the information, and undertaking the reporting burden). These programs are normally run over the course of many years, and the metrics requested by different entities are not constant over the long term. Therefore, hesitation in reporting continues until a more concrete, coordinated, and overarching metrics strategy can be achieved.

Despite these challenges, the FA Sector is considering the development of various working groups (see section 6.2.1), with the intention of addressing the RMAs, and a framework, such as the one depicted in table 6-1. The FA Sector intends to work toward a process that can be used to evaluate progress and measure effectiveness. The sector strives to encourage the working groups, if developed, to work under the direction of sector leadership, to populate this framework, and to be capable of providing current, as well as projected, outcomes of the goals established by the working groups.

6.2.1 Sector Working Group Development and Participation

Through SSA participation on several internal and external working groups, sector members are kept apprised of other activities that could affect the sector to varying degrees during the course of steady state and during incident response and recovery. Similarly, the sector is currently considering the development of several additional internal working groups to assist in the oversight and progress monitoring of various activities and initiatives in the theme-based RMAs.

Currently, the FA Sector has five internal working groups that are addressing planning, information sharing, and collaboration. Additional information and descriptions of these working groups appear in chapter 8. These working groups are 2010 Food and Agriculture SSP Development Working Group (section 8.2.1.1), Food and Agriculture Interagency Collaboration Working Group (section 8.2.2.1), HITRAC Expert Panel Working Group (section 8.2.2.2), Agriculture Intelligence Working Group (section 8.2.2.3), and ISWG (section 8.4.1).

Table 6-1: Draft FA Sector Progress Tracking Matrix

Activity		Active Working Groups					Proposed Working Groups					
	Time frame (to be determined)	FA SSP Development Working Group	Information-Sharing Working Group	HITRAC Expert Panel Working Group	FA Interagency Collaboration Group	Agriculture Intelligence Working Group	Exercise and Training Working Group	Partnership Working Group	Communications/IT Working Group	Metrics Working Group	Transportation/Shipping Working Group	Laboratory Capacity Working Group
Revise, rewrite, and submit annual and triennial SSP updates.		X										
Develop and maintain information-sharing processes.			X									
Identify criteria or other strategies for prioritizing FA Sector infrastructure for the NCIPP.				X								
Reduce duplication of work, engage sector partners, create joint projects, and align efforts by goals set by the Administration or senior leaders.					X							
Provide a direct link to representatives of food safety and protection agencies in the Federal Government.						X						
Identify education and training needs and potentially develop a 3-year training plan.							X					
Work with partners to address themes identified in the 2009 GCC interview process; provide information on training opportunities, sharing tools, and processes.								X				
Interface with the Partnership and Exercise and Training working groups to coordinate drills and exercises as well as instruction and training on information-sharing tools and processes.									X			
Establish sector-wide metrics; collect descriptive metrics; and finalize specific descriptive metrics.										X		

Evaluate interdependencies and dependencies in Transportation/Shipping joint exercise.											X	
Devise reference material to assist with pre-event planning and facilitate post-event response to events impacting the FA Sector. Assess laboratory assets and gaps.												X

The following list represents potential working groups that may be established, followed by a short description of potential goals and objectives for each group. It is anticipated that if a working group is established, a consensus will be reached on who will serve as the working group coordinator and who will serve as the liaison to the sector leadership.

As new working groups are considered for development, each working group should be expected to establish metrics as one of their initial activities. The following working groups are currently being considered by the FA Sector:

- **Exercise and Training Working Group:** If established, this working group would seek to identify education and training needs and potentially develop a three-year training plan that could be adapted for all components of the sector (see table 6-2). Sector personnel may benefit from the plan because it will inform staff of the various exercise and training opportunities available to them, through the SSAs, DHS, EPA, and the private sector. A secondary outcome may be that training gaps can be highlighted through the process. This working group would work closely with the Partnership Working Group with the intention of ensuring that continuity of theory and application of gaps identified in each area are addressed.

Table 6-2: Draft Multiyear Exercise Schedule

	Draft Multiyear Exercise Schedule											
	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	J	F	M	A	M	J	J	A	S	O	N	D
2010		Annual FA Sector TTX	HSIN and FoodSHIELD Training	Communications Functional Exercise			Workshop and Plan Orientation					NIMS and ICS
2011		Annual FA Sector TTX	HSIN and FoodSHIELD Training	Communications Functional Exercise			Workshop and Plan Orientation					NIMS and ICS
2012		Annual FA Sector TTX	HSIN and FoodSHIELD Training	Communications Functional Exercise			Workshop and Plan Orientation					NIMS and ICS

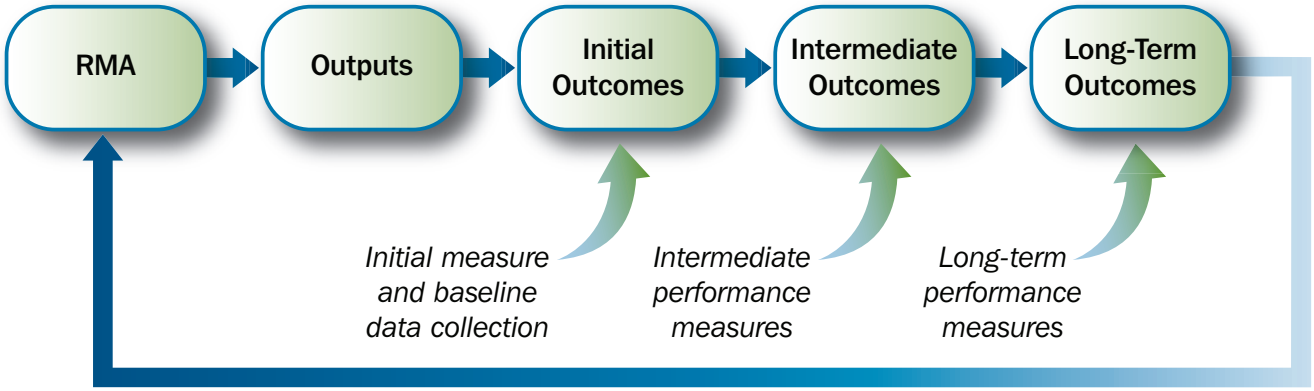
- **Partnership Working Group:** If established, this working group would work with existing partners with the intention of addressing the themes identified during the 2009 GCC representative interview process. This working group also would be responsible for ensuring that new GCC/SCC members are informed of training opportunities on the various information sharing tools and processes that the sector uses. This working group would also work with partners that need login access to HSIN and FoodSHIELD portals.

- **Communications/Information Technology Working Group:** If established, this working group would assess and otherwise ensure that the FA Sector communications processes (see chapter 8) work well and are redundant. This working group would interface with the Partnership and Exercise and Training working groups to coordinate drills and exercises, as well as instruction and training on the various information-sharing tools and processes used by the sector.
- **Metrics Working Group:** If established, this working group would oversee the FA Sector's efforts to reach its stated goals. Although each working group would create its own internal metrics, the Metrics Working Group would be responsible for establishing sector-wide metrics, assigning responsibility, and encouraging each working group to meet its stated objectives in a timely manner.
- **Transportation/Shipping Working Group:** If established, this working group would focus on assessing the potential impacts that an event disrupting the Transportation Systems Sector could have on the FA Sector's ability to get products to and from various components of the food system. An important element of its work may be to coordinate with other sectors to identify interdependencies and devise cross-sector solutions to minimize the extent of disruptions.
- **Laboratory Capacity Working Group:** If established, this working group would work with laboratory networks, academia, and Federal and SLTT government partners to devise reference material to assist with pre-event planning and facilitate post-event response to events impacting the FA Sector.

6.2.2 Process for Measuring Sector Progress

In the logic model shown in figure 6-1, "RMAs" (activities) are defined as what the program actually does; "outputs" are the products produced by the activities; and "outcomes" are the changes that result. A logic model is the first, not the last, step in the evaluation. The model continually evolves as more information about outcomes and the effectiveness of activities becomes available. The logic model is intended to provide guidance and direction to the various working groups that may be developed to assist the sector in measuring sector progress on the various activities identified in the programmatically themed RMAs. As each step of the logic model is attained, the working groups should consider cross-working group collaboration to address training, resource, and personnel needs to realize the long-term outcomes, which should mirror the goals (metrics) established by the working group. The process-tracking matrix referenced in table 6-1 is a similar attempt to develop a tool that the FA Sector can use to illustrate outcomes.

Figure 6-1: Logic Model



6.2.3 Information Collection and Verification

Working groups, if established, could be responsible for the collection of information related to the RMA being addressed. The data collected will be populated in a standard table, maintained by the FA Sector Executive Secretariat (sector administrative support provided by DHS), and made available on request. The Metrics Working Group, if established (with representation from the GCC, SCC, and SSAs) would be responsible for oversight. These metrics would first need to be identified before data can be collected to measure progress. Additional information on sector CIKR data collection and verification is contained in chapter 2.

6.2.4 Reporting

The working groups would attempt to develop a mechanism to share quarterly reports with the FA Sector leadership. Additional reports and updates will be provided at conferences and forums specifically for sector personnel.

6.3 Using Metrics for Continuous Improvement

As identified in the logic model, the FA Sector can continually contribute to the planning process for RMA development, based on the outcomes and progress attained as a result of the implementation of activities. Developing an outcome-based measurement program takes time and data; it may not be immediately available. In addition to supporting the evaluation of progress against sector priorities and goals, these metrics should also provide feedback on the sector's progress in implementing other chevrons of the NIPP risk management framework. For example, these metrics, when developed, should help the sector in informing progress toward sector goals, as outlined in chapter 1.

6.4 Conclusion

Integration of the concepts, activities, and evaluation of FA Sector RMAs is contingent on sector partners at the Federal, SLTT, and private sector levels working together to accurately input, evaluate, and analyze progress. The tools, initiatives, and working groups presented in this chapter are intended to help sector leadership in information-sharing efforts across the CIKR continuum to adequately inform, evaluate, and mitigate vulnerabilities that may become evident during this process. As with any new process development, the metrics development process will be subject to inherent components, which in turn may be subject to the interpretation of the person inputting data. To control for this variable, the working groups identified can attempt to provide the multiagency dynamics to protect against any interpretation bias or outcome-based shortfalls.

The sector has been very successful at creating worthwhile mitigation activities and protection programs. As of the writing of this SSP, no predetermined metrics exist for evaluating the various programs. Chapter 6 described how creating working groups can aid in developing metrics, centralizing activities, avoiding redundancy, and assigning responsibility. The effect will be a sector with much more clearly designed mechanisms for gathering programmatic data for use as feedback for the subsequent decision-making process.

7. CIKR Protection Research and Development

This chapter presents the work of the FA Sector's JCR. The sector is confronted with the difficulty of creating R&D initiatives for a sector with very diverse and decentralized assets. Recognizing these obstacles, and based on the JCR findings, the NCFPD has started reviewing the current body of scientific literature with the intention of creating a centralized database and using this research as the basis for a sector-wide gap analysis. While the NCFPD conducts this research, FDA and USDA continue their in-house efforts. Both agencies are routinely developing new programs for the benefit of sector partners. Chapter 7 provides an indepth description of specific Federal programs. State and private programs are listed to share partners' roles and driving motivations. States work to meet the requirements of Federal grant programs and encourage creativity in academia. Private industry is perpetually looking for ways to better protect production and maximize efficiency.

7.1 Overview of Sector R&D

The overall goal of the FA Sector's R&D efforts is to use state-of-the-art technology by all sector partners, leading to advanced protection and resilience. Once again, the FA Sector meets the recurring theme: the SCC and GCC lead several R&D FA Sector activities, in addition to USDA and FDA day-to-day, agency-guided activities. These agency-specific programmatic activities may not necessarily be led by the FA Sector leadership, but they do contribute significantly to protection and resiliency efforts.

In addition, States, universities, the private sector, and other sector partners are conducting food and agriculture defense and resiliency projects. These are not necessarily guided by the SSAs, SCC or GCC, but their individual advances benefit the FA Sector as a whole.

This document primarily presents food and agriculture defense-related R&D; however, general food and agriculture research does provide tangential support to protection, mitigation, response, and recovery efforts. To illustrate this point, research is underway across the country focused on more disease-resistant crops; better livestock production; reduced environmental impacts; safer food processing; reduced cross-contamination; understanding allergens; and even the social science components of measuring and estimating the impact on consumer confidence. All of these nonsecurity-related topics should be considered when undertaking food and agriculture defense-related R&D.

Communicating these R&D subtleties to homeland security officials is difficult, and explaining the nexus between a better designed manure lagoon or scab-resistant wheat strain and tying that to protecting the FA Sector remains challenging. Overall, with the renewed focus on all hazards, the food safety and general agricultural research fields are too cumbersome for sector partners to effectively and efficiently realize the dual benefits from food safety and agricultural research. Despite facing challenges, food and agriculture defense R&D is moving forward through multiple avenues.

R&D is a mission need that currently is not addressed because of resource constraints, lack of scientific knowledge, and insufficient technological means to fully implement robust protection and resiliency programs. Highlighted methodologies in which the FA Sector addresses R&D gaps are:

- Submission through the Sector Annual Report process to the DHS IP and DHS S&T;
- Submissions to the DHS S&T through the Capstone Integrated Product Team AgDefense subworking group;
- FA Sector JCR;
- FDA and USDA agency-specific research programs;
- State-level efforts;
- Academic research; and
- Private sector R&D.

7.2 Sector R&D Management Process, Plan, and Requirements

7.2.1 GCC/SCC–led R&D Efforts

The FA Sector GCC leads two sector R&D efforts to address issues by submitting R&D gaps to DHS, and it is developing a significant portfolio of R&D programs related to agricultural and food protection activities. One method of submitting is through the Sector Annual Report process. The GCC collaborates with sector partners to identify, develop, and submit gaps that represent mission needs in the form of system studies; modeling, simulation, and analysis; or device production.

Table 7-1 gives brief examples of the different types of gaps that were submitted through the 2008 and 2009 Sector Annual Reports. Several of the gaps may be submitted year after year, if funding and projects are not currently available to satisfy requirements.

Table 7-1: FA Sector R&D Capability Gap/Mission Needs Statement

Mission Need Tracking Number	Proposed Title of Mission Need
2008–005–Food	Plant Pest and Pathogen Diagnostics – Methods Development and Validation
2008–006–Food	Survey and Control Methods Development
2008–007–Food	Hand-held System to Rapidly Detect Agricultural Threats Against U.S. Ports of Entry
2008–008–Food	Irradiation Treatment Protocols
2008–009–Food	Cold Treatment Protocols
2009–001–Food	Develop Humane Mass Livestock Depopulation best management practices to be used in the event of widespread chemical, biological, or radiological effects on livestock
2009-002-Food	Livestock Geodata and Network Analysis
2009-003-Food	Development of Biological Agent Disposal Technology

2009-004-Food	Disinfectant Efficacy and Cleaning Method Effectiveness
2009-005-Food	Disinfectant Environmental Risk Assessment—Policy Document Development
2009-006-Food	Need for Analysis of Disposal Technology Cost/Benefit Analysis to Enable Decision Support
2009-007-Food	Basic Research Priorities for Biological Agent Disposal Risk-Related Projects
2009-008-Food	Quarantine Pest Mitigation Methods Development

The second effort is a combined GCC/SCC FA Sector-led R&D gap identification coordinated by the JCR. In July 2006, the FA Sector, mandated by HSPD-7 to coordinate CIP activities across the spectrum of systems and activities that move agricultural and food products from farm-to-fork, established an owner and operator-led CIPAC working group known as the JCR. Reflective of the entire sector, the JCR includes representatives from Federal, State, and local governments, and the private sector.

Since 2006, the JCR has reinforced the concept of the FA Sector as an amalgam of critical systems that constitute the sector as a whole. It is clear that traditional security measures (i.e., the gates, guns, and guards approach) cannot provide an acceptable level of food and agriculture defense in the food supply system. Through its initial research, the JCR has further revealed that, in these systems, the currently used risk analysis methods for food and agriculture defense are inadequate for reliable understanding as to the true nature of the sector's intentional food and feed contamination risk.

Recently, the JCR identified an overall gap in identifying research completed or underway in food and agriculture, as well as a gap in maintaining a useful database of identified research that can be used to help public and private sector leaders address research gaps and conduct vulnerability assessments. To address these issues, the JCR, in collaboration with the DHS NCFPD, FDA, and USDA, began an initial scoping study for construction of a food and agriculture research database. NCFPD proposes that the project begin by addressing the following steps:

- Identify and assess existing, on-going research throughout the sector;
- Screen identified research for relevance and categorize into a useable database;
- Match on-going research with identified industry or agency research needs, as appropriate; and
- Conduct gap analysis to identify food and agriculture defense research needs that on-going research does not address.

The JCR solicited and obtained an enormous amount of data from the White House Office of Science and Technology Policy (OSTP) listing all known government-funded research with potential application for food and agriculture defense programs. FDA and USDA initially screened the data for relevant projects funded through their organizations. Through the initial screening process (which NCFPD facilitated), the JCR discovered that the data provided by OSTP covers a patchwork of federally funded research projects, including many which are not relevant to security or defense in the sector. The JCR also found that the data exist in a variety of formats, with significant variations in both the accuracy and focus of specific research project data. Finally, the JCR determined that, by focusing only on government-funded research initiatives, the data collected from OSTP also misses relevant international and private research that may otherwise be available for consideration. The JCR 2009 Annual Report is provided in appendix 6.

7.2.2 FDA and USDA Agency-Specific R&D Efforts

The Agricultural Research Service (ARS) is USDA's in-house scientific research arm that conducts research to meet the needs of its stakeholders in the department, other Federal agencies, State and local governments, and industry. Most R&D activities are prioritized based on vulnerability or risk assessment findings, and all are subject to budgetary limitations. The Agency, through technology transfer activities, presents the results of its research activities to industry partners. Because of the fundamental

nature of much of the research in ARS, however, many of the research results are disseminated directly to the agricultural and food producers and commodity groups.

To prioritize the problems to be addressed and to identify needs that are most critical, ARS depends on input from other agencies in USDA (Animal and Plant Health Inspection Service (APHIS) and Food Safety and Inspection Service (FSIS)), other Federal departments (DHS, HHS, EPA, and DoD), State and local authorities, and commodity groups. Stakeholders provide ARS with input through a continuing dialogue concerning R&D needs. Frequent stakeholder meetings, some as often as every three months, facilitate this dialogue. The basic strategies are static; research needs fall into the detection, prevention, and inactivation categories. This is true for virtually all threats and all aspects of the sector; however, the particular objectives at any time reflect the sector partners' needs. As stated above, while needs may be discussed at length, actual programs are limited by available resources.

ARS has a rigorous process for managing research activities and processes. The ARS National Program Staff oversees the process, and the entire research portfolio is divided into 22 distinct national programs. Of these programs, three are involved with issues related to homeland security in support of APHIS, FSIS, and industry. These issues are food safety, animal protection, and plant protection. Although research plans are established for a five-year period, there is an annual progress report, and modifications in the research program can be made at any time. New research needs may be addressed by a redirection of resources, typically in response to requests from action agencies and industry (or commodity) representatives.

Each national program develops an action plan at the beginning of the 5-year research cycle. This action plan forms the basis for the development of research objectives at the locations for ARS research. The process is initiated and overseen by a national program leader whose responsibility it is to identify research objectives based on the action plan. The national program leader allocates fiscal resources. In most cases, physical resources are allocated to the locations where the work is carried out to ensure that the research objectives are accomplished.

Another USDA agency-specific R&D effort can be described by CSREES extramural sector research support. CSREES provides funding and leadership to land grant universities' cooperative extension services, State cooperative extension services, State agricultural experiment stations, and other research organizations for food and agriculture CIKR protection research and outreach. Research activities supported by CSREES address animal and plant diseases and pests, food processing, and food distribution systems. CSREES also works with agencies in USDA to help identify research priorities.*

Estimating economic impacts of emergencies can be accomplished by USDA's ERS, which has IT economic modeling tools and asset databases that aid decision makers on a variety of topics, such as new policies or emergency response activities. ERS R&D initiatives include database development efforts that can support a common information platform and rapid assessments of the scope and context of emergencies. These efforts will require the guidance of and coordination across USDA agencies. The range of possible events over time across the sector currently exceeds the analytical capability of single models or systems and hinders decision making. As a result, a second R&D initiative is underway to combine global information system and epidemiological and economic models in a more seamless expert system that manages information and provides appropriate tools for systematic analysis of risks and threats to the U.S. food system.

FDA CFSAN's foods research plan for counterterrorism focuses on four broad research areas that are critical for the FDA mission to safeguard the country's food supply:

- **New Methods:** The rapid and accurate detection of chemical, microbiological, and radiological agents that could be intentionally introduced into the food supply.

*In October 2009, CSREES became the National Institute for Food and Agriculture (NIFA).

- **Prevention Technologies:** The acquisition of information about new prevention technologies or technology enhancements that help protect the food supply against potential exposure to nontraditional pathogens, toxins, and chemicals during possible high-threat situations.
- **Agent Characteristics:** The acquisition of scientific information on the behavior of chemical (stability) and microbiological (survival and growth) agents in foods during processing and storage, which will improve FDA's ability to detect, quantify, and control pathogens, toxins, and chemicals that threaten the food supply.
- **Dose Response Relationships:** The acquisition of knowledge related to the number of pathogenic microorganisms and level of toxic chemicals ingested that lead to adverse reactions in humans and the factors that would either increase or decrease the population's susceptibility in relationship to foods as a vehicle.

Threat assessments indicated that pertinent priority agents include both exotic and traditional microorganisms and toxins. Furthermore, a wide range of foods could potentially serve as vehicles. The timely realization of these research goals will require the implementation of an integrated program of intramural, collaborative, and extramural research.

In addition to those research areas, FDA's CVM has outlined the following planned R&D initiatives:

- Development of integrated databases between DHS, HHS, and State veterinary diagnostic laboratories that will enable the quick identification of qualified laboratories with the capability of analyzing animal tissues and feed for the presence of a chemical or biological agent; contact information for national experts on the disease or toxicant to obtain help in diagnosis and appropriate follow-up; and information on how to take, preserve, and ship an appropriate feed or animal sample to the laboratory for analysis.
- Development of urgently needed rapid test kits with validation procedures for feed contaminants.
- Enhancement of feed surveillance on imported and domestic hazards that pose the greatest risk to animal and human health by developing a risk-based system that would detect hazards before feed products are distributed.
- Enhancement of a drug-resistance surveillance system to rapidly associate illnesses that are sensitive to approved antibiotics as they relate to clusters of human diseases.
- Fostering an increase in the national capacity to manufacture animal drug products, especially in times of a national emergency, by providing alternative sources of drugs beyond the pioneer manufacturer. Enhancing the generic animal drug approval process provides multiple sources of each type of drug needed, thus ensuring an adequate supply in times of emergency.
- Increasing the number of inspections of the production of possible illegal counterfeit veterinary drugs and follow-up inspections of drug residue violations and high-risk firms.
- Creating a novel academic-Federal linkage that will provide graduate-level training in public health and epidemiology for FDA employees to increase the capacity for the protection of animal and public health.
- Continuing close communication between CVM and sector partners through periodic meetings, working groups, and telecommunications.

The University of California, Davis, Western Institute for Food Safety and Security (WIFSS) works closely with DHS to create and offer training on NIMS and agroterrorism. USDA attended the WIFSS training on Principles of Preparedness for Agroterrorism and Food Systems and worked with WIFSS to host the training in Riverdale, Maryland. The DHS WIFSS partnership also produced a NIMS training that was given at the USDA Honolulu Field Office. WIFSS has been an attendee at sector trainings such as the Montana Department of Livestock Emergency Preparedness Training Conference. Information on WIFSS and additional research centers appears in appendix A.8.6.

7.2.3 State-level R&D Efforts

Management processes, plans, and requirements for R&D vary by State. SSAs and DHS maintain information only for those State R&D activities that are funded through their Federal programs.

At the State level, research is generally done at universities and not within State agencies. While not catalogued by the SSAs or DHS, there is a lot of basic and applied research done at State universities that is funded by the States and commodity groups or associations. For example, the Michigan Cherry Growers raise funds for research into pests and product development. The results are generally disseminated widely to growers, including those in other States, through extension bulletins and other means.

States may experience an inherent tension between the traditional roles of research universities to publish and disseminate their findings and the post 9/11 enhanced concerns about making some of the most needed research publicly available. States may not have specific research or development plans because State and local governments have not traditionally taken lead roles in R&D. State government activities tend to be more focused on testing and response to R&D results to include developing regulatory activities based on findings. States often work closely with universities, particularly land grant institutions doing basic research and assisting in the development of methods to improve laboratory testing protocols. State partners also rely on guidance and recommendations from Federal agencies, including DHS Centers of Excellence, across the country.

7.2.4 Private Sector-level R&D Efforts

Private industry hosts its own R&D activities where it sees a competitive advantage, where a gap must be addressed, or for other reasons. Much of this work is typically conducted to benefit a particular company or industry, and it often happens independently of government guidance. For example, private industry generally relies on trade and commercial companies to provide and test new ingredients, treatments, and equipment. These organizations have the resources to test and obtain approval of new ingredients and equipment, freeing up manufacturing companies to integrate new technology in their processes after they are perfected. Specifically, internal R&D in the meat industry is generally focused on different packaging, product count, or dimension variables. Most new product direction comes from internal sources, such as sales or company ownership, and is generally a knock-off of items from existing competition. Testing or initial testing protocols are performed at the university level before being implemented in manufacturing plants. Because of high costs of setting up R&D, trade organizations can better fund testing and broadcast results to trade partners. Commercially available ingredients and raw materials with their Letters of Guarantee and Certificates of Analysis provide the security required for new product development.

Collaborative efforts between government and industry have grown more common, as demonstrated by the JCR example above. These joint activities often involve GCC and SCC leadership, and industry partners provide subject matter expertise on sector needs. DHS Centers of Excellence also exemplify such activities. The Centers were founded with significant government funding, and they approached private industry seeking subject matter expertise and assistance in focusing their programs.

The private sector continues to identify gaps and raise concerns. The private sector is still looking for tested and evaluated research that can demonstrate why the suggestions on food protection and defense should be implemented. Also, additional research is needed that can help private industry understand the changing nature of the food supply and the global production and distribution networks, including intentional and economic adulteration.

7.3 R&D Challenges

Because of the limitations and individualities described, the sector does not currently have a single unified R&D plan. As part of the JCR's ongoing work, a research plan will be created, but for it to be successful, the following challenges need to be met:

- The FA Sector should strive toward incorporating more social science research on protective and resiliency programs that tend to be heavily weighted in physical security and the hard sciences of biology and chemistry. Psychological and sociological research can help stakeholders more fully understand human actions and interactions during all-hazard events. Incorporating more human and social components will provide for more effective and efficient protection of assets and systems.
- State and local governments tend to employ personnel with natural science degrees as planners, regulators, inspectors, and laboratory staff, all of which have important skills. The human and social issues, however, from the care of food animals to perceptions about food safety, ingredients, origin, and labeling, are social science issues that may or may not have a direct link or overlap with natural sciences. To that end, additional research is needed on what affects the public. The media will assist with protection, mitigation, response, and recovery efforts. This includes the Center of Excellence for human impacts research. Also, sector partners describe a need to better understand economic fraud and adulteration. A need exists to recognize that food and agriculture systems also include dangers such as people that try to cheat the system and use cheaper ingredients, mislabel, or use black market channels for economic gain.
- FA Sector partners indicate an ongoing misunderstanding among the different specialties in the sector about protection and resiliency projects and strategies. For instance, existing Federal, State, and local programs that help farmers improve their storage and handling of manure, fertilizer, and pesticides to better protect the environment are not necessarily seen as homeland security practices. These tangential activities produce homeland security benefits, but are not readily recognized, supported, or funded as part of homeland security efforts to address prevention and hazard mitigation. Perhaps a more holistic approach encompassing a wider range of activities will produce a greater overall measure of protection and resilience.
- FA Sector partners that focus on food safety considerations have been addressing threats of unintentional contamination in the food supply sector for years through programs like Hazard Analysis and Critical Control Point (HACCP), which is a systematic preventive approach to food safety that addresses physical, chemical, and biological hazards as a means of prevention rather than finished product inspection. Having a strong network of laboratories and adequate food safety inspection staff at Federal and SLTT levels cannot be separated from food defense. Food safety personnel are most often involved in both food safety and food defense; therefore, by improving food safety efforts, it is assumed that an overall improvement in food defense readiness also will result. The concept of dual purpose activities and their relationships (food safety and food defense) are not highlighted sufficiently.
- Some sector partners believe many of the research gaps are related to biological and chemical threat agents, their characteristics, and interactions with the food and agriculture systems. Heavy security surrounds these agents, and availability is greatly restricted. Few people have extensive access to data on these agents, and that holds up progress. To further complicate matters, very few people (even academics) can work with these agents. The food industry does not work with these threat agents. The industry is not allowed to work with these agents, and even if they could, they would not want to introduce them in a processing plant or real-life setting. The food industry and academia could perhaps work with surrogate organisms, but few of the threat agents have been sufficiently characterized to identify appropriate surrogates. Sector partners believe very little active research is being done in this area when compared to the volumes of work in traditional food safety.

7.4 Conclusion

As of the writing of this SSP, R&D efforts are spread across Federal partners, State-level entities, and private businesses. The diversity is beneficial because it breeds variation in research and allocation of funds, but it prevents the sector from having a unified R&D plan. The lack of a unified plan is a known challenge for the sector, as is a lack of a central repository for knowledge contained in the sector. As the sector advances its research efforts, it is thought that these and other identified challenges will be addressed. Similarly, it is hoped that as the NCFPD conducts a thorough review of current literature for the sector, it will yield a central repository of all applicable research.

The FA Sector has identified and continues to strive toward addressing myriad issues (gaps) which, through R&D, could pose less of a threat in the future. The scientific knowledge base keeps expanding as food and agricultural science continues to evolve. The SSAs are confident that partnering with SCC leadership will help reduce threats, risks, and vulnerabilities. As metrics are developed, they will be applied to R&D efforts with the SSAs retaining general oversight. Properly focused R&D efforts can produce results that help create methods to prevent or mitigate all-hazards events. Chapter 8, Managing and Coordinating SSA Responsibilities, describes the SSA coordination process, sector functions, and the R&D facilitation process.

8. Managing and Coordinating SSA Responsibilities

Chapter 8 provides a description of the internal structure of the sector and how it is managed and it illustrates which components in FDA and USDA are charged with oversight of the sector's CIKR work. Chapter 8 also describes the ways SSA representatives participate in cross-sector working groups to ensure consistency between the sectors and to facilitate information sharing. This information sharing and communication are the embodiment of how the FA Sector continues to strive to work within the NIPP sector partnership model. For the model to work, public and private partners need to be engaged and valued.

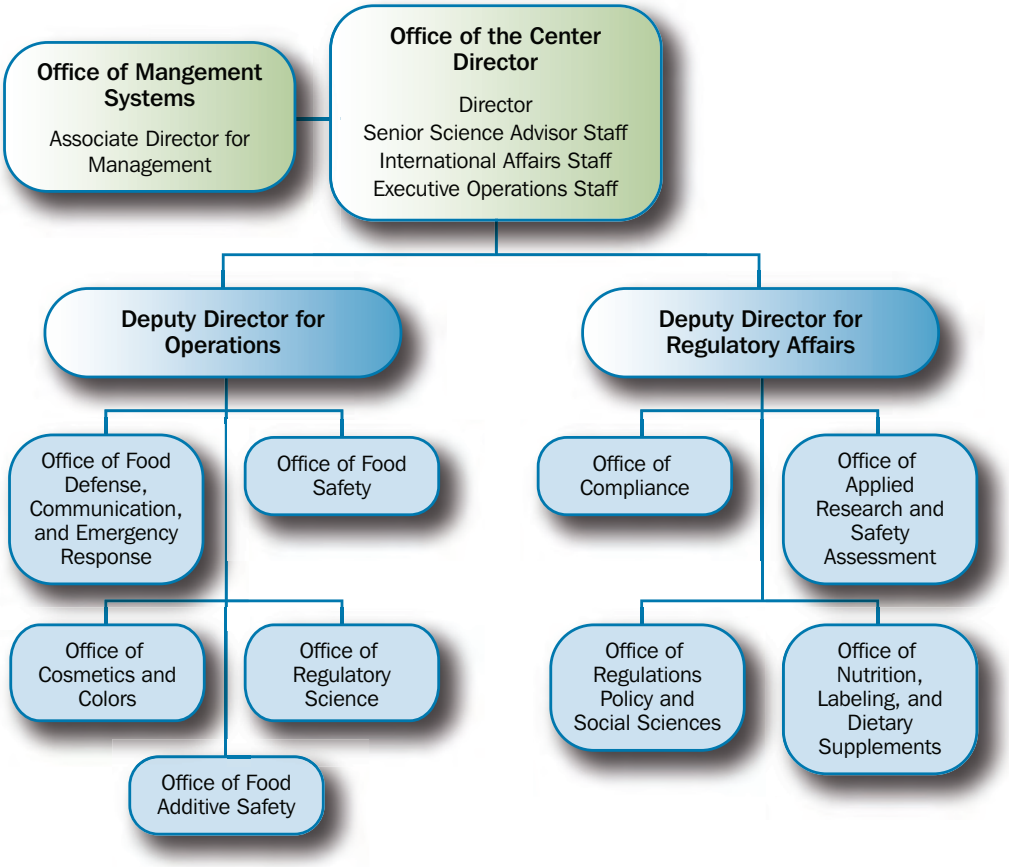
For many CIKR sectors, including the FA Sector, developing a strategic plan that coordinates sector protective activities and resiliency strategies is a challenge. This chapter describes many of the management and coordination activities and strategies to address these challenges. This chapter also illustrates some of the academic research and reports generated to address vulnerabilities, challenges, and potential strengths for further development.

8.1 Program Management Approach

As directed by HSPD-7, the SSAs are responsible for managing and coordinating FA Sector protection and resiliency activities. A key SSA responsibility is to lead SSP updates and the development of a triennial rewrite. In USDA, the SSA leadership responsibility, including responsibility for developing the SSP, has been delegated to OHS. As of the writing of this document, the USDA OHS is in the midst of reorganization and an updated organizational chart is not available. In FDA, the SSA leadership responsibility, including developing the SSP, has been delegated to the Office of Food Defense, Communication, and Emergency Response (OFDCER) Food Defense Oversight Team (FDOT) in CFSAN (see figure 8-1).

In performing their responsibilities, the SSAs continue to work with sector partners, including Federal and SLTT governments and public and private sector owners and operators. Specific descriptions of the strategy and processes for CIKR protection activities are discussed in previous sections. Descriptions of specific protection activities are also available in appendix B of the 2009 Sector Annual Report.

Figure 8-1: HHS/FDA/CFSAN Organization Chart



8.2 Processes and Responsibilities

The 2010 SSP revision and rewrite provided SSAs with the opportunity to present a streamlined approach (section 8.2.1.1) and to demonstrate a unified approach and focus for the sector (section 8.2.2.1) through the sector's Interagency Collaboration Working Group. Milestones, planning for budgeting and resource allocation, and training and education are among the processes and responsibilities the SSAs coordinate for the sector.

8.2.1 SSP Maintenance and Update

The SSP reflects the sector's goals and priorities; therefore, it needs to be maintained and updated regularly. Updates to the SSP will be reviewed thoroughly in collaboration with the SCC, GCC, and other sector partners triennially. Because the SSP for 2010 was a considerable undertaking, the 2010 Food and Agriculture SSP Development Working Group (section 8.2.1.1) was established; the likelihood of another working group being established to address the next triennial review has not been determined. The SSAs are responsible for version control of the SSP and the only entities currently authorized to revise it. The SSAs lead the SSP maintenance and triennial review.

In addition to the formal triennial review, the SSAs will update the document ad hoc, as warranted by changes in the sector's protective posture, goals, or priorities (developed annually by the sector) or for any other reason agreed to by the GCC and SCC. To ensure accuracy and reinforce the partnership nature of this effort, revised versions of the SSP are coordinated with the SCC

and GCC before release. This process includes reviewing the frequency of updates. Appendix 7 provides additional information on the 2010 SSP rewrite and revision process.

8.2.1.1 2010 Food and Agriculture SSP Development Working Group

The FA Sector has significantly progressed and matured since the first SSP was released in 2007. The SSAs reached out to sector partners, including industry, academia, Federal, and SLTT partners and formed the 2010 Food and Agriculture SSP Development Working Group in an attempt to provide the insights and experiences of all sector partners. Starting in December of 2008, the 2010 Food and Agriculture SSP Development Working Group convened once a month via conference calls and Webinars through FoodSHIELD to review and provide comments on each chapter of the 2010 SSP. This working group was directed by the Administrative subgroup, and this document is the product of the efforts of the 2010 Food and Agriculture SSP Development Working Group in coordination and collaboration with the Administrative subgroup.

8.2.2 Implementation Milestones

The SSAs will review milestones identified in the Sector Annual Report. These milestones will attempt to encompass significant SSP activities undertaken by existing working groups and by those yet to be established, outlining applicable actions by SSAs, DHS, and other Federal, SLTT, and private sector partners. The SSAs will attempt to gauge these milestones by considering the FA Sector's goals and objectives through the identification of sector assets, systems, and networks; risk assessment processes; protective programs and resiliency strategies; measuring effectiveness; R&D; and SSA management and coordination responsibilities. The SSAs will also consider reviewing the stages of the risk management framework and additional categories of CIKR protection-related activities to ensure they are adequately identifying and managing sector actions critical to SSP implementation. Table 6.1 is an attempt at a strategy the sector can use to track sector progress. The following FA Sector working groups are addressing planning, information sharing, and collaboration.

8.2.2.1 Food and Agriculture Interagency Collaboration Working Group

Since February 2009, Federal agencies responsible for homeland security activities have been formally meeting every four to six weeks in an effort to: reduce duplication of work; break down stovepipes; speak with a coordinated U.S. Government voice when engaging sector partners; create joint projects; and align efforts with goals set by the Administration and other senior leaders. Interagency members of this working group are listed in table 8-1.

Table 8-1: Interagency Collaboration Working Group Members

Agency	Office
USDA	OHS, APHIS, FSIS, and FNS
HHS/FDA	CFSAN
DHS	OHA-FAVD

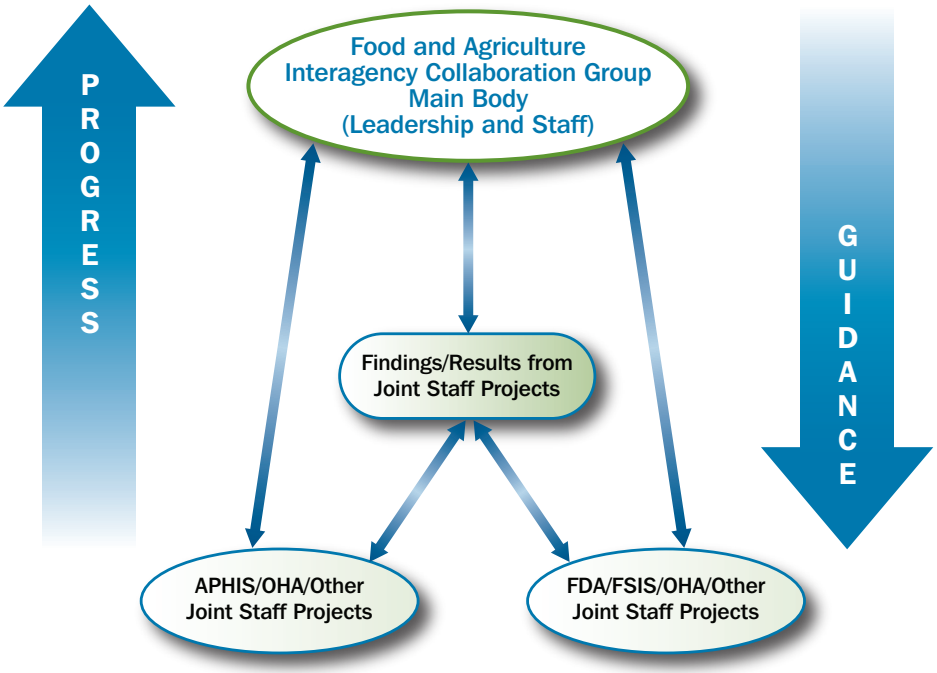
Some of the projects currently being addressed by this working group are referenced in table 8-2. Many of the projects identified by this collaboration group may be able to transition to new working groups that may be developed moving forward.

Table 8-2: Interagency Collaboration Working Group Projects

Themes	Supporting Projects
Further clarification and focus on OHA and FEMA projects to get more funding to the States, locals, and owners and operators to implement protective measures.	• Model Emergency Response Plan for Foreign Animal Disease (FAD): Help States develop a usable emergency response plan for FAD emergencies that covers all hazards and FEMA-designated Tier 1, Tier 2, and catastrophic Tier 3 events. • Plant Health Emergency Management: Work with Federal and State partners to develop communication and coordination plans and processes to prepare for, respond to, and recover from plant health emergencies. The project will identify strengths and gaps in the Federal/State partnership in emergency management and develop processes designed to optimize effectiveness, coordination, and cooperation. • Benchmarking Toolkit: Develop a collection of benchmarking tools to assist States in determining their level of preparedness. Deliver a fully functional benchmarking tool for food, agriculture, pets, and plants that measures capability for all 50 States.
Ensure partners know other partners point of contact (POC) and to whom the outreach is being directed. Develop a joint POC roster by responsibility	• Develop a roster for Federal and other sector partners as applicable. • Improve Federal Collaboration on FoodSHIELD.
Discuss joint path forward for submitting R&D capability gaps through the 2009 DHS S&T capstone integrated product team process, and wider R&D collaboration (funding, activities, and prioritization).	• Border issues: Describe and implement policies with APHIS Plant Health, Plant Protection and Quarantine. • Work with DHS CBP.
Consider USDA and specifically APHIS' role at the DHS NBIS.	• Updates to Vulnerability Assessments. • Update FSIS assessments to identify vulnerabilities, pathways, and countries for the following products of concern: meat, poultry, and egg products. This is in accordance with HSPD-9. Countermeasures will also be updated. • Enhance public-private sector coordination to reduce risk of intentional adulteration.
Roles, responsibilities, authorities, leadership, formal vision, goals, and mission statements.	• Formalize the interagency effort by creating a charter that would further document and solidify this process.

This working group, headed by USDA's OHS, has developed a diagram (see figure 8-2) to depict the methods the working group will use to take direction (guidance) from the SSAs and provide outputs (progress) to the sector.

Figure 8-2: Food and Agriculture Interagency Collaboration Process



8.2.2.2 Information Sharing Working Group

See section 8.4.1.

8.2.2.3 HITRAC Expert Panel Working Group

As a result of feedback received from FA Sector partners, the SSAs have worked with HITRAC to develop an Expert Panel Working Group. The goal of the working group is to identify criteria or other strategies for prioritizing FA Sector infrastructure for the National Critical Infrastructure Prioritization Program.

8.2.2.4 Agriculture/Food Intelligence Working Group

Since 1999, OCI has been hosting a monthly meeting referred to as the "AgInt meeting." This monthly meeting is attended by representatives of various government agencies with an interest in the protection of food and agriculture. FDA is represented by CFSAN, the Prior Notice Center, and CVM. USDA is represented by APHIS, FSIS, OHS, and OIG. DHS is represented by OHA, IP, and CBP. Other various representatives that attend these meetings include components of DoD, law enforcement such as the FBI, members of the intelligence community, such as the CIA, and numerous other partners in the food and agricultural community.

8.2.3 Resources and Budgets

In the FA Sector, Federal funds typically support high-level (sector- or industry-wide) R&D at the Federal or State levels. The SSAs do not have authority over resources and budgets for the entire sector. As a result, the SSAs have limited information concerning how sector partners allocate resources to sector protective programs and resiliency strategy implementation. Similarly, SSAs continue to leverage resources, personnel, and capabilities with FA Sector partners to ensure that the sector's resiliency posture is continually pursued.

Additional resources and funding are needed at the State and local levels. This could be most easily solved by finding suitable DHS grant funding for State food and agriculture CIKR as generated by DHS HITRAC's National Critical Infrastructure Prioritization Program (annual Level 1 and Level 2 data call). The program categorizes CIKR in lists based on fatalities, economic consequences, mass evacuations, and degradation of national security missions.

Each year, DHS/HITRAC conducts the National Critical Infrastructure Prioritization Program, which leads to the categorization of CIKR into lists based on fatalities, economic consequences, mass evacuations, and degradation of national security missions. The lists are used by DHS to: prioritize and guide DHS programs (e.g., Buffer Zone Grants, PSAs); inform incident preparation, response, and restoration activities; support DHS grant determinations; and enhance communication and partnerships. They are used by Federal, State, and local CIKR partners to: support CIKR prioritization needs and requirements; support CIP planning and execution; enhance understanding and relationships with key owners and operators; and strengthen CIP working relationships with DHS.

As stated previously, the FA Sector is a diverse and complicated system with an ever-changing, evolving breadth and depth. A variety of Federal, SLTT government, and private sector partners contribute resources to the protection of the sector. No single entity has authority over resources and budgets for the entire FA Sector. As a result, the SSAs have limited information concerning how sector partners allocate resources for sector protection and minimal influence over how future resources should be allocated.

According to HSPD-9, the SSAs submit to the OMB Director an integrated budget plan for defense of the United States food system. The SSA's planned investments would augment the Nation's food safety protection system and establish a partnership among various organizations responsible for protecting the Nation's food and agriculture supply. A natural disaster, manmade accident, or terrorist attack on the food supply and its related systems could have catastrophic public health and economic consequences. Funds requested would continue to improve laboratory preparedness; food and agriculture safety and defense field operations; food and agriculture defense research; surveillance; and incident management capabilities. These investments will enhance the SSAs' capacity to prepare for, prevent, mitigate, and respond to the effects of a terrorist attack, major disasters, or other emergency on the food and agriculture supply.

In addition, the SSAs, through the interagency collaboration group and other venues, will continue to seek information from DHS agencies and offices on their budgets for food and agriculture protection-related programs, especially the expenditures by the DHS S&T for R&D, FEMA, and the grants provided by the DHS Grant Programs Directorate to States for preparedness programs. SSAs will continue to offer subject matter experts to serve as technical reviewers for DHS grants for food and agriculture, including the Centers of Excellence selection process and the review panels for State preparedness grants. In addition, SSAs will continue to suggest that entities use the SCC and GCC as a forum for obtaining input and consideration for agriculture and food safety and defense-related activities.

8.2.3.1 Resources and Budgeting Collaborations: State-level Perspectives

8.2.3.1.1 The Multi-state Partnership for Agriculture Security

The Multi-state Partnership for Agriculture Security was originally funded by a DHS Urban Area Security Initiative grant to Iowa, which acted as the fiduciary and helped to provide the organization and leadership. The Partnership has grown to 13 States in the central United States (IA, IL, KS, KY, MI, MN, MO, ND, NE, OH, OK, SD, and WI) and has done remarkable work, particularly in the areas of training, planning, and exercising. Most of the efforts of the Partnership have been in animal disease response, including a June 2009 National Veterinary Stockpile exercise. When funding from the initial grant ran out, the Partnership had to look to each of the member States to contribute through the DHS State Homeland Security Program (SHSP).

The SHSP is designed with a statutorily established base minimum funding amount that is awarded to every State and Territory. The remaining funds are awarded based on a risk-informed methodology that incorporates threat, vulnerability, and

consequence. To date, the Partnership has relied on DHS funding to accomplish its goals, while also serving as an example of an overarching national goal for regional cooperation and collaboration. FA Sector goals focusing on regional animal and plant health, food safety, and food defense activities should be worked into the priority-setting processes for State and local grant funding.

8.2.3.1.2 Southern Agriculture and Animal Disaster Response Alliance

The Southern Agriculture and Animal Disaster Response Alliance (SAADRA) is an interactive collaboration of 10 States at risk from similar natural, intentional, technological, and disease disasters affecting agriculture and animals. Participating States include AL, FL, GA, KY, LA, MS, NC, SC, TN, and TX. The SAADRA mission is "to strengthen all-hazard capabilities through partnerships with the public, animal and agriculture industries, and every level of government. Both regional and individual state preparedness will be enhanced through collaborative planning, mitigation, response, and recovery efforts that help to ensure the safety and health of its citizens, food systems, agriculture infrastructure, animals, and economy."[18]

8.2.3.1.3 The Great Lakes Border Health Initiative

The Great Lakes Border Health Initiative (GLBHI) is funded by HHS and managed through the CDC Early Warning Infectious Disease Surveillance project. Seven States (IN, MI, MN, NY, OH, PA, and WI) have banded together with the Canadian province of Ontario to strengthen relationships between State, local, and provincial public health and emergency preparedness agencies in the United States and Canada. These agencies are responsible for communicable disease tracking, control, and response, and they require participation from all levels of government to be successful.[19]

The GLBHI's Food Protection and Defense subcommittee started in response to an increasing number of foodborne illnesses present in the United States and Canada in 2007. Their current focus is to grow relationships and facilitate communication between the GLBHI member States and Ontario's health and agriculture entities that are critical in foodborne outbreaks.[20]

8.2.3.1.4 Food Protection Task Force Grant Program

Over the last few years, FDA's Division of Federal-State Relations (DFSR) has provided funding to States through a grant that is intended to encourage the development of a Food Protection Task Force in the recipient State and provide funding for Task Force meetings. Conference grant funding is available to States with an existing Food Safety and Food Defense Task Force, as well as to States that are in the process of developing a new Food Protection Task Force. State Food Protection Task Force meetings should foster communication and cooperation among SLTT public health and food safety agencies and other interested parties.

The purpose of the Food Protection Task Force meetings is to foster communication, cooperation, and collaboration in the States, among SLTT food protection, public health, agriculture, and regulatory agencies. The meetings should: (1) provide a forum for sector partners of the food protection system—regulatory agencies, academia, industry, consumers, State legislators, Boards of Health and Agriculture, and other interested parties; (2) assist in adopting or implementing the FDA Food Code and other food protection regulations; and (3) promote the integration of an efficient statewide food protection and defense system that maximizes the protection of the public health through prevention, intervention, and response, including the early detection and containment of foodborne illness. Each task force will develop its own guidelines for work, consensus decision making, size, and format, at its initial meeting. FDA's DFSR will provide meeting guidelines and organization documents as requested. Table 8-3 lists the State agencies that received FDA's Food Protection Task Force Grants in 2009.

[18] **www.animalagriculture.org/Solutions/Proceedings/Annual%20Meeting/2009/AHEM/Hall,%20Ed.pdf** available online on 10/14/2009.

[19] **www.michigan.gov/mdch/0,1607,7-132-2945_5104_5279_40279---,00.html** available online on 10/14/2009.

[20] **http://www.michigan.gov/documents/mdch/2008-09-04_-_Food_248196_7.pdf** available online on 10/14/2009.

Table 8-3: State Agencies Receiving FDA's Food Protection Task Force Grants in 2009

State Agencies
Colorado Department of Public Health and Environment
Delaware Health & Social Service
District of Columbia Department of Health
Florida Department of Agriculture and Consumer Services
Indiana State Department of Health
Kansas Department of Agriculture
Kentucky Department of Public Health
Maryland Department of Health and Mental Hygiene
Massachusetts Department of Public Health
Michigan Department of Agriculture
Minnesota Department of Agriculture
Mississippi State Department of Health
Missouri Department of Health and Senior Services
Nebraska Department of Agriculture
New Hampshire Department of Health & Human Services
North Carolina Department of Health and Human Services
Oklahoma Department of Agriculture, Food and Forestry
Philadelphia Department of Public Health
Tennessee Department of Health
Texas Department of Health Services
Virginia Department of Health
West Virginia Department of Health & Human Resources
Wyoming Department of Agriculture

8.2.4 Training and Education

The successful implementation of the national risk management framework relies on building and maintaining individual and organizational CIKR protection expertise. Training and education are key to achieving and sustaining such expertise. As a result of numerous tabletop exercises (TTX), discussions, and workshops related to food and agriculture (see table 8-4) the FA Sector

has identified several common themes that partners from Federal and SLTT governments and the private sector continue to recommend and request for future training and education opportunities. Some of these themes include:

- NIMS and ICS training;
- Depopulation and disposal activities;
- Communications: functional and technical;
- Laboratory capacity;
- FAS-CAT; and
- CARVER+Shock.

Individual training, organizational training, and exercises are integral to improving the sector's overall protection and resiliency posture. Examples of benefits are providing access to training for private sector owners, operators, and personnel to identify and report suspicious activity (as described in the suspicious activity reporting process in section 8.4); to respond to an incident or to shelter in place, which could dramatically reduce the likelihood of an intentional act of contamination in the food supply; or to help mitigate the consequences stemming from an intentional act of contamination.

As identified in table 6-2: Draft Multiyear Exercise Schedule, the FA Sector is considering the development of a multiyear exercise and training work plan to help identify and schedule needed trainings. FA Sector partners currently support various training and educational activities, including joint exercises; however, as realized through recent conversations with GCC membership, more regular, detailed trainings and educational opportunities would benefit the sector. As part of the SSP implementation process, SSAs envision the ability to work with sector partners to identify and encourage participation in additional training and educational opportunities as potentially researched and developed by the partnership and exercise and training working groups (see chapter 6). SSAs may use HSIN-FA and FoodSHIELD to advertise these opportunities to sector partners.

Exercises have been successful at identifying areas for sector improvement and, thereby, at suggesting necessary trainings. The relationship between exercises and trainings is one of continual reinforcement. Exercises test the effectiveness of training, which in turn suggests new or improved exercises. Testing demonstrates participants' subject matter knowledge and skills; exercises identify strengths and illustrate gaps and weaknesses that need to be addressed. Table 8-4 summarizes major findings from a number of after-action reports (AARs) of recent TTXs and real-life disasters.

Several recent Federal-level exercises have been held, such as in Pennsylvania, Oklahoma, and the metro Washington, D.C. area, to address a myriad of issues on communication, coordination, and collaboration in the sector. In August 2009, a functional exercise sponsored by the USDA FSIS FERN Food Emergency Management Program Cooperative Agreement with the University of Georgia, addressed the following situations:

- Develop a Georgia Food Emergency Response Plan that would be annexed to the State's Emergency Management Operational Plan;
- Hold a TTX engaging food stakeholders in the State;
- Run a functional exercise that activates the Georgia Food Emergency Response Plan;
- Demonstrate FERN's laboratory capability and proficiency by prompt and accurate detection and reporting of threat agents in food; and
- Demonstrate FERN's success with previously held FERN-Civil Support Team (CST) training by using Florida and Alabama CSTs for surge and onsite sampling and screening diagnostics in the functional exercise.

8.2.4.1 Training and Education: Federal Perspective

The FA Sector continues to develop an exercise and training plan (see chapter 6). FDA has developed and is nearing completion of a food-related emergency exercise boxed set (see appendix 4) that will enable State and local jurisdictions to assess, collaborate, and develop plans for food emergencies. It is the intention of the SSAs to post the outcomes and AARs of the Food and Agriculture Regional Exercise (FARE) in Federal Emergency Management Agency (FEMA) Region VI (targeting laboratory capacity, decontamination and disposal, and recovery elements) and the Federal Food and Agriculture Tabletop Exercise (FedFATE) (targeting Federal-level disposal, decontamination, and recovery issues) in password-protected environments when these reports are completed.

8.2.4.2 Training and Education: SLTT Perspective

Across the country, there are numerous food safety and food defense activities, exercises, workshops, and related methods to assess readiness to respond to a foodborne illness outbreak, regardless of an intentional or unintentional source. Some of these events also have been conducted in various GLBHI departments of agriculture, public health, and related entities. See section 8.2.3.1.3.

Table 8-4: Improvement Areas Summary (not all-inclusive)

Improvement Area	References[21]
1. Need for more exercises of all scales.	• FDA FAD Outbreak TTX • Intentional Animal Feed Contamination TTX • *Hurricane Katrina* Lessons Learned • FSIS FERN Food Emergency Response TTX • Federal Law Enforcement Training Center (FLETC) Functional Exercise AAR
2. Funding sources if these funds can be used for response or recovery.	• FDA FAD Outbreak TTX
3. Laboratory network roles and relationships need to be clearer.	• *Operation Crystal Clear* TTX • Intentional Animal Feed Contamination TTX • FSIS/FERN Food Emergency Response TTX
4. System needed for creating and disseminating a single message.	• *Operation Crystal Clear* TTX • Demeter's Resilience • Intentional Animal Feed Contamination TTX • *Hurricane Katrina* Lessons Learned
5. Plans unfamiliar to sector partners.	• FDA FAD Outbreak TTX • Intentional Animal Feed Contamination TTX
6. Encouragement of local and State collaboration led by entity.	• Demeter's Resilience • Intentional Animal Feed Contamination TTX • *Hurricane Katrina* Lessons Learned • FSIS FERN Food Emergency Response TTX

[21] References summary information is provided in appendix 9.

7. Authority conflict between levels of government.	• *Operation Crystal Clear* TTX • *Hurricane Katrina* Lessons Learned
8. Food and agriculture members' unfamiliarity with criminal investigations.	• *Operation Crystal Clear* TTX • CDC Article, "Collaboration between Public Health and Law Enforcement: New Paradigms and Partnerships for Bioterrorism Planning and Response." • Intentional Animal Feed Contamination TTX • FLETC Functional Exercise AAR
9. Systems need to account for recovery.	• FDA FAD Outbreak TTX
10. Informal networks need to be expanded.	• Demeter's Resilience • Intentional Animal Feed Contamination TTX • *Hurricane Katrina* Lessons Learned
11. Response planning includes all sector partners.	• *Operation Crystal Clear* TTX • Intentional Animal Feed Contamination TTX • *Hurricane Katrina* Lessons Learned
12. More practice to ensure ability to integrate response structures.	• FDA FAD Outbreak TTX • Intentional Animal Feed Contamination TTX • FSIS FERN Food Emergency Response TTX

Training, education, and steady-state readiness are the foundation for mitigating any incident that affects the sector. Through the development of an exercise and training plan, and convening various working groups to address a myriad of issues that affect the FA Sector, the sector intends for its workforce and infrastructure to be prepared to endure and bolster internal resilience and foster an environment conducive to collaboration (section 8.3) and information sharing (section 8.4).

8.3 Implementing the Sector Partnership Model

A description of the entities that have a primary role in securing, defending, and protecting the FA Sector appears in the introductory chapter of this SSP. The SCC and GCC are the overarching mechanisms for the sector partnership model. An indepth description of the SCC and GCC membership, leadership, goals, meeting frequency, and other key issues also appears in chapter 1. The chapter also describes incorporation of SLTT government entities in the GCC membership. While the chapter does not explicitly address international partnerships, interests of such groups are represented through the SCC membership in multinational trade associations and firms.

8.3.1 NIPP Coordinating Councils

The SCC and GCC are the principal mechanisms for Federal and SLTT government representatives to coordinate with private sector representatives on homeland security issues concerning food and agriculture. Coordination involves regular conference calls and in-person meetings. When analyzing how the sector partners share information, it is important to be mindful of the expansive nature of the sector. The number of agricultural producers, food processors, and distribution and retail companies that comprise the sector presents a significant challenge to the SCC for communication with all private sector members. To reach as many companies as possible, trade associations are encouraged to maintain membership in the SCC.

8.3.2 Advisory Councils and Committees

The FA Sector currently participates in several external working groups, with cross-sector representation providing input to the direction of these groups. These external working groups are described below.

8.3.2.1 DHS Awareness Working Group

The DHS Awareness Working Group serves as a forum to bring the Federal partners together to collaboratively address comprehensive national awareness, education, training, and outreach that supports the sustainability of CIKR protection, security investments, and focused public and private sector understanding of the CIKR all-hazards risk environment. Some examples and ideas this working group is considering include cross-sector sharing of best practices and lessons learned; enhanced information sharing; providing input on education, training, and outreach resources (following guidance set forth in the NIPP); providing subject matter expertise and resources for broad government efforts; identifying gaps in existing education, training, and outreach programs; enhancing outreach and education efforts; defining clear and consistent messages; establishing and building on relationships with Federal partners and decision makers; maximizing coordination; deepening relationships; and broadening participation.

8.3.2.2 Cross-Sector Cyber Security Working Group

The Cross-Sector Cyber Security Working Group (CSCSWG) will provide a forum for sharing perspectives, knowledge, and expertise on wide-ranging cybersecurity issues, prioritize cybersecurity topics for discussion, and serve in a steering capacity for standing groups. The CSCSWG will leverage to a great extent existing initiatives and forums by providing awareness, support, and recognition; however, if needed, the CSCSWG may establish ad hoc groups to provide additional strategic analysis and recommendations on specific topics. The topics and appropriate composition of any additional ad hoc groups will be determined by the CSCSWG.

8.3.2.3 Interagency Biological Risk Assessment Working Group

The Interagency Biological Risk Assessment Working Group (IBRAWG) was established to set the direction for each bioterrorism risk assessment that was stipulated in response to HSPD-10, Biodefense for the 21st Century. The IBRAWG facilitates interagency guidance and input to each bioterrorism risk assessment. The IBRAWG consists of both voting and nonvoting members from across the Federal biodefense community. The IBRAWG provides a conduit for interagency review of technical input and assumptions for the biological agents and other parameters in the assessment. The interagency biodefense partners have expertise in scientific, medical, law enforcement, intelligence, and other disciplines.

8.3.2.4 Interagency Chemical Risk Assessment Working Group

The Interagency Chemical Risk Assessment Working Group (ICRAWG) was established to set the direction for each chemical terrorism risk assessment (CTRA) that was stipulated in response to HSPD-22 Domestic Chemical Defense. The ICRAWG facilitates interagency guidance and input to each CTRA. The ICRAWG provides a conduit for interagency review of technical input and assumptions for the chemical agents and other parameters used in the assessment. The interagency chemical defense partners have expertise in scientific, medical, law enforcement, intelligence, and other disciplines.

8.3.2.5 The President's White House Food Safety Working Group

The President's White House Food Safety Working Group was created on March 14, 2009, with the mission "to have safe food that does not cause us harm and to enhance our food safety systems by fostering coordination throughout the government

including enhancing our food safety laws for the 21st century." The working group is chaired by the Secretaries of HHS and USDA.[22]

8.3.2.6 Food and Agriculture Sector Authorized Equipment List Working Group

The Food and Agriculture Sector Authorized Equipment List (AEL) Working Group describes the generic equipment authorized under several DHS grant programs, including the Homeland Security Grant Program. The FA Sector AEL Working Group comprises Federal and State partners and is developing categories of kits to describe requisite materials, resources, tools, and equipment that can be purchased by HSAs for programs in agencies in their jurisdiction.

8.3.3 Academia and Research Centers

Academia, through research, workforce development, exercises, and collaborations, is a major contributor to the sector. See appendix 8 for a summary of the following programs representing some of the major research centers:

- A.8.1 National Center for Foreign Animal and Zoonotic Disease Defense (FAZD);
- A.8.2 National Center for Biomedical Research and Training (NCBRT);
- A.8.3 National Center for Food Protection and Defense (NCFPD);
- A.8.4 The Extension Disaster Education Network (EDEN);
- A.8.5 International Food Protection Training Institute (IFPTI); and
- A.8.6 Additional Research Centers.

8.4 Information Sharing and Protection

FA Sector Goal 3 is to improve FA Sector situational awareness through enhanced intelligence communication and information sharing. The several strategies to improve information sharing in the sector, including the creation of the ISWG, are described in this chapter. This chapter also describes the Health Security Integration Enterprise, an initiative the sector began working with, through the DHS OHA, in mid 2009.

8.4.1 Information Sharing

As in most partnerships, effective communication is essential to success. The SCC and GCC have acknowledged that effective communication requires two-way, routine information sharing and discussion. In collaboration with the DHS IP, a State-level Intergovernmental Personnel Agreement (IPA) from Indiana was charged with developing the ISWG and its subsequent processes. Before the successful IPA completion in July 2009, IP staff worked with the ISWG to devise, edit, and develop several information-sharing processes.

Through the establishment of the ISWG, numerous processes have been created to help address various communication-related activities in the sector. The following are stated ISWG goals:

- Establish GCC/SCC ISWG operations;
- Identify information-sharing mechanisms;
- Draft sector information-sharing processes;
- Test and exercise processes; and
- Submit validated processes to GCC/SCC leadership and implement processes.

[22] **http://www.foodsafetyworkinggroup.gov/.**

The ISWG created the continuum illustrated in figure 8-3 to evaluate and monitor the progress of activities being addressed:

Figure 8-3: ISWG Continuum

- **Coordinate:** The FA Sector's support team will coordinate with the FA Sector's Executive Council or designated ISWG to outline and conduct capability development;
- **Draft:** The FA Sector's support team will document existing sector processes and provide best practice examples to the Working Group to facilitate developing information-sharing and management processes;
- **Validate:** The Executive Council or Working Group should review process document drafts to ensure the intent and mission interests of the sector are fully incorporated in them;
- **Test or Exercise:** After the documents are validated, the Sector is encouraged to test the processes;
- **Approve and Implement:** Thereafter, the FA Sector's Executive Working Group or Working Group may then present the processes to the sector leadership for final approval and sanction or direct sector-wide distribution and implementation; and
- **Monitor and Measure:** The FA Sector's Executive Council or Working Group, with the assistance of the FA Sector support team, may periodically measure efficiency and make the appropriate modifications to the process.

On behalf of the FA Sector SSAs, to achieve the stated goals, and to meet the requirements of DHS, the ISWG has developed the following processes:

- Governance and membership management;
- Sector and SCC/GCC charters and organizational policies to identify the sector's membership and operating policies;
- Core information-sharing capabilities:
  - **Alerts, Warnings, and Notifications:** describes and illustrates how the sector will receive and distribute notices provided by the government and industry to the sector;
  - **Suspicious Activity Reporting:** describes and illustrates how the sector will receive and distribute reports of suspicious activity affecting critical infrastructure;
  - **Data Management:** describes and illustrates how the sector will develop, post, distribute, and maintain documents and other forms of data;
  - **Incident Collaboration and Communication:** describes and illustrates how the sector will communicate during an emergency or incident; and
  - **Routine Collaboration and Communication:** describes and illustrates how the sector will communicate during nonemergency situations.

Appendix A.5.1 gives a brief summary of these documents.

The following systems and networks are used for information sharing and distribution in the FA Sector.

8.4.1.1 Homeland Security Information Network

As the SCC and GCC mature and can process and act on information, additional means of communication are necessary for ensuring real-time, robust information sharing. The GCC and the SCC are planning to use HSIN as the basis for communications and information sharing.

The HSIN-FA Portal is a communications portal for use by approved private sector entities and individuals, as well as Federal, State, and local government employees. The HSIN-FA Portal has a number of different areas or subportals with various restrictions about who can and cannot access them.

When HSIN-FA users log in, they see the main or common area page. Depending on access rights and interests, users may obtain access to additional areas in the portal. Beyond the main page, HSIN-FA will be divided in two major areas, SCC and GCC.

The SCC area, including any subportals, will be for the exclusive use and benefit of private sector users. Control of the SCC area will reside exclusively with the private sector. Any material posted in or otherwise conveyed through the SCC areas will be the property of the private sector and will not be considered government information.

Federal, State, and local government agencies and their affiliated users and employees will control and maintain the GCC portion of HSIN-FA. These users may grant private sector access at the sole discretion of the GCC. The GCC will create and eliminate subportals under the main GCC areas and post information to those areas as it deems appropriate.

8.4.1.2 FBI's AgGard Program

The AgGard program is modeled after the InfraGard network, an FBI program that links citizens in the private sector, academia, and Federal, State, and local government agencies to build relationships that foster trusted communications and the exchange of information. As such, AgGard builds relationships that foster trusted communication and the exchange of information in the FA Sector.

Through a secure AgGard Web portal, members of the agricultural community are sharing information with each other and scientists, State and local law enforcement, and the FBI. Members can pose questions and alert the FBI to any suspicious or unusual activity.

8.4.1.3 Sharing of Threat Information

Sector partners rely mainly on DHS as the source for threat-related information. To educate sector partners concerning potential threats, HITRAC[23] provides unclassified alerts, warnings, and information bulletins that are distributed through the GCC and SCC. Governmental sector partners also participate in the Joint Terrorism Task Force program, where the FBI shares information with local law enforcement and other sector partners concerning specific threat information and investigations involving terrorism (FBI is the lead agency).

To further formalize the mechanism for the communication of threat information and to strengthen the FBI's relationship with the FA Sector, the FBI directed its field offices to establish formal agroterrorism working groups in its jurisdiction. These working groups will enhance the relationships between Federal partners by bringing together representatives from all entities involved in proactive prevention and awareness, intelligence, investigative response, and crisis management.

[23] See section 1 3.5 for additional information on HITRAC.

8.4.1.4 FoodSHIELD

FoodSHIELD is a highly sophisticated Web-based platform that facilitates communication, coordination, education, and training among the diverse communities that comprise the FA Sector. FoodSHIELD is sponsored by the NCFPD in partnership with the Association of Food and Drug Officials (AFDO).

FoodSHIELD is comprised of two comprehensive databases designed to identify and profile the farm-to-table infrastructure responsible for protecting and defending the food supply: the Laboratory Directory of Integrated Resources and the Food and Agriculture Directory of Integrated Resources. FoodSHIELD is also a primary portal to a wealth of materials on food and agriculture defense.[24]

8.4.1.5 Health Security Intelligence Enterprise

The purpose of the Health Security Intelligence Enterprise (HSIE) initiative is to integrate public health and healthcare communities in the homeland security intelligence and information-sharing process. This will be achieved by promoting the representation of health security communities in the national network of State and Urban Area Fusion Centers, and by facilitating the development of new information and intelligence-sharing mechanisms where gaps currently exist. A health security information and intelligence-sharing framework will be established to achieve the HSIE goals.

8.4.2 Information Protection

Often, the information used by sector partners to effectively manage risk and secure the Nation's CIKR will contain sensitive security information, sensitive business and proprietary information, or classified information. The latter is protected by Executive Order 12958, as amended under Executive Order 13292, and therefore, the sector has minimal concerns about the security of that information. One challenge of classifying important sector security information, however, is the inability to easily share it with key State and industry sector partners. It would benefit sector security if more State and industry officials had security clearances.

Information protection is a significant concern for partners that share sensitive business or proprietary information that cannot be classified for protection. The Federal leadership for the sector—USDA and FDA with DHS—takes the need to protect this information seriously and will do so to the maximum extent allowed by law.

Chief among the tools used by the sector to protect business-sensitive or proprietary information is the DHS PCII Program, developed according to the Critical Infrastructure Information Act (CIIA) of 2002, which requires creation of a Critical Infrastructure Information Program to receive sensitive and proprietary critical infrastructure information. If the PCII Program satisfies the requirements of the CIIA, information designated as PCII will be protected from public disclosure to the maximum extent permitted by law.

The rules governing the PCII Program are located in Title 6, Part 29 of the Code of Federal Regulations (CFR). General information on the PCII Program, including instructions on how to properly submit information in compliance with the program, is available at the DHS Web site.[25] Final regulation also permits submissions to Federal SSAs.

In addition to the PCII Program, other regulations may affect the privacy of data submitted to a Federal sector partner. For example, under the Freedom of Information Act (FOIA), the public may request access to information the government possesses; however, FOIA contains an exemption for trade secrets and confidential business information, and this exemption should cover information submitted regarding private facility security.

[24] **www.FoodSHIELD.org.**

[25] **www.dhs.gov/pcii.**

Despite the PCII Program and other such information protection initiatives, many private sector owners and operators are skeptical of the Federal Government's ability to keep sensitive proprietary business or security-related information secure from public disclosure. While some owners and operators have been willing to share information with the government, it will probably be difficult to convince all asset owners and operators to provide all of the information desired by the NIPP or this SSP.

Some States also face challenges in collecting critical infrastructure information because their laws do not protect such information from public release. This varies from State to State and may preclude sharing sensitive information with the States.

8.5 Conclusion

Chapter 8 provides a great deal of information on the structural underpinnings of the sector. This chapter provides a description of the SSAs charged with sector oversight, the various inter-sector working groups and committees where SSA representatives participate, the ways sector partners engage through the partnership model, and the most commonly used systems for information sharing.

This chapter also illustrates how several State-level collaborative efforts assist in regional approaches to all-hazards planning in the sector. These efforts have yielded progress on the annual data calls, exercise and training coordination, and simple interpersonal and cross-agency relationship building, which is part of the foundation for the development of any successful resiliency program.

Conclusion

It has been said that no plan is ever completed. And, the same holds true with the completion of this 2010 Food and Agriculture SSP. Through the research conducted to assist in the revision and development of this SSP, with significant contributions from both the private sector and SLTT partners, the sector has already identified several areas and elements in need of further examination for the next iteration of this SSP, including cybersecurity elements, the evaluation of numerous critical interdependencies with other CIKR sectors, and the development and coordination of a sector-wide exercise and training calendar.

This document has presented an overview of the methods, programs, activities, and strategies that the FA Sector uses to continuously enhance CIKR protection and resiliency efforts. This SSP has portrayed and described the sector's current all-hazards protective posture and numerous resiliency strategies, and provided a forum that illustrates myriad initiatives, resources, programs, and tools that can be used by sector partners to assist in the identification and implementation of risk mitigation activities; to aid in the reduction of the vulnerability of the food supply; to help deter threats to the sector; and to minimize the consequences from and aid in the development of resiliency strategies to assist the sector in recovering from large-scale incidents.

Through extensive and strengthened relationships, as documented by enhanced communication capabilities, increased collaborations with other CIKR partners and expanding cooperative programs, the sector endeavors to continue to revise and bolster this document to increase its functionality and utility for all sector partners, with the ultimate end-goal of ensuring the protection and resilience of the food and agriculture supply of the United States of America.

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Appendix 1. Acronyms and Glossary of Terms

A.1.1 List of Acronyms and Abbreviations

AAFCO	Association of American Feed Control Officials
AAR	After-Action Report
ACIO	Associate Chief Information Officer
AFDO	Association of Food and Drug Officials
AMS	Agricultural Marketing Service
APHIS	Animal and Plant Health Inspection Service
APHL	Association of Public Health Laboratories
ARS	Agricultural Research Service
ASTHO	Association of State and Territorial Health Officials
AVMA	American Veterinary Medical Association
AWN	Alerts, Warnings, and Notifications
BIA	Business Impact Analysis
CAERS	CFSAN Adverse Event Reporting System
CARVER + Shock	Criticality, Accessibility, Recuperability, Vulnerability, Effect, Recognizability, + Shock
CBP	Customs and Border Protection
CCC	Commodity Credit Corporation
CCMS	Consumer Complaint Monitoring System
CDC	Centers for Disease Control and Prevention
CF	Commercial Facilities
CFDI	Critical Foreign Dependencies Initiative
CFR	Code of Federal Regulations
CFSAN	Center for Food Safety and Applied Nutrition
CIDRAP	Center for Infectious Disease Research and Policy
CIFOR	Council to Improve Foodborne Outbreak Response

CIIA	Critical Infrastructure Information Act
CIKR	Critical Infrastructure and Key Resources
CIO	Chief Information Officer
CIP	Critical Infrastructure Protection
CIPAC	Critical Infrastructure Partnership Advisory Council
CNPP	Center for Nutrition Policy and Promotion
COOP	Continuity of Operations Plan
CSCSWG	Cross Sector Cyber Security Working Group
CSREES	Cooperative State Research, Education, and Extension Service
CST	Civil Support Team
CSTE	Council of State and Territorial Epidemiologists
CTRA	Chemical Terrorism Risk Assessment
CVM	Center for Veterinary Medicine
DFSR	Division of Federal-State Relations
DHS	Department of Homeland Security
DNA	Deoxyribonucleic Acid
DOC	Department of Commerce
DoD	Department of Defense
DOI	Department of the Interior
DOJ	Department of Justice
ECOS	Electronic Commodity Ordering System
EDEN	Extension Disaster Education Network
EIP	Emerging Infections Program
eLEXNET	Electronic Laboratory Exchange Network
EPA	Environmental Protection Agency
EPIA	Egg Products Inspection Act
ERS	Economic Research Service
FA Sector	Food and Agriculture Sector
FACTS	Field Accomplishments and Compliance Tracking System
FAS	Foreign Agricultural Service
FAS-CAT	Food and Agriculture Sector Criticality Assessment Tool
FASCC	Food and Agriculture Sector Coordinating Council
FAVD	Food Agriculture and Veterinary Defense
FAZD	Foreign Animal and Zoonotic Disease Defense
FBI	Federal Bureau of Investigation

FDA	Food and Drug Administration
FDOT	Food Defense Oversight Team
FEMA	Federal Emergency Management Agency
FERN	Food Emergency Response Network
FFDCA	Federal Food, Drug, and Cosmetic Act
FFRM	Food Facility Registration Module
FISMA	Federal Information Security Management Act
FLETC	Federal Law Enforcement Training Academy
FMD	Foot-and-Mouth Disease
FMIA	Federal Meat Inspection Act
FNS	Food and Nutrition Service
FOIA	Freedom of Information Act
FoodNET	Foodborne Diseases Active Surveillance Network
FS	Forest Service
FSA	Farm Service Agency
FSIS	Food Safety and Inspection Service
FSWG	Food Safety Working Group
GCC	Government Coordinating Council
GIPSA	Grain Inspection, Packers, and Stockyards Administration
GLBHI	Great Lakes Border Health Initiative
GMA	Grocery Manufacturers Association
HACCP	Hazard Analysis and Critical Control Point
HHS	Department of Health and Human Services
HITRAC	Homeland Infrastructure Threat and Risk Analysis Center
HSA	Homeland Security Advisor
HSEEP	Homeland Security Exercise and Evaluation Program
HSIE	Health Security Intelligence Enterprise
HSIN	Homeland Security Information Network
HSIN–FA	Homeland Security Information Network–Food and Agriculture Sector
HSPD	Homeland Security Presidential Directive
IAC	Intertribal Agriculture Council
IARW	International Association of Refrigerated Warehouses
IBRAWG	Interagency Biological Risk Assessment Working Group
IC	Intelligence Community
ICLN	Integrated Consortium of Laboratory Networks

ICRAWG	Interagency Chemical Risk Assessment Working Group
ICS	Incident Command System
IDFA	International Dairy Foods Association
IDW	Infrastructure Data Warehouse
IE	Health Security Intelligence Enterprise
IFPTI	International Food Protection Training Institute
IICD	Infrastructure Information Collection Division
IICS	Infrastructure Information Collection System
IP	Infrastructure Protection
ISE	Information Sharing Environment
ISWG	Information Sharing Working Group
IT	Information Technology
JCR	Joint Committee on Research
JIFSAN	Joint Institute for Food Safety and Applied Nutrition
LENS	Linked Encryption Network System
LLIS	Lessons Learned Information Sharing
LRN	Laboratory Response Network
MOU	Memorandum of Understanding
NABC	National Agricultural Biosecurity Center
NACCHO	National Association of County and City Health Officials
NAICS	North American Industry Classification System
NAIS	National Animal Identification System
NALBOH	National Association of Local Boards of Health
NASAHO	National Assembly of State Animal Health Officials
NASDA	National Association of State Departments of Agriculture
NASS	National Agricultural Statistics Service
NBIS	National Bio-Surveillance Integration System
NCBA	National Cattlemen's Beef Association
NCBRT	National Center for Biomedical Research and Training
NCFPD	National Center for Food Protection and Defense
NCIPP	National Critical Infrastructure Prioritization Program
NCTC	National Counterterrorism Center
NDPC	National Domestic Preparedness Consortium
NEHA	National Environmental Health Association
NIAC	National Infrastructure Advisory Council

NIPP	National Infrastructure Protection Plan
NIST	National Institute of Standards and Technology
NMPF	National Milk Producers Federation
NOC	National Operations Center
NPB	National Pork Board
NPPC	National Pork Producers Council
NRCS	Natural Resources Conservation Service
OASIS	Operational and Administrative System for Import Support
OCI	Office of Criminal Investigation
OCIO	Office of the Chief Information Officer
OFDCER	Office of Food Defense, Communication and Emergency Response
OHA	Office of Health Affairs
OHS	Office of Homeland Security
OIG	Office of the Inspector General
OMB	Office of Management and Budget
ORA	Office of Regulatory Affairs
ORM	Operational Risk Management
OSTP	Office of Science and Technology Policy
PA	Predictive Analytics
PART	Program Assessment Rating Tool
PCII	Protected Critical Infrastructure Information
POD	Partnership and Outreach Division
PPIA	Poultry Products Inspection Act
PSA	Protective Security Advisor
PVO	Private Voluntary Organization
R&D	Research and Development
RD	Rural Development
RFR	Reportable Food Registry
RHS	Rural Housing Service
RMA	Risk Management Activity
RUS	Rural Utilities Service
S&T	Science and Technology Directorate
SAADRA	Southern Agriculture and Animal Disaster Response Alliance
SAR	Sector Annual Report
SCC	Sector Coordinating Council

SHIRA	Strategic Homeland Infrastructure Risk Analysis
SHSG	State Homeland Security Grant
SHSP	State Homeland Security Program
SIG	Special Interest Group
SLTT	State, Local, Tribal, and Territorial
SPP	Security and Prosperity Partnership of North America
SPPA	Strategic Partnership Program Agroterrorism
SSA	Sector-Specific Agency
SSP	Sector-Specific Plan
TCL	Target Capabilities List
TIA	Technical Impact Analysis
TSA	Transportation Security Administration
TTX	Tabletop Exercise
UGA	University of Georgia
USAID	United States Agency for International Development
U.S.C.	United States Code
US–CERT	United States Computer Emergency Response Team
USDA	United States Department of Agriculture
USTR	United States Trade Representative
WFP	World Food Program
WHO	World Health Organization
WIC	Special Supplemental Nutrition Program for Women, Infants and Children
WIFSS	Western Institute for Food Safety and Security

A.1.2 Glossary of Terms

Agricultural and Food Product Storage. Establishments engaged in operating warehousing and storage facilities for agricultural and food products. These establishments provide facilities to store goods. They do not sell the goods they handle. These establishments take responsibility for storing the goods and keeping them secure. They may also provide a range of services, often referred to as logistics services, and related to the distribution of goods.

Agriculture and Food. *Agriculture* comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats. Food establishments transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food and beverage products. The food and beverage products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers.

CARVER + Shock. An assessment methodology that provides a consistent means for evaluating the consequences, vulnerability, and threat faced by assets, systems, networks, and functions in the FA Sector. CARVER is an acronym for the following six attributes used to evaluate the appeal of a target for attack: Criticality (measure of public health and economic impacts of an

attack), Accessibility (ability to physically access and egress from target), Recuperability (ability of system to recover from an attack), Vulnerability (ease of accomplishing attack), Effect (amount of direct loss from an attack as measured by loss in production), Recognizability (ease of identifying target). The seventh attribute, Shock, represents the combined health, economic, and psychological impacts of an attack.

Consequence Analysis. The estimate of the potential public health and economic impacts that a successful attack could cause.

Critical Infrastructure and Key Resources (CIKR). The assets, systems, networks, and functions that provide vital services to the Nation.

Criticality. A description of the importance of a particular sector asset, system, network, or function in relation to national or regional security issues. Includes a consideration of public health and economic impacts.

Dependency. The one-directional reliance of an asset, system, network, or collection thereof, within or across sectors, on input, interaction, or other requirement from other sources to function properly.

Farm-to-Table. Refers to the broad spectrum of industries responsible for all facets of food production, from where it is grown on the farm until it reaches the consumer's table.

Food and Agriculture Sector. The National Strategy for Physical Protection of Critical Infrastructures and Key Assets defines the sector as the supply chains for feed, animals, and animal products; crop production and the supply chains of seed, fertilizer, and other necessary related materials; and the post-harvesting components of the food supply chain, from processing, production, and packaging through storage and distribution to retail sales, institutional food services, and restaurant or home consumption. In general terms, the sector is composed of the agricultural production and food systems from the farm to the table.

Food and Agriculture Sector Annual Report. A report prepared by the SSAs each year describing accomplishments in meeting SSP goals. The report includes details about specific programs related to CIKR protection, and SSAs submit the report to DHS for incorporation into the National CIKR Annual Report.

Interdependency. Mutually reliant relationship between entities (objects, individuals, or groups). The degree of interdependency does not need to be equal in both directions.

Performance Measure. Indicator, statistic, or metric used to gauge program performance.

Processing/Packaging/Production. The transformation of livestock and agricultural products into products for intermediate or final consumption. This category is sometimes referred to as Food Manufacturing.

Regulatory, Oversight, and Industry Organizations. Organizations that provide technical, operation, pricing, and business oversight and support to the FA Sector.

Risk. A measure of potential public health and economic harm that encompasses threat, vulnerability, and consequences.

Sector Partner. Federal, State, local, tribal, and territorial governments and private industry representatives from the FA Sector that partner together to enhance security for food and agricultural systems.

Strategic Goal or Strategic Objective. A statement of aim or purpose included in a strategic plan (required under the Government Performance and Results Act of 1993). In a performance budget/performance plan, strategic goals group multiple program outcome goals. Each program outcome goal should relate to and in the aggregate be sufficient to influence the strategic goals or objectives and their performance measures.

Targets (performance). Refers to improved levels of performance needed to achieve the stated goals.

Threat Analysis. Estimates the likelihood that a particular target, or type of target, will be selected for attack, and is based on intent and capability of an adversary.

A.1.3 NIPP & SSP Frequently Asked Questions (Updated December 5, 2008)

1. **How do agriculture and food fit within U.S. National Security?**

   In July 2002, the Bush Administration identified food and agriculture as a "critical infrastructure" for the security of the Nation. Critical infrastructures are the physical and cyber-based systems essential to the economy and to government operations. In December 2003, the Administration issued a framework for protecting all of the Nation's critical infrastructure, *Homeland Security Presidential Directive (HSPD)-7*. Then, in February 2004, the Administration issued *HSPD-9*, which establishes a national policy specifically for defending our agriculture and food systems against terrorist attacks, major disasters, and other emergencies. For a depiction of these HSPDs and related activities, please see the attached diagram.

2. **How are government and private industry officials collaborating on agriculture security and food defense programs?**

   To accomplish the activities necessary to protect our agricultural and food systems, Federal, State, Tribal, and local governments must collaborate with private industry. Because our agriculture and food systems are numerous, complex, and diverse, a mechanism was needed to help the government and industry representatives collaborate.

   In March 2004, the U.S. Department of Agriculture (USDA), Food and Drug Administration (FDA) and Department of Homeland Security (DHS) invited the private sector to join the government in creating two bodies, one for government officials, and one for private industry that could work together on security initiatives.

   The "*industry*" *sector coordinating council* (SCC) is comprised of private companies and industry associations representing key components of the food system. The SCC has 7 subcouncils[26] spanning the farm-to-table continuum – agricultural inputs, animal producers, plant or crop producers, food processors, retail operations, warehouses, and import/export establishments.

   The "*government*" *coordinating council* (GCC) is comprised of Federal, State, Tribal and local governments responsible for a variety of activities including agricultural, food, veterinary, public health, laboratory, and law enforcement programs.

   In simple terms, the SCC and the GCC are the "liaisons" that will provide input and work with DHS, USDA, FDA and other federal agencies as they plan, coordinate, and implement homeland security policies and programs for the food and agriculture sector.

3. **What is the National Infrastructure Protection Plan?**

   Homeland Security Presidential Directive 7 (HSPD-7) directed the Department of Homeland Security (DHS) to develop a National Infrastructure Protection Plan (NIPP). The NIPP provides the framework for integrating the protection of critical infrastructure and key resources (CIKR) into a single national program. The NIPP challenges each sector (e.g., Transportation, Energy, Food and Agriculture, etc.) to consider how an attack on sector infrastructure would impact public health, governance, economic and national security, and public confidence at the national level. DHS released the original NIPP on June 30, 2006 and expects to release a revised version of the NIPP early in 2009.

4. **What is a Sector-Specific Plan?**

   Sector-Specific Plans (SSP) support the NIPP and are annexes to it. SSPs were initially developed by each Sector-Specific Agency (SSA), submitted to DHS in December 2006, and published in May 2007. The SSPs describe how the sector will protect its assets, systems, networks, and functions. Protecting sector infrastructure requires cooperation and coordination between Federal, State, local, and tribal governments, as well as private business owners and operators and international partners. SSPs follow the NIPP risk management framework, which includes the following activities: Set security goals,

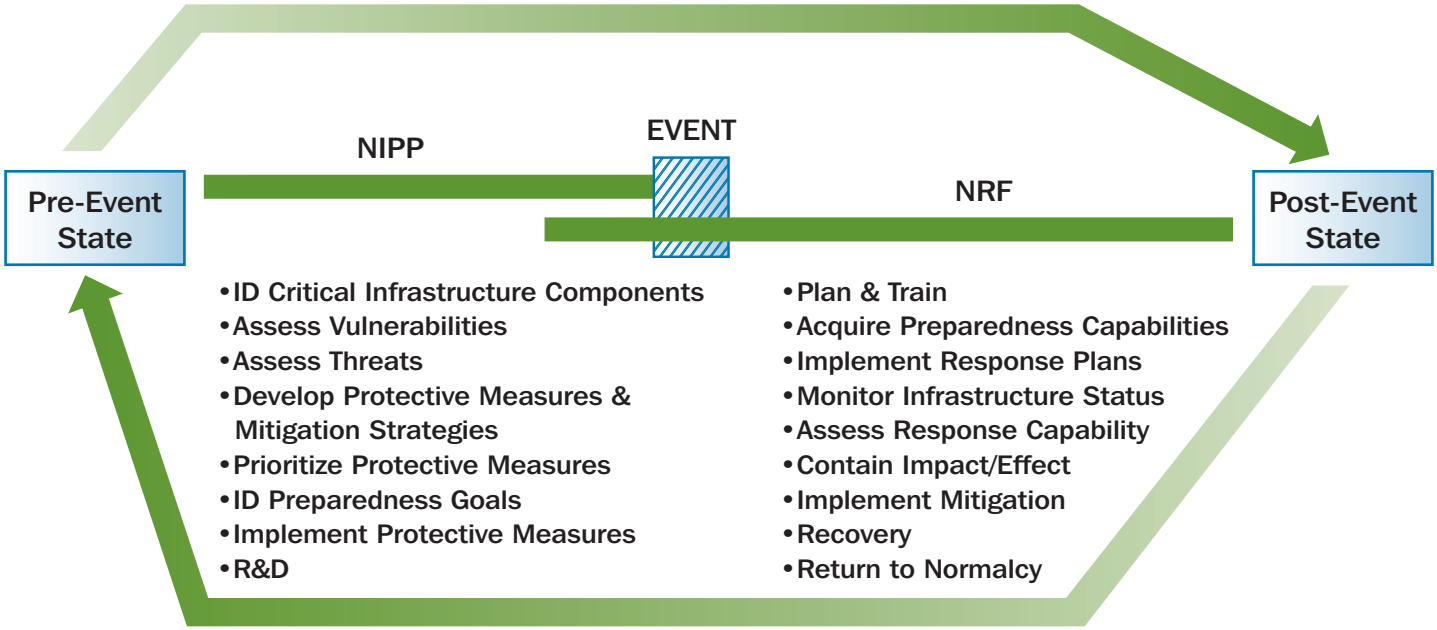
[26] Sub-councils were eliminated in 2009, and there is now one SSC.

Identify infrastructures, Assess risks, Prioritize and implement protective programs, and Measure effectiveness of the National CIKR protection programs.

5. **How does the NIPP, and its supporting SSPs, fit with the National Response Framework?**

Both the NIPP and the SSPs describe the planning activities before an incident (pre-event state). These are protection plans. The NIPP describes general preparedness planning at a national level. The SSPs are more specific as they describe how each sector's (e.g., Food and Agriculture) protection plan. Both the NIPP and SSPs should be used by State and local governments as building blocks for developing their own protection plans in collaboration with industry partners. The NIPP and SSPs focus on preparedness and protection activities, before an event. Further along the continuum, the National Response Framework (NRF) addresses how to respond to an incident. Protection and response plans should support each other. See the diagram below for a depiction of the preparedness and response continuum.

Preparedness and Response Continuum



6. **What are the Food and Agriculture SSPs?**

Because the Food and Agriculture sector is so broad and is regulated by two different entities, the sector was divided into two parts. The first part is led by the Food and Drug Administration (FDA) and covers all food, with the exception of meat, poultry, and egg products. The second part is led by the United States Department of Agriculture (USDA) and covers food, limited to meat, poultry and egg products, and all other agriculture. Separate SSPs were developed for each of these parts of the sector.

The Food and Agriculture SSPs support the NIPP by providing a strategy for protecting agriculture and food-related systems. The activities listed in question 2 (above) can only be achieved via a partnership between government and industry. The SSPs should also describe how each sector partner will contribute to the protection of the sector's assets, systems, networks, and functions.

As a result of input from our government and private sector partners, USDA and FDA will be developing one overarching SSP for the sector. As of December 2008, the SSP revision working group will begin the development of a single SSP, which is intended to be submitted to DHS in December 2009.

At this time, we need additional content that describes State, local and Tribal governments' and industry's roles. Once complete, the SSP will aid USDA and FDA in enhancing sector security by linking vulnerabilities, risk, protective measures, and research goals.

7. **How should State, local, and tribal representatives use the NIPP and the existing SSPs?**

The State, local, Tribal and territorial government representatives within the Food and Agriculture Sector should use the NIPP as overarching guidance that describes the important components of a protection plan. The Food and Agriculture SSPs will also provide these officials with a better understanding of the sector's priorities. They should use the SSPs as more specific guidance for developing State and/or Regional level strategies and plans for protecting the Food and Agriculture infrastructure. Understanding the sector's priorities and developing protection plans will enhance a State's ability to prepare and justify applications for preparedness grants for agriculture and food-related needs.

The Food and Agriculture SSPs will be updated every 3 years, providing State, local, and Tribal government officials an opportunity to engage with the sector in a discussion about the protection needs of the sector's assets, systems, networks, and functions, as well as to influence decisions.

8. **How should industry representatives use the NIPP and the existing SSPs?**

The Food and Agriculture Sector industry groups should use the NIPP as overarching guidance for a protective strategy and use the SSPs as more specific guidance for developing and implementing protective measures. The SSPs will describe the sector's priorities and strategy for protecting its critical infrastructure and key resources. This information can be applied to individual sub-sectors as relevant.

The Food and Agriculture SSPs will be updated every 3 years, providing industry officials an opportunity to engage with the sector in a discussion about the protection needs of the sector's assets, systems, networks, and functions, as well as to influence decisions.

9. **What is the status of the update to the Food and Agriculture SSP?**

Revision and rewriting of the SSP is being facilitated by staff of the USDA and FDA, in partnership and collaboration with the SSP revision working group. The facilitators of the working group will provide materials to the working group membership for comment and review through FoodSHIELD, and it is hoped that additional insights and direction can be provided by State, local, Tribal and territorial government representatives as well as the private sector. The goal is to submit the final, sector-approved, revised document to DHS by the end of 2009.

Proposed SSP Revision Timeline

December 2008	Initial Working Group Conference Call
January – July 2009	Monthly reviews / revisions of chapters within the current SSPs
January – July 2009	Brief updates provided to leadership of Food and Ag Sector for distribution to their respective Coordinating Councils.
August 2009	Share working draft of the SSP with entirety of GCC/SCC membership

USDA and FDA would like to establish working groups with our state and industry partners to begin working on revisions to their respective SSPs.

10. What are some of the intended uses of the Food and Agriculture Sector's 2010 SSP?

There are a variety of uses for the Food and Agriculture Sector 2010 SSP. The document can be a useful resource for members of Congress to understand the breadth, depth, and diversity of the Sector. The document will also contain lists of and links to resources that are available to aid sector partners in critical infrastructure protection efforts, as well as provide examples of best practices and templates for plans.

11. What is considered critical in the Food and Agriculture infrastructure?

The NIPP, and consequently the SSPs, begin with the premise that certain assets, systems, networks, and functions in each sector are more important to national security than others. The plans require each sector to determine which of its assets, systems, networks, and functions are relevant to national security.

With guidance and direction from the Food and Agriculture Sector, the National Center for Food Protection & Defense has created the Food and Agriculture Sector Criticality Assessment Tool (FAS-CAT), an advanced Excel application, to help identify critical assets in the Food and Agriculture Sector and provide reporting mechanisms to DHS. The tool is designed to assist States, in partnership with both the private sector and other regional States as appropriate, in determining the most critical elements, nodes and sub-systems in the food and agriculture infrastructure. Specifically, FAS-CAT seeks to:

- Improve the overall process for food and agriculture critical system/sub-system identification.
- Provide greater equity in cross sector critical system identification for DHS.
- Enable the States to identify critical food and agriculture system components.
- Provide a common methodology to the process.
- Improve critical asset reporting to the Department of Homeland Security.

Homeland Security Presidential Directives & Activities for Food and Agriculture

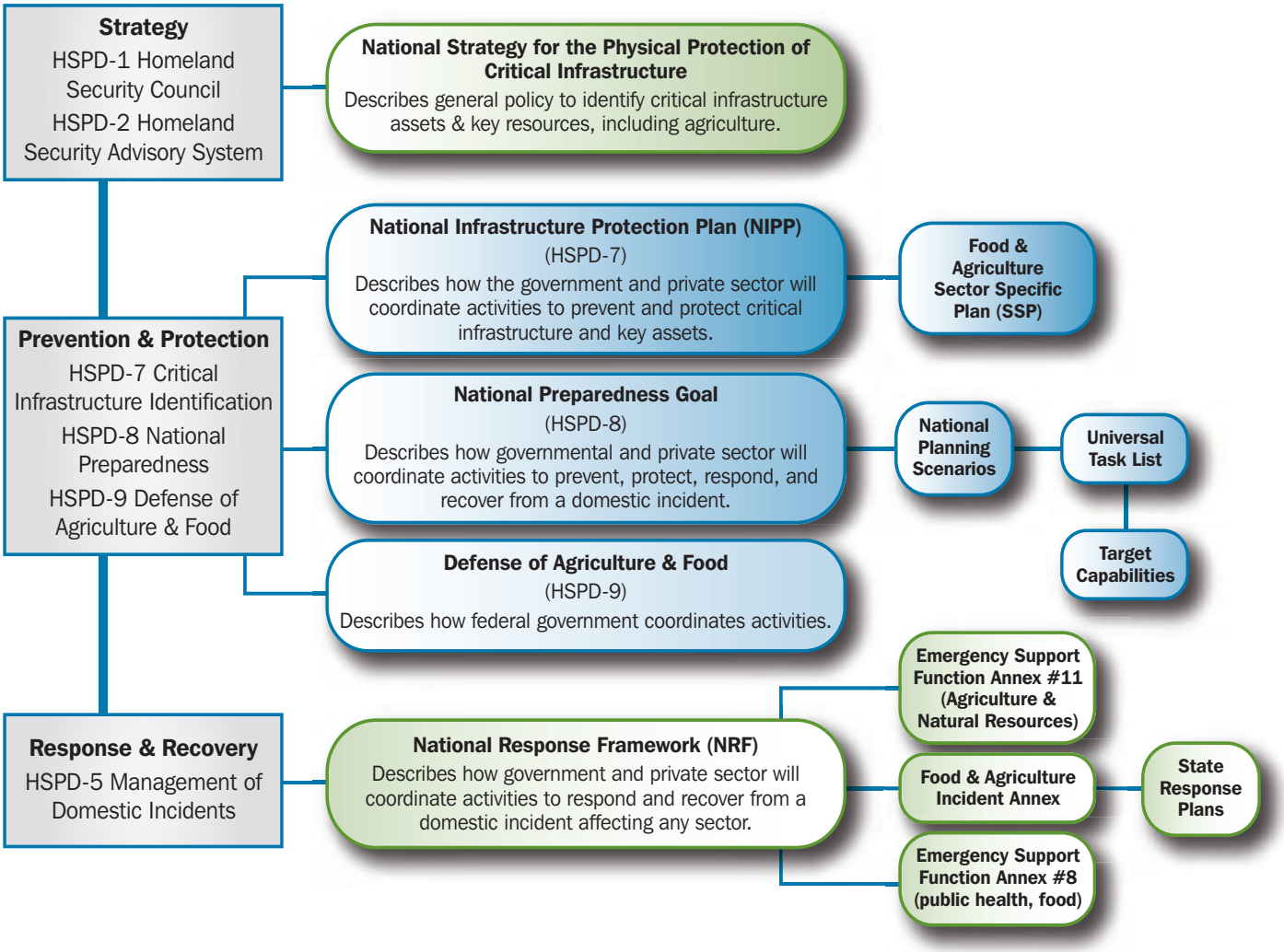


Diagram prepared by the National Association of State Departments of Agriculture, 2006, updated 2007.

Appendix 2. USDA, FDA, SCC, and GCC Additional Information

As a result of Homeland Security Presidential Directive 7 (HSPD-7), DHS is responsible for coordinating the overall national effort to enhance protection and resilience of all critical infrastructure and key resources (CIKR) of the United States. The U.S. Department of Agriculture (USDA) and the Food and Drug Administration (FDA) have an obligation to provide leadership for sector infrastructure protection activities, including establishing information-sharing relationships and developing collaborative sector protection plans with sector CIKR partners. The Food and Agriculture (FA) Sector comprises a set of private industries (owners and operators) represented by the Sector Coordinating Council (SCC) and government entities (Federal and State, local, tribal, and territorial (SLTT)), represented by the Government Coordinating Council (GCC).

HSPD-9 established a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies. USDA and FDA work together to submit an integrated budget plan for defense of the U.S. food system to the Director of the Office of Management and Budget (OMB). The investments of the Sector-Specific Agencies (SSAs) augment the Nation's food safety protection system and establish a partnership among the various organizations responsible for protecting the Nation's food supply. In addition, the SCC and GCC are responsible for encouraging vulnerability assessments.

A.2.1 USDA Key Authorities

USDA has a number of mission areas comprised of agencies and various departmental offices, each with extensive legal authorities. Following are highlights of the key authorities for USDA's activities in agricultural and food safety and defense.

Animal and Plant Health. The Animal and Plant Health Inspection Service (APHIS) is responsible for protecting and promoting U.S. agricultural health, administering the Animal Welfare Act, and carrying out wildlife damage management activities. The mission of APHIS is an integral part of USDA's efforts to provide the Nation with safe and affordable food. The Plant Protection Act, Animal Health Protection Act, Virus Serum Toxin Act, Agricultural Bioterrorism Protection Act of 2002, and the Animal Welfare Act are the primary statutory authorities used to achieve the agency's mission. These acts give APHIS the ability to restrict the importation, exportation, and interstate movement of plants, animals, plant and animal products, and plant and animal pathogens. They also provide APHIS with the authority to ensure that veterinary biologics are pure, safe, potent, and effective, and that the standards governing humane handling, care, and treatment of governed animals are met.

Domestic Nutrition Assistance. The Food and Nutrition Service (FNS) is the Federal agency responsible for managing USDA domestic nutrition assistance programs. Authorities for the administration of FNS nutrition assistance programs are found in several places: the Child Nutrition Act of 1966, as amended; the Richard B. Russell National School Lunch Act, as amended; the Food Stamp Act of 1977, as amended; the Agriculture and Consumer Protection Act of 1973, as amended; and the Emergency Food Assistance Act of 1983, as amended. Some food is purchased by USDA agencies for the nutrition assistance programs. Authorities to conduct purchase activities are provided for by five statutes: Section 32 of Public Law 74-320; Section 410(b) of

the Disaster Relief Act of 1974; the Richard B. Russell National School Lunch Act, as amended; the Agriculture and Consumer Act of 1973; and the Older Americans Act of 1964.

FNS is also responsible for disaster feeding in a presidentially declared disaster, using USDA commodity foods and food stamps (if retail outlets are available). The statutory authority to purchase, use, and distribute food to victims of a presidentially declared disaster includes Section 410(b) of the Disaster Relief Act of 1974 (42 U.S.C. 5180(b)), normal Federal Acquisition Regulation (FAR) procedures, plus Section 412 and 413 (b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act); Section 5(h) of the Food Stamp Act of 1977, as amended; Section 416 of the Agricultural Act of 1949; Section 4(a) of the Agriculture and Consumer Protection Act of 1973; 7 CFR 250.43 and 250.44; and 7 CFR 280.1, 7 CFR 274.6, and 7 CFR 272.3.

Food Processing (Meat, Poultry, and Egg Products). Food processors under USDA's jurisdiction are subject to the four key legal and statutory authorities under which the Food Safety and Inspection Service (FSIS) operates. The Federal Inspection Acts that are most important to FSIS are the Federal Meat Inspection Act (FMIA, 21 United States Code (U.S.C.) 601 et seq.), the Poultry Products Inspection Act (PPIA, 21 U.S.C. 451 et seq.), and the Egg Products Inspection Act (EPIA, 21 U.S.C. 1031 et seq.). Under the authority of these acts, FSIS provides continuous inspection of all meat, poultry, and egg products prepared for distribution in commerce, and re-inspects imported products, to ensure that they meet U.S. food safety standards. FSIS tests for and conducts enforcement activities to address situations of microbiological, chemical, and other types of contamination, and conducts epidemiological investigations in cooperation with the CDC based on reports of foodborne health hazards and disease outbreaks. FSIS also carries out provisions of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188). FSIS food defense initiatives are undertaken pursuant to the act. Additionally, the 1967 Wholesome Meat Act and the 1968 Wholesome Poultry Act direct FSIS to assess whether State inspection programs that regulate meat and poultry products are at least equal to the Federal program, in accordance with the 1967 Wholesome Meat Act and the 1968 Wholesome Poultry Act. Furthermore, the 1967 Wholesome Meat Act extended FSIS jurisdiction over meat and meat products, granting authority to regulate transporters, renderers, cold storage warehouses, and animal food manufacturers.

International Food Assistance. The U.S. Government has historically been involved with international food aid to help in disaster situations or where there is a need due to natural circumstances. Through various agencies, including Foreign Agricultural Service (FAS), international food aid is distributed to the needy in a variety of methods. Direct food aid, food aid through a distribution channel by way of private voluntary organizations or nongovernmental organizations, food aid to school children, and concessional loans are some of the methods by which a number of U.S. laws governing food aid are administered.

Through the Commodity Credit Corporation (CCC), the U.S. Agency for International Development (USAID) and USDA provide U.S. agricultural commodities to feed millions of hungry people in needy countries through direct donations and concessional programs. Food aid may be provided through four program authorities: (1) Public Law 480, also known as Food for Peace; (2) Food for Progress; (3) Section 416(b); and (4) the McGovern-Dole International Food for Education and Child Nutrition Program.

Marketing. The Agricultural Marketing Service (AMS) carries out a wide range of program activities that facilitate the marketing of U.S. agricultural production under the authorization of the Agricultural Marketing Act of 1946, the Perishable Agricultural Commodities Act, and more than 50 other statutes. These programs improve the efficiency of the national and international marketing of U.S. agricultural products by providing a language of trade and a network of marketing services that enhance returns to producers, lower prices to consumers, and help ensure fair trading in the marketplace. Two-thirds of the funds needed to finance AMS activities are derived from voluntary user fees charged for quality grading services. AMS provides these services to private industry, as well as Federal and State agencies.

Table A.2-1 summarizes a more comprehensive list of key security and emergency response-related authorities.

Table A.2-1: Key Security and Emergency Response-Related Authorities

Authority	Summary
16 U.S.C. 551	Provides for protection against destruction by fire and depredation upon the public forests and National Forests.
16 U.S.C. 551a	Authorizes the Secretary of Agriculture to cooperate with and provide reimbursement to any State or political subdivision for enforcement of their laws on the National Forest System roads and trails.
16 U.S.C. 553	Provides that Forest Service (FS) officials shall aid States with regard to forest fires.
16 U.S.C. 559	Authorizes FS employees to make arrests for violation of the laws and regulations of the National Forest.
36 CFR Part 261	Relates specifically to acts that are prohibited on the National Forest System roads and trails.
50 U.S.C. 82	Authorizes the procurement of ships and material during war.
50 U.S.C. App. 468	Delegates authorities vested in the President, with respect to placing orders for prompt delivery of articles or materials, to the Secretary of Agriculture over all matters with respect to food resources.
7 CFR 250, Section 43 (disasters); 7 CFR 250, Section 44 (situations of distress)	Contains the regulations implementing food donations and statutory authorities that authorize the Secretary of Agriculture to make donated food available to victims of disasters and situations of distress, respectively.
7 CFR 272, Section 3	Contains regulations implementing food stamp statutory authorities that authorize the Secretary of Agriculture to make coupons available to disaster/emergency victims; specifically, contains requirements outlining operating guidelines for participating State agencies.
7 CFR 274, Section 6	Contains regulations implementing food stamp statutory authorities that authorize the Secretary of Agriculture to make coupons available to disaster/emergency victims; specifically, contains requirements outlining non-discrimination guidelines for participating State agencies.
7 CFR 280, Section 1	Contains regulations implementing food stamp statutory authorities that authorize the Secretary of Agriculture to make coupons available to disaster/emergency victims. Specifically, Section 1 contains interim disaster procedures allowing the Secretary to establish temporary emergency standards of eligibility for the duration of the emergency for households that are victims of a disaster that disrupts commercial channels of food distribution.
Agricultural Act of 1949, Section 416(b), 7 U.S.C. 1431	Provides, as amended, for overseas donations of surplus commodities acquired by the Commodity Credit Corporation (CCC). Section 416 also authorizes the Secretary of Agriculture to donate surplus commodities to disaster victims, subject to certain requirements.
Agricultural Bioterrorism Protection Act of 2002, Title II, Subtitle B, Sections 211-213 of the Public Health Security and Bioterrorism Preparedness and Response Act, Public Law 107-188	Requires that entities, such as Federal, State, and private research laboratories, universities, vaccine companies, and individuals that possess, use, or transfer select biological agents or toxins identified as a severe threat to public health or animal and plant health register with USDA APHIS or with HHS' CDC depending on the agent they possess.

Agricultural Marketing Act of 1946, Section 203(h), 7 U.S.C. 1621-1627	Authorizes the Secretary of Agriculture to inspect, certify and identify the class, quality, quantity, and condition of agricultural products when shipped or received in interstate commerce.
Agricultural Marketing Act of 1946, 7 U.S.C. 74	Grain Inspection, Packers, and Stockyards Administration (GIPSA) administers and enforces certain inspection and standardization activities related to rice, pulses, lentils, and processed grain products such as flour and corn meal, as well as other agricultural commodities.
Agricultural Marketing Act of 1946, Section 203(j), 7 U.S.C. 1621	Authorizes the Secretary of Agriculture to assist in improving transportation services and facilities, and in obtaining equitable and reasonable transportation rates and services and adequate transportation facilities for agricultural products and farm supplies. AMS may conduct, assist, and foster research, investigation, and experimentation to determine the best methods of transporting agricultural products; and foster and assist in the development of new or expanded markets (domestic and foreign) for moving larger quantities of agricultural products through the private marketing system to consumers in the United States and abroad.
Agricultural Marketing Act of 1946, Section 203(k), 7 U.S.C. 1621	Authorizes the Secretary of Agriculture to collect, tabulate, and disseminate statistics on marketing agricultural products, including, but not restricted to, statistics on market supplies, storage stocks, quantity, quality, and condition of such products in various positions in the marketing channel, utilization of such products, and shipments and unloads thereof.
Agricultural Reform and Improvement Act of 1996, 7 U.S.C. 950aaa	Encourages and improves telemedicine and distance learning services in rural areas through the use of telecommunications, computer networks, and related advanced technologies by students, teachers, medical professionals, and rural residents.
Agricultural Research Act of 1935, 7 U.S.C. 427	Authorizes the Secretary of Agriculture to ensure agriculture a position in research equal to that of industry, which will aid in maintaining an equitable balance between agriculture and other sections of the economy.
Agricultural Research and Marketing Act of 1946, 7 U.S.C. 1621-1627, 1624 specifically	Authorizes the Secretary of Agriculture to cooperate with other entities, including branches of Federal government, State agencies, and private research organizations in producing, transporting, storing, processing, marketing, and distributing agricultural products in any and all jurisdictions.
Agricultural Trade Development and Assistance Act of 1954, Title I, 7 U.S.C. 1701 et seq.	The CCC finances the sale and exportation of agricultural commodities to developing countries, those lacking foreign exchange and resources to meet food needs through commercial channels, on concessional credit terms. In addition to meeting immediate food needs, the local currency resources generated by the sale of commodities in the recipient country may be used to improve food availability and agricultural development, alleviate poverty, and promote broad-based, equitable, and sustainable agriculture and broad-based economic growth. CCC closely coordinates activities with USAID to identify needs and avoid duplication of efforts.
Agriculture and Consumer Protection Act of 1973, 7 U.S.C. 612c	Encourages exportation and domestic consumption of agricultural products. Section 4(a) authorizes the Secretary of Agriculture to donate surplus commodities to disaster victims, subject to certain requirements.
Agriculture Marketing Act of 1946, 7 U.S.C. 1621-1627	Congress resolved that the prosperity of the Nation depends on an efficient, private system for distributing and marketing agricultural products. To achieve this goal, the Agriculture Marketing Act of 1946 was passed to provide for continuous research to improve agriculture marketing, cooperation between Federal and State agencies, and to integrate the administration of laws enacted by Congress to aid the distribution of agricultural products.

Animal Health Protection Act, 7 U.S.C. 8301	Authorizes the Secretary of Agriculture to prohibit or restrict the importation, exportation, and interstate movement of animals or other articles as necessary to prevent pests or diseases of livestock (any farm-raised animals, including fish) from being introduced into, or disseminated within, the United States.
Animal Welfare Act, 7 U.S.C. 2146	Authorizes the Secretary of Agriculture to promulgate regulations and standards governing the humane handling, care, treatment, and transportation of animals, as defined in the act, by dealers, exhibitors, and other regulated persons.
Bill Emerson Humanitarian Trust	A resource to ensure that the U.S. Government can respond to emergency food aid needs. The Emerson Trust is not a food aid program, but a food reserve administered under the authority of the Secretary of Agriculture. U.S. commodities from this reserve can be tapped to respond to humanitarian food crises in developing countries, particularly when a crisis emerges unexpectedly. Up to four million metric tons of U.S. wheat, corn, sorghum, and rice can be kept in the reserve. The Secretary is authorized to release commodities from the Trust to provide food aid for unanticipated emergency needs that cannot otherwise be met through Public Law 83-480. The reserve was originally authorized by the Agricultural Trade Act of 1980 as the Food Security Wheat Reserve. Subsequent legislation broadened the number of commodities that can be held in the reserve, and it was renamed the Bill Emerson Humanitarian Trust in 1998. Most recently, the Farm Security and Rural Investment Act of 2002 reauthorized the Emerson Trust through 2007.
Child Nutrition Act of 1966, as amended	Authorizes child nutrition programs (National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program, and Summer Food Service Program) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The programs provide States with cash, commodity, and other assistance, including nutrition services and food packages in the WIC program. FNS administers these programs at the Federal level.
Consolidated Farm and Rural Development Act, Section 321(a) Emergency Loan Program, 7 U.S.C. 1961 et seq.	Authorizes direct and guaranteed loans to farms and ranchers who are U.S. citizens who operate family farms that have been substantially affected by a quarantine imposed by the Secretary of Agriculture under the Plant Protection Act or the animal quarantine laws, a natural disaster, or by a major disaster or emergency designated by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.).
Consolidated Farm and Rural Development Act, 7 U.S.C. 1921 et seq., Public Law 87-128	Revises and consolidates the authorization of the Secretary of Agriculture to make and insure loans to farmers and ranchers in order to provide for more effective credit services to farmers; authorizes Farm Service Agency (FSA) to provide emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disaster, or quarantine.
Defense Production Act, 50 U.S.C. 2071	Authorizes the Secretary of Agriculture to place priority ratings on contracts or orders with respect to food resources, food resource facilities, and domestic distribution of farm equipment and commercial fertilizer.
Defense Production Act, 50 U.S.C. App. 2061 et seq.	Authorizes the President to establish priorities under contracts, which the President deems necessary or appropriate to promote the national defense and to allocate materials, services, and facilities in such manner, upon such conditions, and to such extent, as the President shall deem necessary or appropriate to promote the national defense.
Department of Agriculture Reorganization Act of 1994, 7 U.S.C. 6941 et seq.	Establishes conditions associated with financial assistance in the maintenance of the Department of Rural Utilities Service (RUS) within the Office of Rural Development, to the service such functions, as the Secretary of Agriculture considers appropriate.

Disaster Relief Act of 1974, Section 410(b), 42 U.S.C. 5180	The Secretary of Agriculture shall utilize funds appropriated under Section 612c of Title 7 to purchase food commodities necessary to provide adequate supplies for use in any area of the United States in the event of a major disaster or emergency in such area. Farm Service Agency (FSA) and AMS are the purchasing agencies for commodity programs, and FNS is the administering agency.
Disaster Relief Act of 1974, Section 32 of Public Law 74-320, Section 410(b)	Authorities to conduct purchase activities, appropriations equal to 30 percent of gross customs receipts collected during each preceding calendar year, and unused balances up to $500 million are available for encouraging the domestic consumption or exportation of agricultural commodities; pursuant to Section 32, AMS purchases non-price-supported commodities such as meat and fish, fruit and vegetable, and poultry and egg products to stabilize market conditions.
Egg Products Inspection Act (EPIA), 21 U.S.C. 1031 et seq.	FSIS provides continuous inspection of all egg products prepared for distribution in commerce and re-inspects imported products to ensure they meet U.S. food safety standards. FSIS tests for and conducts enforcement activities to address microbiological, chemical, and other types of contamination and conducts epidemiological investigations in cooperation CDC based on reports of foodborne health hazards and disease outbreaks.
Emergency Conservation Program of the Agricultural Credit Act of 1978, Public Law 95-334	Authorizes the Emergency Conservation Program, which provides emergency funding and technical assistance to farmers and ranchers for rehabilitating farmland damaged by natural disasters and for carrying out emergency water conservation measures in periods of severe drought.
Emergency Food Assistance Act of 1983, as amended	USDA purchases and provides commodities to State agencies to assist low-income households and needy persons at soup kitchens or other emergency feeding organizations. Such organizations may also include disaster relief programs.
Executive Order 12742	With respect to the placing of orders for prompt delivery of articles or materials, the President delegates to the Secretary of Agriculture authority with respect to all food resources.
Executive Order 12919	Delegates authorities and addresses national defense industrial resource policies and programs.
Farm Security and Rural Investment Act of 2002, Public Law 107-171, Title X, Subtitle E	Consolidates a number of pre-existing animal health-related statutes into a single comprehensive law; among other items, authorizes the Secretary of Agriculture to prohibit or restrict the importation, exportation, and interstate movement of animals or other articles as necessary to prevent pests or diseases of livestock from being introduced into, or disseminated within, the United States; and authorizes the Secretary to issue any regulations or orders considered necessary to carry out the Animal Health Protection Act. Also reauthorized the Emerson Trust through 2007. (See Bill Emerson Humanitarian Trust in this table).
Federal Crop Insurance Act, 7 U.S.C. 1502	The Federal Crop Insurance Corporation and Risk Management Agency are enabled under the Federal Crop Insurance Act to provide risk management programs. There is no provision in the Federal Crop Insurance Act to provide coverage against acts of terrorism.
Federal Crop Insurance Reform and Department of Agriculture Reorganization Act of 1994, Public Law 103-354	Authorizes the Noninsured Crop Disaster Assistance Program, which provides financial assistance and risk management tools to eligible producers affected by natural disasters; covers noninsurable crop losses and planting prevented by disasters.

Federal Meat Inspection Act (FMIA), 21 U.S.C. 601 et seq.	FSIS provides continuous inspection of all meat products prepared for distribution in commerce and re-inspects imported products to ensure they meet U.S. food safety standards. FSIS tests for and conducts enforcement activities to address microbiological, chemical, and other types of contamination and conducts epidemiological investigations in cooperation with CDC based on reports of foodborne health hazards and disease outbreaks.
Food for Progress Act of 1985, 7 U.S.C. 1736o	The CCC may donate, or sell on credit terms, agricultural commodities in support of developing countries and emerging democracies that have made commitments to introduce free enterprise elements in their agricultural economies. CCC may donate agricultural commodities to foreign governments, private voluntary relief organizations or intergovernmental organizations, and other private entities. CCC may purchase commodities for donation abroad under this authority. Commodities may be used for direct humanitarian relief or sold with proceeds used for economic development purposes. In addition to the commodities, up to $10 million may be made available each fiscal year to provide assistance in the administration and monitoring of food assistance programs and to provide technical assistance to strengthen private sector agriculture in recipient countries. The CCC closely coordinates donation activities with USAID to identify needs and avoid duplication of efforts.
Food Quality Protection Act 1996, Public Law 104-170	Authorizes the Pesticide Data Program to develop and communicate comprehensive, statistically reliable information on pesticide residues in food to improve government dietary risk assessment procedures.
Food Stamp Act of 1977, Section 5(h), as amended	Provides the Secretary of Agriculture the authority to: establish temporary emergency standards of eligibility during any disaster where commercial channels of food distribution have been disrupted and again restored; provide emergency allotments to replace the value of food destroyed up to a limited amount; and adjust reporting and other requirements to be consistent with what is practicable under actual conditions.
Food, Agriculture, Conservation, and Trade Act of 1990, 7 U.S.C. 950aaa	Encourages and improves telemedicine services and distance learning services in rural areas through telecommunications, computer networks, and related technologies.
Launching Our Communities Access to Local Television Act of 2000, 47 U.S.C. 1101	Facilitates access to signals of local television stations for households in nonserved and underserved areas.
Livestock Assistance Programs (Food Security and Rural Investment Act of 2002, Section 10104, 7 U.S.C. 1472)	The Secretary of Agriculture is authorized to provide assistance to dairy and livestock producers to cover economic losses incurred by producers in the form of: (1) indemnity payments for livestock mortality losses; (2) livestock feed assistance for producers affected by shortages of feed; (3) compensation for sudden increases in production costs; and (4) such other assistance, and for such other economic losses, as the Secretary determines appropriate. Triggered by the Secretary determining that economic losses to livestock producers have occurred. Appropriation of funds is needed before program may be implemented.
McGovern-Dole International Food for Education and Child Nutrition Program, Public Law 107-171, Section 3107	Helps support education, child development, and food security for some of the world's poorest children. It provides for donations of U.S. agricultural products, as well as financial and technical assistance, for school feeding and maternal and child nutrition projects in low-income, food-deficient countries that are committed to universal education. The commodities are made available for donation through agreements with private voluntary organizations, cooperatives, intergovernmental organizations, and foreign governments. This authority was established under the Farm Security and Rural Investment Act of 2002.

National Agricultural Research, Extension, and Teaching Policy Act of 1977, as amended, 7 U.S.C. 3121-3122	The enactment of subsequent laws modified, extended, or added new research authorities for ARS.
Organic Act of 1862, 7 U.S.C. 2201	The act is the main authority for the establishment of the USDA and ARS.
Public Law 83-480, Title I, Trade and Development Assistance	Provides for government-to-government sales of U.S. agricultural commodities to developing countries on credit terms or for local currencies.
/Public Law 83-480, Title II, Emergency and Private Assistance	Provides for the donation of U.S. agricultural commodities to meet emergency and non-emergency food needs in other countries, including support for food security and availability goals.
Public Law 83-480, Title III, Food for Development	Provides for government-to-government grants to support long-term growth in the least developed countries.
Packers and Stockyards Act of 1921, 7 U.S.C. 181	Prohibits unfair, deceptive, and fraudulent practices by market agencies, dealers, packers, swine contractors, and live poultry dealers in the livestock, poultry, and meatpacking industries.
Plant Protection Act (PPA) (Title IV of the Agricultural Risk Protection Act of 2000, Public Law 106-224)	Consolidates pre-existing pest quarantine and exclusion statutes into a single comprehensive law; authorizes the Secretary of Agriculture to prohibit or restrict the importation, exportation, and interstate movement of plants, plant products, biological control organisms, noxious weeds, plant pests, or other articles as necessary to prevent plant pests or noxious weeds from being introduced into, or disseminated within, the United States; authorizes the Secretary to issue any regulations or orders that the Secretary considers necessary to carry out the PPA.
Poultry Products Inspection Act (PPIA), 21 U.S.C. 451 et seq.	FSIS provides continuous inspection of all poultry products prepared for distribution in commerce and re-inspects imported products to ensure that they meet U.S. food safety standards. FSIS tests for and conducts enforcement activities to address microbiological, chemical, and other types of contamination and conducts epidemiological investigations in cooperation with CDC based on reports of foodborne health hazards and disease outbreaks.
Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Public Law 107-188	To improve the ability of the United States to prevent, prepared for, and respond to bioterrorism an other public emergencies.
Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Section 412	Authorizes the President, at his discretion, to issue food benefits to low-income households that are unable to purchase adequate amounts of nutritious food due to a major disaster or emergency. This authority was delegated to the Secretary of Agriculture and re-delegated to the FNS Administrator.
Rural Electrification Act (RE Act) of 1936, 7 U.S.C. 901	Established Rural Electrification Administration (predecessor of RUS) as a lending agency with the responsibility for developing a program for electrification.

Stafford Act, Sections 412 and 413(b)	Authorizes the Secretary of Agriculture to distribute surplus commodities and purchase food commodities necessary to provide adequate supplies for use in any area of the United States in the event of a disaster. Both commodity assistance and food stamp assistance activities may be used to supply food. FNS provides USDA-donated food assistance through State food distribution agencies. All States have stocks of USDA food on hand, and these stocks can be released immediately for use in a declared disaster under the Stafford Act.
United States Warehouse Act, 7 U.S.C. 241 et seq., amended by Public Law 106-472	The act authorizes the Secretary of Agriculture to license public warehouse operators in the business of storing agricultural products, examine such federally licensed warehouses, and license qualified persons to sample, inspect, weigh, and grade agricultural products. The Secretary is also authorized to issue regulations that govern the establishment and maintenance of electronic systems under which electronic documents, including title documents related to the shipment, payment, and financing, may be issued or transferred for any agricultural product. Operations carried out under the act are user fee funded, with funds being collected from the federally licensed warehouse community. Under the authority provided by the act, FSA provides depositors reliable protection of their deposits from loss; establishes a uniform regulatory system for the storage of agricultural products; establishes the warehouse receipt as a negotiable document of title; and provides for electronic warehouse receipts and other electronic documents for all agricultural products.
U.S. Grain Standards Act of 1916, 7 U.S.C. 79	Congress established the Federal grain inspection entity in 1976 to manage the national grain inspection system and institute a national grain-weighing program.
Virus-Serum-Toxin Act of 1913, 21 U.S.C. 151-159	Authorizes the Secretary of Agriculture to regulate veterinary biologics (vaccines, bacterins, antisera, diagnostic kits, and other products of biological origin) to ensure that the veterinary biologics available for the diagnosis, prevention, and treatment of animal diseases are pure, safe, potent, and effective.
Wholesome Meat Act 1967, 21 U.S.C. 601	FSIS is responsible for assessing whether State inspection programs that regulate meat are at least equal to the Federal program. The act extended FSIS jurisdiction over meat and meat products granting authority to regulate transporters, renderers, cold storage warehouses, and animal-food manufacturers.

A.2.2 FDA Key Authorities

FDA performs its public health duties pursuant to some of the following statutory authorities: Federal Import Milk Act (1927); Federal Food, Drug, and Cosmetic Act of 1938, as amended; Public Health Service Act (1944); Fair Packaging and Labeling Act (1966); Infant Formula Act of 1980, as amended; Nutrition Labeling and Education Act of 1990; Dietary Supplement Health and Education Act of 1994; Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (the Bioterrorism Act); and other related statutes. This list is not exhaustive but illustrates the broad authority of FDA.

FDA also performs its activities under numerous directives, such as HSPD-7 and HSPD-9 and OMB Directives, such as OMB A-130.

The FDA mission is mandated by the Federal Food, Drug, and Cosmetic Act (FFDCA) and includes promoting human and animal health by ensuring that human food and animal feed are safe. The FFDCA defines food to include animal feed; however, for the purposes of this document, food refers to human food and food for animals is referred to as feed. Under HSPD-7, HHS, along with USDA, is assigned oversight of the food and animal feed sector. Other guidance and policy documents explaining FDA's authority and enforcement policies include Federal Register statements of policy and FDA Compliance Policy Guides.

Federal regulations require animal feed ingredients to be listed on the product label by their common or usual name in descending order of predominance according to weight (21 CFR 501.4). A common or usual name is one that accurately

identifies or describes the basic nature of the ingredient (21 CFR 502.5). FDA has recognized the definitions as they appear in the *Official Publication of the Association of American Feed Control Officials* as the common or usual name for animal feed ingredients, including pet food (**http://www.fda.gov/ora/compliance_ref/cpg/cpgvet/cpg665-100.html**). There is only one exception to the requirement to list animal feed ingredients by their common or usual names on the label, and that is when an ingredient is part of a collective name. Regulation 21 CFR 501.110 describes the permissible use of collective names. The following are acceptable collective names: animal protein products; forage products; grain products; plant protein products; processed grain byproducts; and roughage products. These collective names may be used in the ingredient list for livestock and poultry feeds but not pet foods.

A.2.2.1 Authorities from the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Bioterrorism Act)

Section 303 of the Bioterrorism Act, Administrative Detention and Temporary Hold, authorizes FDA to order the administrative detention of food if an officer or qualified FDA employee finds credible evidence or information during an inspection, examination, or investigation that indicates the article presents a threat of serious adverse health consequences or death to humans or animals. This authority took effect following enactment of the Bioterrorism Act in June 2002, and FDA issued final regulations implementing the procedures for exercising this authority in May 2004. Section 303 also authorizes temporary holds at ports of entry for a period not to exceed 24 hours when FDA has credible evidence or information that an article of food presents a threat of serious adverse health consequences or death to humans or animals, or when FDA needs more time to inspect, examine, or investigate.

Section 304 of the Bioterrorism Act, Debarment for Repeated or Serious Food Import Violations, authorizes debarment of persons convicted of a felony for conduct related to the importation of any food or of persons who have engaged in a pattern of importing or offering for import adulterated food that presents a threat of serious adverse health consequences or death to humans or animals.

Section 305 of the Bioterrorism Act, Registration of Food Facilities, requires the owner, operator, or agent in charge of a domestic or foreign facility that manufactures, processes, packs, or holds food for consumption in the United States by humans or animals to register with FDA pursuant to this provision. The registration must contain the information necessary to notify the Secretary of HHS with the name and address of each facility at which, and all trade names under which, the registrant conducts business; the general food category as identified under 21 CFR 170.3; and for foreign facilities, the name and contact information of its U.S. agent. On October 10, 2003, FDA published an interim final rule to implement these provisions, which took effect on December 12, 2003 (68 FR 58894).

Section 306 of the Bioterrorism Act, Maintenance and Inspection of Records for Foods, provides that when FDA has a reasonable belief that an article of food is adulterated and presents a threat of serious adverse health consequences or death to humans or animals, persons (excluding farms and restaurants) who manufacture, process, pack, transport, distribute, receive, hold, or import food must provide access to records related to the food to assist FDA in determining whether the food is adulterated and presents a threat of serious adverse health consequences or death to humans or animals. This section also authorizes FDA to develop regulations that require the establishment and maintenance of records by persons (excluding farms and restaurants) who manufacture, process, pack, transport, distribute, receive, hold, or import food. Such records are to allow for the identification of the immediate previous sources and immediate subsequent recipients of food in order to address credible threats of serious adverse health consequences or death to humans or animals. FDA issued the final regulation implementing this section on December 6, 2004.

Section 307 of the Bioterrorism Act, Prior Notice of Imported Food Shipments, requires that FDA receive Prior Notice of food imported or offered for import into the U.S. before the food arrives, which must include the article, manufacturer and shipper, grower (if known within the specified time in which notice is required), country of origin, country from which the article is

shipped, and anticipated port of entry. On October 10, 2003, FDA published an interim final rule to implement these provisions, which took effect on December 12, 2003 (68 FR 58974). The purpose of Prior Notice is to better target efforts to monitor and inspect imported foods.

Section 308 of the Bioterrorism Act, Authority to Mark Articles Refused Admission into the U.S., authorizes FDA to require the marking of refused food (other than food required to be destroyed). Marking is to be done at owner's expense. This provision also makes food misbranded if it fails to bear the required label when FDA has found the food presents a threat of serious adverse health consequences or death to humans and animals and FDA has notified the owner or consignee that the label is required and that the food presents such a threat.

Section 309 of the Bioterrorism Act, Prohibition Against Port Shopping, deems food adulterated if a food is offered for import that has been previously refused admission unless the person reoffering the food establishes that the article is in compliance.

Section 310 of the Bioterrorism Act, Notices to States Regarding Imported Food, requires FDA to notify States when there is credible evidence or information indicating that a shipment, or portions of a shipment, of imported food presents a threat of serious adverse health consequences or death to humans or animals. If known, the Secretary of HHS must provide notice to the States in which the food is held or will be held and to the States in which the manufacturer, packer, or distributor of the food is located. The Secretary is directed to request the State to take appropriate action to protect the public health.

Section 314 of the Bioterrorism Act, Authority to Commission Other Federal Officials to Conduct Inspections, authorizes another Federal department or agency's officers and employees to conduct examinations and investigations on behalf of FDA, pursuant to the signing of a memorandum of understanding (MOU) between the FDA and head of the other Federal agency. Under this authority, FDA and CBP entered into an MOU on December 3, 2003, which provided that CBP commissioned officers are to assist FDA with examinations and investigations pursuant to the Prior Notice statutory requirements and implementing regulations at ports and other facilities/locations subject to CBP jurisdiction.

A.2.2.2 Animal Feed Regulation

FDA has focused its animal feed regulation on areas that, to date, have been recognized as playing an important role in human health. For example, medicated feed good manufacturing practice (GMP) regulations help prevent potentially unsafe drug residues in edible animal tissue, such as beef and poultry, which is consumed by people. Likewise, the animal protein feed ban helps prevent the spread of bovine spongiform encephalopathy and the potential for variant Creutzfeldt-Jakob Disease in humans.

No comprehensive Federal regulatory program is in place to ensure all animal feed products are safe for their intended use. While the emphasis on fostering safety has been on end-product sampling and enforcement, FDA is now exploring risk-based, preventive measures designed to help prevent feed-related hazards from occurring and detect problems in feed products before they are distributed and sold.

It is important to note that each State also has its own law(s) governing animal feed. Nearly all State feed laws are based on the Association of American Feed Control Officials (AAFCO) Model Bill, which AAFCO intended for State and local authorities to adopt as their law for governing many aspects of animal feed, including safety. FDA works in harmony with the States to carry out joint responsibilities for animal feed safety when FDA authority overlaps the States' authority.

FDA has regulatory authority for all feed articles that are in or intended for interstate commerce. FDA is required to inspect all medicated feed manufacturers. By regulation, FDA exempts from routine inspection firms that are manufacturing feeds not reasonably thought to pose a risk of residues that may be harmful to animals or humans.

A.2.3 USDA Agencies

Agricultural Marketing Service (AMS) administers programs that facilitate the efficient and fair marketing of U.S. agricultural products, such as food, fiber, and specialty crops. AMS is composed of six commodity programs, including: Cotton; Dairy; Fruit and Vegetable; Livestock and Seed; Poultry; and Tobacco. The programs provide standardization, grading, and market news services for those commodities. **http://www.ams.usda.gov**

Agricultural Research Service (ARS) vision is "to lead America toward a better future through agricultural research and information" ARS conducts research to develop and transfer solutions to agricultural problems of high national priority. ARS research is organized in National Programs, including: Animal Production and Protection; Nutrition, Food Safety/Quality; Natural Resources and Sustainable Agricultural Systems; and Crop Production and Protection. The National Programs focus on the relevance, impact, and quality of ARS research. **http://www.ars.usda.gov**

Animal and Plant Health Inspection Service (APHIS) is a multi-faceted organization with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. The APHIS mission is "to protect the health and value of American agriculture and natural resources" **http://www.aphis.usda.gov/**

Center for Nutrition Policy and Promotion (CNPP) mission is to "improve the health of Americans by developing and promoting dietary guidance that links scientific research to the nutrition needs of consumers". The objectives carry out the CNNP mission to improve the health of Americans, including: advancing and promoting food and nutrition guidance for all Americans; assessing diet quality; and advancing consumer, nutrition, and food economic knowledge. **http://www.cnpp.usda.gov/**

Cooperative State Research, Education, and Extension Service (CSREES) mission is to "advance knowledge for agriculture, the environment, human health and well-being, and communities by supporting research, education, and extension programs in the Land-Grant University System and other partner organizations" including other Federal agencies; non-profit associations; professional societies; commodity groups and grower associations; multistate research committees; private industry; citizen groups; foundations; regional centers; the military; task forces; and other groups. The advanced research and educational technologies supported by CSREES empower people and communities to solve problems and improve their lives on the local level. **http://www.csrees.usda.gov/**

Economic Research Service (ERS) is the primary source of economic information and research at USDA, and the mission is to "anticipate economic and policy issues related to agriculture, food, the environment, and rural development, and conduct economic research that broadly and specifically informs public program and policy decisions" ERS is structured among four divisions, including: Food Economics; Information Services; Market and Trade Economics; and Resource and Rural Economics. **http://www.ers.usda.gov**

Farm Service Agency (FSA) mission is working toward "equitably serving all farmers, ranchers, and agricultural partners through the delivery of effective, efficient agricultural programs for all Americans." FSA responsibilities are organized into five key areas, including: Farm Programs; Farm Loans; Commodity Operations; Management; and State Operations. **http://www.fsa.usda.gov/**

Food and Nutrition Service (FNS) mission is "to provide children and needy families better access to food and a more healthful diet through its food assistance programs and comprehensive nutrition education efforts." FNS works in partnership with States for all programs since States determine most administrative details regarding distribution of food benefits and eligibility of participants, and FNS provides funding to cover most of the States administrative costs. **http://www.fns.usda.gov**

Food Safety and Inspection Service (FSIS) mission is to work toward "ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged." **http://www.fsis.usda.gov/**

Foreign Agricultural Service (FAS) works to improve foreign market access for U.S. products, build new markets, improve the competitive position of U.S. agriculture in the global marketplace, and provide food aid and technical assistance to foreign countries. The major services of FAS include: market intelligence, access, and development; trade policy formulation and monitoring; food aid; and linkages. These services are expected to gain in importance in the years ahead as U.S. agricultural exporters work to overcome international barriers and succeed in world markets. FAS agricultural counselors, attachés, trade officers, and locally employed FAS staff are stationed in more than 90 countries worldwide. **http://www.fas.usda.gov/default.asp**

Forest Service (FS) manages public lands in National Forests and Grasslands and is the largest forestry research organization in the world. The FS mission is to "sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations." National Forests and Grasslands encompass 193 million acres of land, which is an area equivalent to the size of Texas. **http://www.fs.fed.us/**

Grain Inspection, Packers, and Stockyards Administration (GIPSA) mission is to "facilitate the marketing of livestock, poultry, meat, cereals, oilseeds, and related agricultural products while promoting fair and competitive trading practices for the overall benefit of consumers and American agriculture." The Packers and Stockyards Program promotes fair business practices and competitive environments to market livestock, meat, and poultry while the Federal Grain Inspection Service facilitates the marketing of U.S. grain and related agricultural products. The markets serviced by GIPSA represent a total economic value of approximately $170 billion annually, with exports contributing more than $28.7 billion to the U.S. economy. **http://www.gipsa.usda.gov**

National Agricultural Statistics Service (NASS) provides timely, accurate, and useful statistics in service to U.S. agriculture. NASS conducts hundreds of surveys every year and prepares reports covering virtually every aspect of U.S. agriculture at the national, State, and county levels. Several examples include: production and supplies of food and fiber; prices paid and received by farmers; farm labor and wages; farm finances; chemical use; and changes in the demographics of producers. **http://www.nass.usda.gov**

Natural Resources Conservation Service (NRCS) mission is to "provide products and services that enable people to be good stewards of their soil, water, and related natural resources." NRCS conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty. **http://www.nrcs.usda.gov**

Risk Management Agency mission is to "promote, support, and regulate sound risk management solutions to preserve and strengthen the economic stability of America's agricultural producers." The Risk Management Agency, created in 1996, operates and manages the Federal Crop Insurance Corporation (FCIC), which was founded in 1938. **http://www.rma.usda.gov**

Rural Business Service mission is to promote understanding and use of the cooperative form of business as a viable organizational option for marketing and distributing agricultural products. **http://www.rurdev.usda.gov/rbs**

Rural Housing Service works to strengthen the Nation's rural housing portfolio by promoting and expanding programs that enable America's rural communities to develop quality, affordable housing and sustain the American dream of homeownership. **http://www.rurdev.usda.gov/rhs**

Rural Utilities Service works with rural cooperatives, nonprofit associations, public bodies, and for-profit utilities to help expand and keep technology up to date for rural utilities. **http://www.usda.gov/rus/**

A.2.4 USDA/FSIS and HHS/FDA Jurisdictions Over Food

Table A.2-2 presents SSAs jurisdictional overlap for commercial food products.

Table A.2-2: USDA/FSIS and HHS/FDA Jurisdictional Overlap for Commercial Food Products*

Product	HHS/FDA	USDA/FSIS
Red meat products	Nonspecified red meats (e.g., bison, rabbit, game animals, zoo animals, elk, wapiti, and moose).	Cattle, sheep, swine, goats, horses, mules, and other equine.
Poultry	Nonspecified birds: wild turkeys, wild ducks, and wild geese.	Domesticated birds: chicken, turkey, ducks, geese, guineas, and ratites.
Other meat products	Products containing < three percent red meat (wet) and closed-faced meat sandwiches.	Products containing three percent or more red meat (wet) and open-faced meat sandwiches.
Other poultry products	Products containing < two percent poultry (wet).	Products containing two percent or more poultry (wet).
Eggs	Shell eggs, products containing egg products and other egg processing not covered by USDA (e.g., restaurants, cake mix plants, and bakeries); Enforcement of shell egg labels/labeling.	Pasteurized processed egg products, egg processing plants (washing, sorting, breaking, and pasteurizing).
Soup	All soup not covered by USDA.	Soup containing three percent or more red meat or two percent or more poultry (e.g., chicken noodle).
Other products	Cheese, onion, mushroom pizza, spaghetti sauces (less than three percent red meat), spaghetti sauce with mushrooms and two percent meat, pork and beans, sliced egg sandwich (closed-faced), frozen fish dinner, rabbit stew, shrimp-flavored instant noodles, venison jerky, buffalo burgers, and alligator nuggets.	Pepperoni pizza, meat lovers stuffed-crust pizza, meat sauces (three percent or more red meat), spaghetti sauce with meatballs, open-faced roast beef sandwich, hot dogs, beef/vegetable pot pie, and chicken sandwich (open-faced).
Exceptions to the above	All foods involved in an outbreak aboard an interstate vessel, plane, train, or bus.	

* USDA/APHIS also regulate commercial foods imported in the United States that contain meat, milk, poultry, or eggs; or meat, milk, poultry, or egg products.

A.2.5 USDA and FDA Cybersecurity Infrastructure

The Federal Information Security Management Act (FISMA) requires that agencies have an effective information security program in place and delegate to the chief information officer (CIO) the authority to ensure compliance with requirements imposed on the agency under FISMA. The act further requires that the CIO designate a senior agency information security officer. The USDA CIO has delegated the associate chief information officer (ACIO) for Cyber Security to act as the USDA's senior agency information security officer.

The USDA Office of the Chief Information Officer's (OCIO) Cyber Security Program directs and administers the USDA Information Security Program in accordance with Federal regulations and laws. In this capacity, the ACIO for cybersecurity directs the OCIO Cyber Security Program. In particular, the Cyber Security Program develops all cybersecurity policies in accordance with the National Institute of Standards and Technology guidance. The ACIO for cybersecurity: provides oversight of USDA agency and staff office information security programs; assistance to agency CIOs and information system security program managers; reviews and approves information system capital expenditures to ensure compliance with security policy and architecture; and develops risk management methodologies and tools to ensure compliance with related Federal government and USDA regulations.

As part of the overall Cyber Security Program, OCIO uses the following procedures, tools, and practices to continuously monitor the USDA Security Program:

- **Cyber Security Assessment and Management** is a comprehensive FISMA compliance tool developed by and for DOJ. It provides the ability to identify threats and vulnerabilities through the use of the embedded NIST SP 800-53 (Rev. 1) control requirements for IT systems.
- **Program Reviews for Information Security Management Assistance** is a methodology for a standardized approach to review and measure the maturity of an information security program and outcomes of a review: identify information security program deficiencies; establish a security program baseline to measure future improvement following key personnel or organizational changes; validate completion of corrective actions or the "information security posture of the program"; provide supporting information for the FISMA scorecard and report; and prepare for or conduct an assessment, evaluation, or a review of an information security program.
- **FISMA Scorecard** is a centerpiece in monthly briefings to USDA's management. USDA maintained an aggressive posture toward IT security in several key areas.
- **Management Initiatives Tracking System Scorecard** is an interactive, Web-based database and management system that monitors and manages an agency's progress in implementing management initiatives. A new module was developed to integrate audit tracking processes. Data is tracked to monitor IT security and financial management weaknesses.

With the implementation HSPD-12, USDA was a leader across the Federal Government in Fiscal Year 2008. USDA made strides internally to prepare the infrastructure necessary to support the new HSPD-12 credential, the LincPass. USDA rolled out a comprehensive plan to implement two unique methods of verifying identity (two-factor authentication) processes and installed necessary hardware and software updates to enable 40 percent of targeted USDA laptops with the new security feature. USDA was at the forefront of deploying a nationwide mobile enrollment station project that took human and technological resources to USDA employees throughout the continental United States, Alaska, Hawaii, and Guam.

Every FDA cyber system has been assessed for potential risks and threats to define a mitigation action. In addition, Center for Food Safety and Applied Nutrition (CFSAN) maintains an up-to-date security and contingency plan that details the steps to be taken if a system is compromised. Backup systems, alternative sites, and an overall center Continuity of Operations Plan (COOP) support the system and the surrounding infrastructure.

A.2.6 SCC Members

Agricultural Retailers Association serves as the national voice for agriculture retailers and advocates before Congress and the Executive Branch to ensure a profitable business environment for members. **http://www.aradc.org/**

American Farm Bureau Federation is the unified national voice of agriculture, working through a grassroots organization to enhance and strengthen the lives of rural Americans and to build strong and prosperous agricultural communities. The purpose is to "make the business of farming more profitable, and the community a better place to live." **http://www.fb.org/**

American Frozen Food Institute is the national trade association that promotes and represents the interests of all segments of the frozen food industry. It fosters industry development and growth, is an advocate on behalf of the industry before legislative and regulatory entities, and provides additional value-added services. **http://www.affi.com/**

American Meat Institute is a national trade association representing companies that process 95 percent of red meat and 70 percent of turkey in the United States and their suppliers. It keeps a finger on the pulse of legislation, regulation, and media activity that impacts the meat and poultry industry and provides rapid updates and analyses to its members to help them stay informed. **http://www.meatami.com/**

CF Industries, Inc. is one of North America's largest manufacturers and distributors of nitrogen and phosphate fertilizer products in North America. CF Industries corporate vision reads, "We will be recognized as a leading global marketer, producer and supplier of high-quality, low-cost fertilizer products and services, creating sustained value for shareholders, customers and employees." **http://www.cfindustries.com/**

CropLife America is a trade organization for agriculture and pest management representing more than 80 developers, manufacturers, formulators, and distributors of crop protection products used by American farmers and growers. CropLife America works to ensure the safe and responsible use of pesticides to provide a safe, affordable, and abundant food supply. **http://www.croplifeamerica.org/**

Food Marketing Institute represents food retailers and wholesalers. It develops and promotes policies, programs, and forums supporting its members and their customers in the areas of government relations, food safety and defense, public and consumer information, research and education, and industry cooperation. **http://www.fmi.org/**

Grocery Manufacturers Association (GMA) represents leading food, beverage, and consumer products companies around the world. GMA promotes sound public policy, champions initiatives that increase productivity and growth, and helps ensure the safety and security of consumer packaged goods through scientific excellence. The GMA board of directors is comprised of chief executive officers from the association's merger companies. The $2.1 trillion food, beverage, and consumer packaged goods industry employs 14 million workers and contributes more than $1 trillion in added value to the Nation's economy. **http://www.gmaonline.org**

International Association of Refrigerated Warehouses (IARW) started in 1891 when a number of conventional warehousemen realized the increased challenge and complexity of operating temperature-controlled storage facilities for storing perishable foods. Today, IARW promotes more efficient distribution services, aids members in adopting new technology, advises members of legislation and regulations affecting the food industry, assists members in complying with U.S. and international regulations, and participates in alliances with industry and international organizations having a common interest in the safe and efficient flow of food products around the world. **http://www.iarw.org/index.asp**

International Dairy Foods Association (IDFA) represents the Nation's dairy manufacturing and marketing industries and their suppliers, with a membership of 530 companies representing a $110-billion a year industry. IDFA is composed of three constituent organizations: Milk Industry Foundation; National Cheese Institute; and International Ice Cream Association. **http://www.idfa.org/**

International Foodservice Distributors Association helps foodservice distributors succeed by providing research, educational opportunities, and business forums to make them more competitive. Members operate more than 700 distribution facilities and represent annual sales of more than $110 billion. **http://www.ifdaonline.org/**

International In-flight Food Service Association is a global professional association created to serve the needs and interests of airline and railway personnel, in-flight and rail caterers, and suppliers responsible for providing passenger foodservice on regularly scheduled travel routes. The mission is to "lead, develop and represent the global business interests of the onboard service industry." **http://www.ifsanet.com/**

International Warehouse Logistics Association is a trade association of warehouse logistics providers that helps members run high-quality and profitable businesses by focusing on the warehouse logistics business, providing ideas and information that make it easier for member companies to succeed. **http://www.iwla.com**

Kraft Foods Global, Inc. markets nine brands with revenues exceeding $1 billion through the vision "make today delicious." More than 80 percent of Kraft Foods revenue comes from products that hold the number one share position in their respective categories. **http://www.kraftfoodscompany.com**

McCormick & Company, Inc. is a global leader in the manufacture, marketing, and distribution of spices, seasonings, and flavors to the entire food industry. Customers range from retail outlets and food manufacturers to food service businesses. **http://www.mccormick.com/**

National Association of Convenience Stores is an international trade association representing more than 2,200 retail and 1,800 supplier company members. It serves the convenience and petroleum retailing industry by providing industry knowledge, connections, and advocacy to ensure the competitive viability of its members' businesses. **http://www.nacsonline.com**

National Cattlemen's Beef Association (NCBA) is the marketing organization and trade association for America's one million cattle farmers and ranchers. NCBA is a consumer-focused, producer-directed organization representing the largest segment of the nation's food and fiber industry. **http://www.beefusa.org/**

National Corn Growers Association represents approximately 36,000 dues-paying corn growers and the interests of more than 300,000 farmers who contribute through corn check-off programs. **http://www.ncga.com/**

National Grain and Feed Association is a broad-based, non-profit trade association that represents and provides services for grain, feed, and related commercial businesses. Activities focus on enhancing the growth and economic performance of U.S. agriculture. **http://www.ngfa.org/**

National Milk Producers Federation (NMPF) provides a forum through which dairy farmers and their cooperatives formulate policy on national issues that affect milk production and marketing. The contribution of NMPF to this policy is aimed at improving the economic well-being of dairy farmers, thus assuring the nation's consumers an adequate supply of pure, wholesome milk and dairy products. **http://www.nmpf.org/**

National Pork Board (NPB) is a 15-member body that was established by Congress under the provisions of the Pork Promotion, Research, and Consumer Information Act of 1985 (Pork Act). NPB has responsibility for Checkoff-funded research, promotion, and consumer information projects. In addition, NPB oversees communications with pork producers and the public. **http://www.pork.org/**

National Restaurant Association goal is to lead America's restaurant industry into a new era of prosperity, prominence, and participation, enhancing the quality of life for all we serve. It creates value to its members in five ways, including: advocacy and representation; tools and solutions; education and networking; research and insights; and responsible stewardship. **http://www.restaurant.org/**

National Retail Federation is the world's largest retail trade association with membership that comprises all retail formats and channels of distribution. It represents an industry with more than 1.6 million U.S. retail establishments and 24 million employees. **http://www.nrf.com/**

National Food Service Security Council brings together loss prevention and risk management professionals of the major casual dining and quick service restaurant chains for educational networking and professional development opportunities. The mission is "to educate its members on those topics that can help improve and enhance the safety and security of employees and customers alike; to protect its member companies from erosive effects of crime on company assets; to address the public's and government's concern about security-related issues; and, to be an advocate for the food service industry." **http://www.nfssconline.org/**

United Fresh Produce Association represents the interests of member companies throughout the global fresh produce supply chain, including family-owned; private; and publicly traded businesses, as well as regional; national; and international companies. The Association merged with United Fresh Fruit & Vegetable Association and International Fresh-Cut Produce Association in 2006. **http://www.unitedfresh.org/**

USA Rice Federation is the global advocate for all segments of the U.S. rice industry, with a mission "to promote and protect the interests of producers, millers, merchants, and allied businesses." **http://www.usarice.com/**

A.2.7 GCC Members

American Association of Veterinary Laboratory Diagnosticians is a not-for-profit professional organization that: disseminates information on the diagnosis of animal diseases; coordinates diagnostic activities of regulatory, research, and service laboratories; establishes uniform diagnostic techniques; improves existing diagnostic techniques; develops new diagnostic techniques; establishes accepted guidelines for the improvement of diagnostic laboratory organizations on personnel qualifications and facilities; and acts as a consultant to the United States Animal Health Association on uniform diagnostic criteria involved in regulatory animal disease programs. **http://www.aavld.org/**

Association of Food and Drug Officials (AFDO) is an international leader and trusted resource for building consensus and promoting uniformity on public health and consumer protection issues related to the regulation of foods, drugs, devices, cosmetics, and consumer products. **http://www.afdo.org/**

Association of Public Health Laboratories (APHL) works to safeguard the public's health through advocacy for State public health laboratories and their Federal partners. APHL provides expert testimony and guidance on legislative proposals and also feedback on Federal rulemaking. **http://www.aphl.org**

Association of State and Territorial Health Officials (ASTHO) is dedicated to formulating and influencing sound public health policy and assuring excellence in State-based public health practices. The ASTHO mission is "to transform public health within States and territories to help members dramatically improve health and wellness." **http://www.astho.org/**

Intertribal Agriculture Council (IAC) promotes change in Indian agriculture by promoting the conservation, development, and use of agricultural resources for the betterment of Indian people. IAC works among Federal Government agencies and the agricultural field on behalf of individual Indian producers and tribal enterprises. **http://www.indianaglink.com/**

Multi-state Partnership for Agriculture Security was originally funded by a DHS Urban Areas Security Initiative grant to Iowa, which acted as the fiduciary and helped to provide the organization and leadership. The Partnership has grown to 13 States in the central United States (IA, IL, KY, KS, MI, MN, MO, NE, ND, OH, OK, SD, and WI) and has done remarkable work, particularly in the areas of training, planning, and exercising. When funding from the initial grant ran out, the Partnership had to look to each of the member States to contribute through the DHS State Homeland Security Grant Program (SHSGP). **www.agpartnership.org/**

National Association of County and City Health Officials (NACCHO) is the national organization representing local health departments. NACCHO supports efforts that protect and improve the health of all people and communities by promoting national policy, developing resources and programs, seeking health equity, and supporting effective local public health practices and systems. **http://www.naccho.org/**

National Assembly of State Animal Health Officials (NASAHO) members are the chief animal health officials of the 50 States. **http://www.usaha.org/**

National Association of State Departments of Agriculture (NASDA) represents the State departments of agriculture in the development, implementation, and communication of sound public policy and programs that support and promote the American agricultural industry, while protecting consumers and the environment. **http://www.nasda.org/**

National Environmental Health Association (NEHA) encourages environmental health and protection professionals to provide a healthful environment for all. The basis for NEHA activities is the belief that the professional who is educated and

motivated is the professional who will make the greatest contribution to the healthful environmental goals being sought. **http://www.neha.org**

The Southern Agriculture and Animal Disaster Response Alliance (SAADRA) is an interactive collaboration of 10 States at risk from similar natural, intentional, technological, and disease disasters affecting agriculture and animals. Participating states include AL, FL, GA, KY, LA, MS, NC, SC, TN, and TX.

Department of Commerce (DOC) has a broad mandate to advance economic growth and jobs and opportunities for the American people. It has cross cutting responsibilities in the areas of trade, technology, entrepreneurship, economic development, environmental stewardship, and statistical research and analysis. **http://www.commerce.gov/**

Department of Agriculture (USDA) provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management. **http://www.usda.gov**

Department of Defense (DoD) is responsible for providing the military forces needed to deter war and protect the security of our country. **http://www.defense.gov/**

Department of Health and Human Services (HHS), Food and Drug Administration (FDA) the FDA is responsible for protecting public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, the Nation's food supply, cosmetics, and products that emit radiation. The FDA is also responsible for advancing public health by helping to speed innovations that make medicines and foods more effective, safer, and more affordable; and helping the public get the accurate, science-based information needed to use medicines and foods to improve health. **http://www.fda.gov**

Department of the Interior (DOI) has the mission to protect and manage the Nation's natural resources and cultural heritage; to provide scientific and other information about those resources; and to honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities. **http://www.doi.gov/**

Department of Justice (DOJ) enforces the law and defends the interests of the United States according to the law; ensures public safety against threats foreign and domestic; provides Federal leadership in preventing and controlling crime; seeks just punishment for those guilty of unlawful behavior; and ensures fair and impartial administration of justice for all Americans. **http://www.justice.gov**

U.S. Environmental Protection Agency (EPA) has the mission to protect human health and safeguard the natural environment —air, water, and land—upon which life depends. **http://www.epa.gov/**

A.2.8 SCC Governance Principles and Operating Procedures*

*Currently under revision.

Background, Mission, and Purpose

U.S. Food and Agriculture Sector company owners, operators, and trade associations have organized themselves in an alliance to proactively and dramatically foster advances in the way private industry, in partnership with State and Federal government agencies, protects the nation's food supply from farm to fork.

The Food and Agriculture Sector Coordinating Council (FASCC or Council) was created by private industry to serve the sector's counterterrorism and security interests. The FASCC was formed using an inclusive and consultative process. The mission of the FASCC is to:

- Facilitate intra-sector communications, set processes for information sharing, and facilitate priority setting regarding sector: strategy and planning; policies and procedures; best management practices; threat communication and analysis; and sector protection, response, and recovery planning and activities;
- Serve as the primary, policy-level interface with DHS, and other federal and state agencies on homeland security matters;
- Facilitate communications, plans, and activities with other relevant infrastructure sectors, government entities, and others necessary to further secure the nation's food supply and agriculture systems, as well as critical infrastructure; and
- Communicate the sector's needs and requests for resources to the government.

In considering new security structures, practices, and procedures, the FASCC shall seek to combine new security practices with already existing communication and food and agriculture safety systems, as well as science and technology already in place in the food and agriculture industry.

Composition

The FASCC shall consist of representatives from sub-councils (currently seven). This process and structure is meant to result in the formation of one body (the FASCC) that can accurately represent the scope, breadth, depth, and interdependence of the U.S. FA Sector (i.e., owners, operators, and their associations) on security issues. Taken on their own, each of the initial seven sub-councils represents a significant component of the nation's economy and critical food and agriculture infrastructure.

The FASCC is made up of three designates identified by each sub-council. The three representatives from each sub-council shall be named using a consensus process by the sub-council membership and shall serve a two-year term on the FASCC. Consecutive or non-consecutive subsequent terms are permitted.

- FASCC members must, by definition, be employees of owners and operators of the sector or employees of their associations. Consultants, attorneys, or other representatives who are not employees of owners and operators of the sector or their associations cannot serve as FASCC members.
- The three sub-council representatives are expected to attend and participate in all FASCC meetings.
- In the event that a FASCC member cannot, or chooses not to, fulfill the term of his/her office, the relevant sub-council shall appoint a successor to fill the remainder of his/her term.

FASCC Emeritus Status

To assist in seamless transition and continuity, at the election of a new FASCC member upon fulfillment of his/her term(s) on the FASCC, the outgoing FASCC member shall be granted Emeritus status and shall continue to receive all communications to which they were previously entitled. The Secretariat shall be responsible for fulfilling this requirement.

FASCC Co-Chairs and Delegates

The FASCC shall select up to 3 co-chairs represent the FASCC at various meetings and events and to assist in facilitating food and agriculture defense activities. The co-chairs shall function as facilitators and communicators, not decision-makers. Co-chairs shall serve at the pleasure of the FASCC and may be selected from within the FASCC or outside of the FASCC. Once appointed, co-chairs shall 1) use best efforts to attend meetings and events where FASCC representation has been requested to the extent permitted by schedules and other commitments, and 2) remain as co-chair until such time as the FASCC chooses a successor. In the event a FASCC co-chair resigns or becomes otherwise unable to fulfill his/her duties, the FASCC shall select a new co-chair.

The FASCC may also select additional delegates to represent the FASCC at the cross-sector council, Partnership for Critical Infrastructure Security (PCIS), in the National Infrastructure Advisory Council (NIAC) study groups, and in other functions as the FASCC determines to be reasonable. FASCC delegates shall use best efforts to fulfill the duties relating to the delegation and

to communicate any and all relevant information acquired to the entire FASCC. FASCC delegates function as facilitators and communicators for select activities, not decision-makers.

FASCC Sub-Councils

Role, Responsibilities, and Principles of Participation

During the sector organizing process, sector members stressed the importance and essential nature of building sector coordination from clearly identified sub-sector areas organized into sub-councils.

- Each sub-council shall develop definitions regarding the focus of the sub-council to assist in identifying the focus and boundaries of its sub-sector areas, and so that members of the sector can clearly identify which sub-council or sub-councils might involve their business and security interests.
- Each sub-council shall define its membership, priority issues, and areas of work and activity. Each sub-council shall need flexibility in prioritizing and identifying its needs, but should examine the general areas of: communications and information sharing; research and development, including prevention and detection; incident management; vulnerability assessments; and recovery.
- Outreach, participation, and membership at the sub-council level is intended to be as inclusive as possible of relevant owners and operators and their associations. For a multitude of reasons, including antitrust issues, membership in a sub-council cannot be directly linked to membership in an association.
- Each sub-council shall articulate its priorities and action items to the FASCC, which then can communicate them to the government, other sectors, and other appropriate entities.
- Each sub-council may establish its own decision-making procedures and operating procedures given the nature of the standard business practices and relationships in that part of the FA Sector.
- Each sub–council might consider the use of subject-matter experts, sub-council member work groups, and/or advisory work groups to assist in its activities.
- Each sub-council should establish procedures for soliciting sub-council members' views on policies, programs, and activities, especially when conveying input to government proposed or existing policies, plans, procedures, and activities.
- Each sub-council should establish and maintain sub-council membership lists and contact information, as well as establish communication procedures for sensitive and non-sensitive information. These should be conveyed to the FASCC and the Secretariat and updated on a regular basis.

Other Elements of Sector Participation

Participation in sub-councils should be broad and inclusive. All those with a legitimate business interest and the ability to make a meaningful contribution should be encouraged to participate. Participation in multiple sub-councils is appropriate whenever legitimate business interests are served.

Sub-council representation on the FASCC is limited in order to maintain the efficiency of the FASCC and consistency in sub-council representation. In identifying members for the FASCC, the following guidelines may be helpful.

1. Three FASCC representatives are appropriate for each functioning sub-council.
2. Representatives should be chosen from organizations whose business or whose association members mirror the scope of the specific sub-council as its members define it.
3. While an organization may participate in multiple sub-councils, an organization may represent only one of those sub-councils on the FASCC.

FASCC Committees/Working Groups

The FASCC may establish committees and/or working groups at any time for any reason. The composition of committees and/or working groups is not limited to FASCC members.

Subject-Matter Experts

Individual subject-matter experts are non-voting participants of the FASCC or sub-councils drawn from any organization from which the FASCC or a sub-council needs expertise on an ad hoc basis. Subject-matter experts may be invited to regularly assist the FASCC or any sub-council by consensus agreement of the respective body. Subject-matter experts may be invited to participate in meetings by a co-chair or member with concurrence of a co-chair.

FASCC Decision-Making, Roles, and Responsibilities

The FASCC shall make decisions using a consensus process rather than majority-rule voting. This decision-making process is consistent with the approach the sector used to organize itself to ensure inclusion of the diverse segments of the U.S. FA Sector. Consensus is defined by a decision or action that all of the sub-councils represented on the FASCC can accept (i.e., choose not to block). Each sub-council shall have equal voice in decision-making processes and shall be allowed one official position in consensus decision-making.

- Council members should collect and convey information effectively, efficiently, and inclusively to their sub-council members; consult as broadly as possible on pending decisions and issues requiring feedback to the government or others outside the Council; and initiate liaison with others who can help serve the security needs of sector members and the interests represented by their sub-council. This might include, but is not limited to, other critical infrastructure and key resources (CIKR) sectors, research and academic institutions, and others.
- Council members should play a leadership role in helping their sub-council identify critical needs, problems, and opportunities for their own sub-council business area, as well as identify areas for linkage across sub-council business areas, other CIKR sectors, or the government.

The responsibilities of FASCC members are to:

- Represent and communicate the interests of their sub-council to the Council and the government in sector matters;
- Keep sub-council members apprised of key sector, inter-sector, and sector/government activities; and
- Bring to bear their best judgment upon FASCC decisions based on their understanding and experience within their sub-council business area.

FASCC Signatory Authority

On rare occasions, the FASCC co-chairs may be called upon to execute documents or memoranda of understanding with other parties. Where such activity is warranted, the entire FASCC shall subsequently be called upon to consider and ratify the execution.

FASCC Meetings

- FASCC meetings shall be open to members, sub-council members, and Emeritus members.
- The FASCC shall meet on an as-needed basis, as decided by consensus of the Council or at the request of a co-chair.
- FASCC decisions can be made only when there is a quorum of participation (defined as at least one of the representatives from each of the seven sub-councils). Because the FASCC will make decisions by consensus, it is possible (though not desirable) to conduct meetings with only one representative of any one sub-council. The consensus decision-making process ensures that the protection of the interests of each sub-council is respected. This process is based on a presumption that a

sub-council representative serving on the FASCC is in appropriate consultation and communication with his/her sub-council. Therefore, each sub-council must ensure that it has at least one of its three representatives attending or participating in each FASCC session. In the event that none of the three representatives can attend a meeting, the sub-council shall select an individual to be granted decision-making authority for the sub-council at that particular session. FASCC members are expected to prepare for each meeting, taking appropriate consultations with the sub-council membership.

Principles of Participation in Council Meetings

- All members must be working towards the same goal and purpose of improving the nation's food and agriculture security systems.
- All members must participate by attending meetings, conference calls, and any other such activities whether called by the FASCC or the government.
- All discussion and deliberations must recognize and take advantage of each member's, organization's, or sub-council's strengths, skills, and perspective.
- Results of FASCC discussion and deliberations must represent a coherent voice made up of each member's and sub-council's contributions.

FASCC Secretariat

The Secretariat for the FASCC shall be provided by DHS, or other entity as mutually agreed to by the FASCC and DHS. The Secretariat shall provide meeting and organizational support to include, but not limited to, the following:

- Notifying FASCC members and, upon request, sub-council members of meetings via email, telephone, or both;
- Soliciting agenda topics for FASCC and Joint Council meetings based on communication with Council members;
- Informing members of agenda items and decision items likely to be taken up at each Council meeting on a timely basis;
- Distributing relevant background information to members prior to each meeting;
- Arranging for meeting locations and support logistics;
- Taking and distributing meeting notes;
- Maintaining and following up on a catalogue of FASCC topics/issues for discussion and work products and their status;
- Disseminating information or requests for input to FASCC and sub-council members upon request from DHS or Council co-chairs;
- Ensuring ongoing liaison with the Government Coordinating Council and other external entities;
- Maintaining an updated contact list for FASCC members and sub-councils, as requested; and
- Identifying other support as needed, clarifying who should provide that support to the FASCC.

Distribution of Material to the Sector

The FASCC shall identify or designate material requiring distribution and potential feedback, such as reactions to existing or proposed government policies, plans, or activities. Specific guidance shall accompany material, to include purpose, timeline, nature of feedback desired, format, and means of communication if of a sensitive nature. Because the FASCC is comprised of representatives of each sub-council, the FASCC shall heavily depend upon each sub–council to establish clear procedures and protocols for the distribution of information and material and the receipt of feedback, data, or other information. Of note, some information and material may be disseminated for awareness or informational purposes only.

Communication of Council Decisions and Meeting Summaries

FASCC members shall distribute a summary of FASCC meetings and any decisions made to the sector via the processes and procedures established by each sub-council. Each sub-council shall convey procedures to the FASCC and the Secretariat so that the means of distribution will be transparent to all within the sector. The FASCC Secretariat shall be responsible for 1) clarifying with the FASCC membership that meeting summaries and decision messages are accurate prior to release for distribution, and 2) distributing final summaries and decision messages to each FASCC member for communication to sub-council members as determined by each sub-council's standard procedures and practices.

Requested Meetings, Materials, and Briefings

While not required, briefings, meetings, and materials relevant to the interests of the FA Sector generally, or which may involve interactive issues between sector sub-councils, are encouraged to be conducted and conveyed to the FASCC through the Secretariat

If the government seeks input of a general nature of interest to the FA Sector, it should make the request to the FASCC via the Secretariat.

Sector Threat and Response

The FASCC shall serve a useful role in ensuring appropriate mechanisms are available for communicating confidential and sensitive information from the government to private industry via the sub-councils, and from private industry to the government, on any actual, threatened, or suspected malicious attacks so the information may be analyzed.

Each sub-council shall be charged with the ability to create, interpret, and assess the proper response to a potential threat or attack as it relates to that sub-council's specific business area. Further, each sub-council will develop the appropriate programs, procedures, and processes that will mitigate or reduce the vulnerabilities of its specific business area.

With respect to sector threats and response, the FASCC and sub-councils shall help in:

1. Detecting potential threats to the food supply, agriculture systems, and related infrastructures.

   Working directly with DHS, FDA, USDA, and other government agencies, the FASCC and sub-councils will identify credible threats and craft specific warning messages to the food and agriculture industry.

2. Assessing threat information.

   Provide information and analysis information that will enable the food and agriculture industry to report, identify, and reduce its vulnerability to malicious attacks.

3. Providing timely warnings to the critical food supply and agriculture system operators so countermeasures can be developed and implemented.

Facilitate the development of "best practices," recommendations, and countermeasures for preventing and recovering from malicious attacks.

A.2.9 GCC Charter

Food and Agriculture Sector
Government Coordinating Council
Charter
October 7, 2008

1. **Official Designation**

   The official designation of this Council is the "Food and Agriculture Sector Government Coordinating Council," herein after referred to as the "GCC."

2. **Authority**

   Homeland Security Presidential Directive-7 (HSPD-7) establishes national policy for Federal departments and agencies to identify and prioritize the United States' critical infrastructure and key resources and to guard against efforts to undermine or exploit those sector assets. Federal departments and agencies will identify, prioritize, and coordinate the protection of critical infrastructure and key resources. Federal departments will work with State, tribal, and local governments to develop a partnership with the private sector to leverage complementary resources within government and between government and industry to ensure a more robust, resilient and secure sector. These identified critical infrastructures and key resources provide the essential services for American society; disruption could cause catastrophic health effects, mass causalities, negative impacts on economic well-being, or profoundly affect our national prestige and morale. The designated Sector Specific Agencies for agriculture and food are the Department of Agriculture and the Department of Health and Human Services. In accordance with guidance provided by the Secretary of Homeland Security, these agencies shall collaborate with all relevant partners to prevent, deter, and mitigate deliberate efforts to destroy, incapacitate, or exploit the sector.

3. **Objective**

   The objective of the GCC is to provide effective coordination of agricultural security and food defense strategies and activities, policy, and communication across government and between the government and the private sector to support the nation's homeland security mission. In addition, the Council plays a coordination role with the other sector coordinating councils. It acts as the counterpart and partner to the private industry-led Food and Agriculture Sector Coordinating Council (SCC) to plan and coordinate activities so that appropriate prevention, preparedness, response, and recovery systems are available to ensure that the Nation's Food and Agriculture Critical Infrastructure provides safe food and other agricultural products.

4. **Scope of Activity**

   The GCC will accomplish this objective through the following essential activities:

   - **Ensure efficient, effective policy coordination on homeland security issues.** The GCC shall bring together diverse federal, state, local and tribal interests to identify and develop collaborative strategies that advance critical infrastructure protection (IP). In addition, the GCC shall identify needs/gaps in IP plans, programs, policies, procedures and strategies and leverage resources. Also, the GCC will ensure that strategies integrate roles, responsibilities, authorities and practices of GCC member organizations in support of coordinated preparedness and response to food and agriculture threats. The GCC leadership shall also ensure coordination on these issues with the SCC.
   - **Ensure efficient, effective communication concerning homeland security and emergency management issues.** While the focus is on IP, the GCC will also function during events of national emergency or significance to coordinate and share information to augment existing emergency operation channels within federal, state, local and tribal government and with industry. The GCC leadership shall also ensure that effective communication mechanisms exist with the SCC.

- Share information concerning successful programs and practices. The GCC shall facilitate the sharing of experiences, ideas, best practices, and innovative approaches related to critical infrastructure protection. The GCC leadership shall coordinate with the SCC to ensure that both public and private successes are available for the sector.

5. Membership

The membership will be composed of key representatives and influential leaders on food and agriculture safety/defense issues from federal, state, local and tribal governments. Official members named to the Council are director-level, or equivalent, representatives from:

- Department of Agriculture*
- Department of Health and Human Services/Food and Drug Administration*
- Department of Homeland Security
- Department of Commerce
- Department of Defense
- Department of Interior
- Department of Justice
- Environmental Protection Agency
- Association of Food and Drug Officials
- Association of Public Health Laboratories
- American Association of Veterinary Laboratory Diagnosticians
- Association of State and Territorial Health Officials
- National Assembly of State Chief Livestock Health Officials
- National Association of State Departments of Agriculture
- National Association of County and City Health Officials
- National Environmental Health Association
- National Plant Board
- Intertribal Agriculture Council
- State, Local, Territorial, and Tribal Government Coordinating Council

The Council reserves the right to invite additional members as necessary to fulfill its mission.

The Council recognizes that each member represents a government entity or organization with inherent legal authorities and parameters within which they must operate. At times, these authorities may restrict a member's ability to provide agreement on a decision. These inherent legal authorities must be clearly articulated and understood by the Council as the basis for dissent and the inability to enter into consensus.

6. Roles and Responsibilities

Chairmanship of this GCC jointly rests with the two Sector Specific Agencies for the Food and Agriculture Sector. In addition to a representative from each SSA, the GCC leadership body will be comprised of the Assistant Secretary, Infrastructure Protection, Department of Homeland Security, as the Co-Chairman, and a State partner. The leadership body will facilitate the decision-making process to improve preparedness of the sector using standard business practices. They will work in

consultation with council membership to reach consensus on council business and through this process identify the process through which each decision will be communicated to appropriate government or private sector entities.

Each Federal member agency of the GCC has one primary representative; State and local GCC members have two primary representatives. The primary representative has decision making authority on behalf of his/her agency. In addition, each GCC member has an alternate representative in the event the primary representative is unavailable. The alternate will have decision-making authority as designated by the member as the member deems appropriate for the issues to be presented at a meeting. Each member has the flexibility to have other representation at meetings other than the official alternates, but must clearly designate the representative's decision-making authority prior to the meeting.

The GCC may invite subject matter experts, non-voting participants drawn from any organization, to provide expertise on an ad hoc basis.

Recognizing that the Sector's objective is to provide effective communication across the government and private sectors, roles of Sector members and the flow of information must be clearly understood and followed. Sector membership, acting as key representatives of their respective agencies and organizations, shall act as Sector communication liaisons for their respective agencies and organizations. As such, they shall accept the responsibility of passing information between the Food and Agriculture Sector GCC and SCC members and their respective agency and organization constituents. This established information flow is critical to support national communications and provide a national alert capability for the Food and Agriculture Sector and its diverse stakeholders. The Sector membership will support and execute this responsibility.

The Secretariat, provided by DHS, will provide meeting and organizational support to include: coordination for agenda development, support for agency lead on monitoring and closure of issues and initiatives, administrative support, logistics (travel, meeting room facility), and will establish a communication mechanism for the GCC and with the SCC.

7. Workgroups

Workgroups are established by the GCC when substantial investigation, research or other tasks are required which cannot be achieved at a regular GCC session. All products of the workgroup are meant to advise council members on various issues, directions and processes.

8. Principles of Participation

- All members must be working towards the same goal and purpose of improving the nation's agriculture and food system security.
- All members need to participate.
- Discussion and deliberations must recognize and take advantage of each members/organization's strengths, skills, and perspective.
- Results of GCC discussion and deliberations must be a coherent voice made up of each member's contributions.
- Each discussion shall be honest and forthright.

9. Number and Frequency of Meetings

The Council will meet quarterly in Washington, DC area, with additionally scheduled meetings and/or conference calls as needed. The Council reserves the right to amend the quarterly schedule and location to meet its mission.

Director
Office of Food Defense, Communication and Emergency Response
Center for Food Safety and Applied Nutrition
Department of Health and Human Services, Food and Drug Administration

Deputy Director
Homeland Security Office
United States Department of Agriculture

Director
Partnership and Outreach Division
Infrastructure Protection
Department of Homeland Security

ANNEX A

Meeting Management
Standard Operating Procedures

Decision Making Process

Council members will make decisions through a consultative process, encouraging the exchange of information and points of view, and will strive for consensus. Although any member may disagree with a decision, other members will strive to understand and resolve disagreements. Dissension will be recognized and reasons clearly understood by all other members when a member absolutely cannot agree. When there is dissension, the Council may move forward and take action, nevertheless to fulfill obligations of members of the Council. GCC leaders/members will strive to meet timelines and deliverables even when less than full agreement. The Council recognizes that each member represents a government entity or organization with inherent legal authorities and parameters within which they must operate. At times, these authorities may restrict a member's ability to provide agreement on a decision. These inherent legal authorities must be clearly articulated and understood by the Council as the basis for dissent and the inability to enter into consensus.

Quorum

In the event that a decision needs to be made, a quorum for decision-making is defined as consisting of at least one representative from each of the two Sector Specific Agencies (USDA and FDA), DHS, and three (3) state organizations.

Meeting Support

The Secretariat will:

1) Consult with designated lead agency to provide support for developing agendas, maintaining calendars for GCC and joint council meetings.
2) Provide to all members a clear and set agenda with documents and preparatory materials before each GCC meeting, no later than one week before the meeting.
3) Compile the minutes of each meeting and send to GCC members with lead agency concurrence within a week of the meeting for review and concurrence by all the members.
4) Maintain and follow up on catalogue of GCC topic/issues/action items and work products and their status.
5) Develop and implement logistics of meetings, either in person or via teleconference.
6) Provide other support as needed.

Day to Day Communications

The Secretariat will maintain an up to date email list of Council members, which any member may use in support of the GCC mission.

Meeting Governance

Discussion and deliberations must recognize and take advantage of each member's organization's strengths, skills, and perspective.

1) The lead, through the Secretariat, will canvass GCC members prior to the scheduled meeting for priorities and agenda topics.
2) The GCC will hold its discussion for a set amount of time or upon agreement/closure, bringing in Subject Matter Experts as needed.
3) The lead member will ask for GCC agreement for continuation/completion/reconsideration for each agenda topic.
4) If substantial work effort is required through workgroups, the lead member will appoint a GCC member to lead the workgroup.
5) A minimum of three (3) GCC members must offer subject matter experts to the workgroup.

Leadership

The GCC leadership will be jointly chaired by the Sector Specific Agencies, USDA and FDA. In addition to a representative from each SSA, the GCC leadership body will be comprised of the Assistant Secretary, Infrastructure Protection, DHS, as the Co-Chairman, and a State partner. This entity will ensure the mission of the GCC.

Establishing Work Groups

The Council may establish work groups to conduct substantial investigation, research and or development when required, which cannot be achieved by a regular session of the Council. The GCC must provide the group a specific and clear charge, time limit, and deliverable as part of initiating the work group. The group's representation will be determined by the scope of the topic. Each group will include a GCC member to lead the activity and maintain continuity and consistency. Groups will be supported by the Secretariat as desired.

Information Sharing

The GCC is a coordination council that guides policy across Government agencies. Decisions and information discussed and shared in GCC discussions should not be distributed outside of the GCC as it may have policy implications. GCC information should not be divulged until it has been formally released.

ANNEX B

Sector Mission

The mission of the Food and Agriculture Sector is twofold: (1) to prepare for and protect against an intentional or unintentional contamination or a natural hazard impacting the food supply, including production agriculture, that would pose a serious threat to public health, safety, welfare, or the national economy; and (2) to provide the vast and complex sector with a single point for coordinating related policies and communications. To accomplish this mission, the GCC and SCC established a long-term vision statement that describes the requirements for a secure sector. In addition, the Sector will annually develop specific security goals that support the mission and vision.

Sector Vision Statement

The Food and Agriculture Sector describes its end goal as being prepared for and protected against an intentional or unintentional contamination incident or natural hazard that would pose a serious threat to public health, safety, and welfare. Being prepared requires that the Sector has followed the Homeland Security Presidential Directive (HSPD)-7 framework as described in the National Infrastructure Protection Plan and further clarified in the Food and Agriculture Sector Specific Plans to:

- collectively identify its most critical assets, systems, networks and functions;
- regularly conduct assessments on these items to determine their vulnerabilities;
- implement protective programs;
- identify research and development gaps; and
- measure progress on these activities.

These activities must be undertaken at all levels of the sector, including Federal, State, Tribal and local governments and across the farm-to-table continuum by private industry.

Appendix 3. CIKR Information Parameters, Data Collection, Verification, and Updates

A.3.1 SSAs Information Parameters

Sector-Specific Agencies (SSAs) collect programmatic CIKR information as follows: the USDA Food and Nutrition Service (FNS) has a process to collect information on nutrition assistance programs. This process is already in place, and the information parameters have been defined by FNS to administer the programs. As part of its programs, FNS collects the following program data: contact information for State cooperators, funds allocation, participation numbers, meals served, pounds of USDA commodity foods purchased, and dollars spent on USDA commodity food purchases. Parameters for other assistance programs may be more difficult to determine because they vary, based on specific needs, such as those occurring during a disaster (e.g., after a tsunami or hurricane).

Similarly, the FDA registration database has identified facilities that represent only part of the entire food distribution system. The database does not contain data on retail establishments, such as restaurants and grocery stores, or the food transportation system. If the FDA databases captured all participants in food distribution, the number of facilities covered would be more than two million. Section 306 of the Bioterrorism Act gives FDA access to the records of most of these facilities in a threat of serious adverse health consequences or death; however, in a non-emergency situation, these records and other information on facilities not recorded elsewhere are not readily available to the agency during the normal course of business.

For animal feed, the FDA's Center for Veterinary Medicine (CVM) is in close contact with other Federal regulatory agencies, State regulatory agencies, and the regulated industry. Specific sources used to gather asset data include academia, private consultants, and industry publications, such as the Redbook and Feed Management magazine. Other sources include professional meetings, workshops, personal communication, FDA and State field assignments, the Internet, industry complaints, and anonymous sources.

The collection of data on regulated assets will increase the ability of FDA to rapidly identify, locate, and notify the pertinent domestic facilities either before or during the occurrence of a food-related concern. The following list constitutes an initial assessment of the potential consequences of compromised data:

- Inability to identify where problem products may be located, leading to an inability to investigate and detain those products, if necessary;
- Inability to seize problem products and prevent movement in interstate commerce;
- Losses to the economy resulting from loss of product if data gaps make FDA unable to separate products of concern from products posing no risk; and
- Undermining the public's confidence in the safety and security of the food supply, with potential economic losses associated with unnecessary preventive behavior undertaken by consumers and manufacturers; and potential harm to public health, including potential loss of life.

In some instances, a governmental entity may have access to relevant information through an ongoing program; however, challenges to using or sharing this information may emerge. For example, USDA and FDA, as Federal regulators, have access to significant information concerning the FA Sector and its assets; however, legal provisions often prevent sharing this information for non-regulatory purposes. Similarly, USDA has been working with SLTT partners and the livestock and poultry industries to establish the National Animal Identification System (NAIS), a system that contains standardized premises identification, animal identification, and animal tracing components to enable animal health officials to respond to animal disease events. Producers can voluntarily contribute associated contact information and location descriptors to the system so they can be notified of an animal health emergency. When performing animal health duties, Federal animal health officials also will associate the same standardized contact information and location descriptors with official animal health forms. Traceability information is accessed only by State and Federal animal health officials when necessary to respond to foreign and domestic animal diseases of concern. This epidemiologic information is accessed through secure electronic systems involving USDA animal health data systems and approved industry animal movement databases.

Having such a traceable system in place for U. S. animal agriculture enhances surveillance accuracy and the effectiveness and efficiency of a response if it should be necessary.

Another Federal-level example of FA Sector information collection can be described by the efforts of Food Safety and Inspection Service (FSIS). FSIS maintains a number of databases on individual establishments to support its regulatory food inspection activities. The information in these databases includes street location and facility type, which can be used to map facility locations using geographic information systems during emergencies. These FSIS databases have some limitations because they do not capture production volume, distribution information, and other proprietary information. In addition, the databases do not capture certain types of establishments, including egg processing facilities, retail facilities, and some exempted facilities, such as custom slaughter facilities. While not captured in the databases, FSIS has the regulatory authority to access company records of information on facilities not included in FSIS databases during a food recall.

FSIS uses vulnerability assessments, as discussed in section 3.3, to better understand vulnerabilities in its regulated food systems. These assessments are conducted in conjunction with industry and SLTT representatives. They provide FSIS with specific vulnerability information about nodes in food processing systems not obtainable from data gathered under the FSIS regulatory activities. Such information may be useful for protection, response, or recovery activities.

The FA Sector has not yet collected infrastructure information on food processing. Most of the relevant infrastructure information is held by private industry. Individual companies maintain records on data that are beneficial to company operations, such as production volume, ingredients used, product distribution, and personnel data. Only a portion of this information is available to Federal and State governments through regulatory programs.

Food distribution information collection can occur at the Federal level in nutrition assistance programs. SLTT operators are required to provide the nutrition assistance program data to FNS on a regular basis. In most cases, electronic data collection processes are used to gather and compile the data. Information concerning international or disaster food aid programs may be more difficult to obtain because of the circumstances during which the food is provided; however, if available, the USDA Foreign Agricultural Service (FAS) and independent U.S. Agency for International Development (USAID) will have information on their international programs, and Federal Emergency Management Agency (FEMA) will have information on food aid in response to domestic disasters. Other government agencies, such as the Department of Transportation, will also play a key role in identifying assets associated with food aid. Because of the unique aspects of food aid and the lack of direct U.S. Government oversight during portions of the transportation process, the approach taken to identify critical assets, systems, and networks must be based on risk.

A.3.2 SSAs Data Collection

Several FDA databases represent Federal examples of defining and identifying agency-specific programmatic data in the FA Sector. The following list can be used as a starting point to define the specific information needed in a model to determine FA Sector CIKR systems:

Field Accomplishments and Compliance Tracking System (FACTS): Automated FDA system for tracking FDA operations, such as domestic field and compliance activities, foreign inspections, and domestic and import sample analyses.

Operational and Administrative System for Import Support (OASIS): Automated FDA system for processing and making admissibility determinations for shipments of FDA-regulated products of foreign origin seeking to enter domestic commerce.

Food Facility Registration Module (FFRM): FDA system that requires domestic and foreign facilities that manufacture, process, pack, or hold food for human or animal consumption to register their facility under Section 305 of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Bioterrorism Act).

Prior Notice System Interface and the Automated Broker Interface of the Automated Commercial System: Import shipment information is submitted to FDA that allows FDA to review information pertaining to FDA-regulated shipments of food for humans and animals before the food is imported to the United States (unless the food is excluded from the Prior Notice requirements of Section 307 of the Bioterrorism Act).

Electronic Laboratory Exchange Network (eLEXNET): Seamless, integrated, and secure system that allows multiple government agencies engaged in food safety activities to compare, communicate, and coordinate laboratory analysis findings. eLEXNET provides the necessary infrastructure for an early-warning system that identifies potentially hazardous foods and enables health officials to assess risks and analyze trends.

Food Emergency Response Network (FERN): Network of Federal and State laboratories that are committed to analyzing food samples in a biological, chemical, or radiological terrorist attack.

Laboratory Response Network (LRN): Network of Federal and SLTT public health laboratories developed to provide surge capacity for samples in a public health emergency caused by a select agent.

CFSAN Adverse Events Reporting System (CAERS): Single system for tracking and evaluating adverse events and consumer complaints received by FDA concerning food, dietary supplements, and cosmetics. Information indicating a potential food security incident may be shared with affected industry sectors and the FA Sector through Homeland Security Information Network (HSIN). Collection of food post-market reports about Center for Food Safety and Applied Nutrition (CFSAN)-regulated products will significantly improve the agency's ability to identify and analyze food product-related risks in real time.

USDA's FSA has contacts with many private sector companies engaged in supplying and delivering food aid. Sector and commodity trade associations also maintain lists of members and assets. Identifying additional information on the size, capacity, or frequency of use for particular assets, systems, or networks, as well as implementing the appropriate safeguards, is challenging. Another USDA example for defining and identifying programmatic data would concern food aid.

A.3.3 SSAs Data Verification

Verifying agency-specific programmatic CIKR information at the Federal level can be illustrated by FSIS databases on individual facilities that are updated regularly as part of USDA regulatory verification activities. FSIS recognizes that industry partners often have the most readily available and accurate information on food processing and distribution; therefore, FSIS will continue to rely on industry cooperation with recalls in a large-scale food emergency. SLTT governments may have more complete information than FSIS on the location of food processing facilities, especially for non-FSIS regulated facilities. FSIS will look to those

entities to identify such establishments during times of emergency. Other related information will be verified through updating and validating risk and vulnerability assessments.

Food distribution has a high level of confidence in the accuracy of the nutrition assistance information held by USDA's FNS because program participants must provide the information to receive benefits. Each FNS nutrition assistance program data collection system includes internal verification processes to ensure accuracy and validity of data. FNS also hosts a program integrity effort that is a part of the agency's strategic plan and corporate priorities.

FDA can verify basic information submitted for domestic registrations during normally scheduled inspections and as resources permit. Facility registration to comply with the Bioterrorism Act is required before operating in any new food facility. Verification of information for new facilities will take place as FDA resources permit or through State counterparts, if feasible. Information provided for new facilities poses a unique problem because new facilities do not enter optional information. Without the optional information, FDA cannot identify a clear link between a facility and its products or processes. Similarly, FDA and DHS CBP will verify registration of foreign facilities through Prior Notice. If a foreign facility has not registered with FDA, the product to be imported may be held pending the submission of appropriate information.

In FDA, CVM verification activities include in-house inquiries (querying State departments of agriculture, Association of American Feed Control Officials (AAFCO), field inspections, and laboratory analysis) and searching the Internet for illegal products. Experts review contamination, health hazard evaluations, and other reports. Feed firms must notify FDA when the drug content in feeds is outside of specifications (official assay limit, good manufacturing practices (GMPs), and records and reports regulations).

A.3.4 Data Update

As an example of updating programmatic CIKR information at the Federal level, FSIS will continue to update system information as new vulnerability assessments are conducted and as existing vulnerability or risk assessments are updated. USDA nutrition assistance program data are also updated regularly in the food distribution network, but the frequency depends on the specific program or report. Where appropriate, data are provided in the form of reports from program operators or posted to the FNS Web site. As part of the agency's ongoing operations, FNS has processes in place to provide regular updates to State agency contact lists, which facilitates the efficient updating of information.

FDA (CFSAN, CVM, and Office of Regulatory Affairs (ORA)) updates CIKR data with information acquired during normally scheduled inspections and operations, as resources permit. FDA uses historical import information from archived databases to monitor new information provided by Prior Notice and during the actual entry of products into the United States to ensure such out-of-date information is not being used by firms to move their products into U.S. commerce. FDA reviews new data that are entered into the registration database and adjusts criteria for review, as necessary.

Similarly, CVM will update data regularly by using similar processes to those used initially to establish asset status. The investigation and inspection processes will be periodically performed using vulnerability assessment and risk analysis processes (delineated in the Animal Feed Safety System and others).

A.3.5 DHS Infrastructure Data Taxonomy for the FA Sector

CIKR and their elements can be described and categorized in various ways, which can result in inconsistent communication and hinder timely decision making in the homeland security community. To prevent such problems, DHS uses an Infrastructure Data Taxonomy to enable transparent and consistent communication about CIKR between government and private sector partners.

The following terms describe the information in the FA Sector Infrastructure Data Taxonomy:

- **Taxonomy Identification Code (ID).** The ID is an internal code and does not refer to any sector-specific code that may be in use.
- **North American Industry Classification System (NAICS) Code.** The taxonomy is based broadly on the NAICS code. The code number that most closely corresponds to the asset is provided. NAICS was developed jointly by the United States, Canada, and Mexico to allow comparison of business statistics. Although not developed specifically for use with infrastructure, the NAICS code can be used to help define the type or purpose of a facility and annotate the infrastructure categorization. Because some assets do not fit into the NAICS code structure, an approximate NAICS code is assigned where possible. (Significant approximations are identified in parentheses.) While NAICS is a worthy guide, SSAs are the primary driver of the taxonomy layout and definition. In this version of the taxonomy, each sector was given the opportunity to provide input, when possible, to be incorporated into the taxonomy regardless of the NAICS code. In this version of the taxonomy, some sectors have been completely changed from previous versions. Thus, they may not have a NAICS-assigned or NAICS-related code.
- **Description.** A summary of the types of assets that fall into each category. To the extent possible, these descriptions were developed from standard definitions used by each industry. SSAs had an opportunity to provide input, and the definitions were compiled to follow that input, to the extent possible.
- **Attributes of Interest.** Key attributes of an asset that help better define the facility. Attributes could include size, type of equipment, operational capacity, volume of production, or a wide range of other attributes. Only a few of the most significant attributes are included.
- **Other Categorization.** In some cases, an asset could be included in more than one sector. Inclusion in more than one sector helps define possible interdependencies or additional categorizations for use in various models and database tools. For example, a dam with a hydroelectric power plant can be categorized in the Dams Sector, but it can also be cross-referenced in the Energy Sector because the hydroelectric power plant is located at the dam.

Table A.3-1 shows the Food and Agriculture Sector Taxonomy provided by DHS. To download or comment on the Taxonomy, please visit: **http://www.dhs.gov/files/publications/gc_1226595934574.shtm** (registration required for access).

Table A.3-1: Food and Agriculture Sector Infrastructure Taxonomy

	NAICS Code	Description	Attributes Of Interest	Other Categorization(s)
1		**AGRICULTURE AND FOOD**		
		Agriculture comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats. Food establishments transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food and beverage products. The food and beverage products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers.		
1.1		**SUPPLY**		
		Facilities that supply the livestock and agricultural raw materials.		
1.1.1	111	**Crop Production**		

		These facilities comprise establishments, such as farms, orchards, groves, greenhouses, and nurseries, primarily engaged in growing crops, plants, vines, or trees and their seeds.		
1.1.1.1	1111	*Oilseed and Grain Farms*	• Acreage • Crop(s) Produced • Production	
		Farms are engaged in growing oilseed and/or grain crops and/or producing oilseed and grain seeds. These crops have an annual life cycle and are typically grown in open fields. Includes soybeans, oilseeds, dry pea and beans, wheat, corn, oats, rice, and others.		
1.1.1.2	1112	*Vegetable and Melon Farms*	• Acreage • Crop(s) Produced • Production	
		Farms primarily engaged in growing root and tuber crops (except sugar beets and peanuts) or edible plants and/or producing root and tuber or edible plant seeds. The crops included in this group have an annual growth cycle and are grown in open fields. Climate and cultural practices limit producing areas but often permit the growing of a combination of crops in a year.		
1.1.1.3	1113	*Fruit and Tree Nut Farms*	• Acreage • Crop(s) Produced • Production	
		These farms are primarily engaged in growing fruit and/or tree nut crops. The crops included are generally not grown from seeds and have a perennial life cycle. Includes citrus and non-citrus fruits and nuts.		
1.1.1.4	1114	*Greenhouse, Nursery, and Floriculture Facilities*	• Crop(s) Produced • Facility Area • Production	
		Facilities primarily engaged in growing crops of any kind under cover and/or growing nursery stock and flowers. "Under cover" is generally defined as greenhouses, cold frames, cloth houses, and lath houses. The crops grown are removed at various stages of maturity and have annual and perennial life cycles. The nursery stock includes short rotation woody crops that have growth cycles of ten years or less.		
1.1.1.5	1119	*Other Crop Farms*	• Acreage • Crop(s) Produced • Production	
		These farms grow crops, such as tobacco, cotton, sugarcane, hay, sugar beets, peanuts, agave, herbs and spices, and hay and grass seeds or grow a combination of crops (except a combination of oilseed(s) and grain(s) and a combination of fruit(s) and tree nut(s)).		
1.1.2	112	**Animal Production**		
		Facilities in this category raise or fatten animals for the sale of animals or animal products, and are comprised of ranches, farms, and feedlots primarily engaged in keeping, grazing, breeding, or feeding animals. The animals are generally raised in various environments, from total confinement or captivity to feeding on an open range pasture.		

1.1.2.1	1121	*Cattle Ranches and Farms*		
		Facilities primarily engaged in raising cattle, milking dairy cattle, or feeding cattle for fattening.		
1.1.2.1.1	112111	*Beef Cattle Ranches*	• Head of Cattle • Production	
		Establishments primarily engaged in raising cattle (including cattle for dairy herd replacements)		
1.1.2.1.2	11211	*Livestock Order Buyers*	• Head of Cattle Handled	
		Livestock dealers who purchase or hold livestock (generally for up to one week) while the animals are aggregated into a large enough group to meet specific customer orders.		
1.1.2.1.3	11211	*Livestock Backgrounders*	• Head of Cattle Handled	
		Establishments that condition livestock between pasture and feedlots (generally for up to several weeks) so they will grow well in feedlots.		
1.1.2.1.4	112112	*Cattle Feedlots*	• Head of Cattle • Production	
		Establishments primarily engaged in feeding cattle prior to slaughter and processing for human consumption		
1.1.2.1.5	11212	*Dairy Cattle Farms*	• Head of Cattle	
		Establishments primarily engaged in milking dairy cattle		
1.1.2.2	1122	*Hog and Pig Farms*	• Number of Hogs and Pigs • Production	
		Facilities primarily engaged in raising hogs and pigs, and may include farming activities, such as breeding, farrowing, and the raising of weanling pigs, feeder pigs, or market size hogs.		
1.1.2.3	1123	*Poultry and Egg Production Farms*		
		Facilities are primarily engaged in breeding, hatching, and raising poultry for meat or egg production. Includes chickens, turkeys, duck, geese, and others.		
1.1.2.3.1	11232, 11233, 11239	*Poultry for Meat*	• Production • Type of Poultry Raised	
		Establishments primarily engaged in raising poultry for meat.		
1.1.2.3.2	11231	*Egg Production*	• Egg Production • Poultry	
		Establishments primarily engaged in raising poultry for egg production		

1.1.2.4	1124	*Sheep & Goat Farms*	• Number of Sheep and Goats • Production	
		Facilities primarily engaged in raising sheep, lambs, and goats, or feeding lambs for fattening.		
1.1.2.5	1125	*Animal Aquaculture Facilities*	• Production • Type of Fish or Shellfish Raised	
		Facilities primarily engaged in the farm raising of finfish, shellfish, or any other kind of animal aquaculture, and use some form of intervention in the rearing process to enhance production, such as holding in captivity, regular stocking, feeding, and protecting from predators.		
1.1.2.6	1129	*Other Farm Facilities*	• Production • Type of Fish or Shellfish Raised	
		Facilities primarily engaged in raising animals and insects (except those identified above) such as bees, horses and other equines, rabbits and other fur-bearing animals, etc.		
1.1.3	113	**Forestry**	• Production • Type of Forest	
		Facilities that grow and harvest timber on a long production cycle (i.e., ten years or more). Includes forest tract operations, forest nurseries, gathering of forest products (e.g., gum and aromatic woods), and logging (i.e., cutting of trees).		
1.1.4	114	**Fishing**	• Catch • Number of Vessels in Fleet • Type and Size of Vessel(s) • Type of Fishing	
		Harvesting of fish from their natural habitats. Usually requires specialized vessels that, by the nature of their size, configuration and equipment, are not suitable for any other type of production, such as transportation. Includes fishing for finfish, shellfish, and other marine animals.		
1.2		**PROCESSING/PACKAGING/PRODUCTION**		
		The transformation of livestock and agricultural products into products for intermediate or final consumption. This category is sometimes referred to as Food Manufacturing.		
1.2.1	111	**Animal Food Manufacturing**		18.1.1 Animal Food Manufacturing
		Facilities primarily engaged in manufacturing food and feed for animals from ingredients, such as grains, oilseed mill products, and meat products. These products are not intended for human consumption.		
1.2.1.1	311119	*Farm Animal Feed Manufacturing*		
		Manufacture of feed for cattle, hogs, pigs, poultry, aquaculture fish, and other farm animals. Includes grain and meat feed, supplements, concentrates, mixes, and other animal feed.		

1.2.1.1.1	311119	*On-Site Feed Mills*	• Production • Type of Feed Produced	
		Establishments located at animal raising operations that produce animal feed intended primarily for local consumption.		
1.2.1.1.2	311119	*Off-Site Feed Mills*	• Production • Type of Feed Produced	
		Establishments located apart from animal raising operations that produce animal feed intended primarily for general sale.		
1.2.1.2	311613	*Rendering and Meat Byproduct Manufacturing*	• Production • Type of Rendering Done	
		Establishments primarily engaged in rendering animal fat, bones, and meat scraps.		
1.2.1.3	311111	*Pet Food Manufacturing*	• Production • Type of Feed Produced	
		Manufacture of food for household pets (e.g., dogs, cats, gerbils, hamsters, aquarium fish, and others). Includes grain and meat feed, supplements, concentrates, mixes, and other pet food.		
1.2.2	3112	**Grain and Oilseed Milling**		18.1.2 Grain and Oilseed Milling
		This industry comprises establishments primarily engaged in one or more of the following: (1) milling flour or meal from grains or vegetables (2) preparing flour mixes or doughs from flour milled in the same establishment (3) milling, cleaning, and polishing rice and (4) manufacturing malt from barley, rye, or other grains.		
1.2.2.1	31121, 31122	*Grains, Fats, and Oils Processing*	• Production • Type of Product Processed	
		Facilities engaged in milling, crushing, refining, blending, and other processing of grains, fats, and oils. Includes flour, corn, and rice milling malt, starch, vegetable fats and oils manufacturing soybean and other oilseed processing and fats and oils processing. Products are used primarily as ingredients.		
1.2.2.2	31123	*Breakfast Food Manufacturing*	• Production • Type of Product Produced	
		Manufacture of breakfast cereal foods. Products intended for final consumption.		
1.2.3	3113	**Sugar and Confectionery Product Manufacture**		18.1.3 Sugar and Confectionery Product Manufacture
		This industry group comprises (1) establishments that process agricultural inputs, such as sugarcane, beet, and cacao, to give rise to a new product (sugar or chocolate), and (2) those that begin with sugar and chocolate and process these further.		

1.2.3.1	31131	*Sugar Manufacturing*	• Production • Type of Product Produced	
		Facilities primarily engaged in manufacturing raw sugar, liquid sugar, and refined sugar from sugarcane, raw cane sugar and sugar beets.		
1.2.3.2	31132, 31133, 31134	*Confectionery Manufacturing*	• Production • Type of Product Produced	
		Establishments primarily engaged in manufacturing confectioneries. Includes chocolate and non-chocolate confectioneries.		
1.2.4	3114	**Fruit/Vegetable Preserving, Specialty Food Manufacturing Facilities**		
		This industry comprises establishments primarily engaged in manufacturing canned, pickled, and dried fruits, vegetables, and specialty foods. Establishments in this industry may package the dried or dehydrated ingredients they make with other purchased ingredients. Examples of products made by these establishments are canned juices canned baby foods canned soups (except seafood) canned dry beans canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste, pickles, relishes, jams and jellies, dried soup mixes and bullions, and sauerkraut.		18.1.4 Fruit/ Vegetable Preserving, Specialty Food Manufacturing Facilities
1.2.4.1	31141	*Frozen Food Manufacturing Facilities*	• Production • Type of Product Produced	
		Facilities primarily engaged in manufacturing frozen fruit, frozen juices, frozen vegetables, and frozen specialty foods (except seafood), such as frozen dinners, entrees, and side dishes frozen pizza frozen whipped toppings and others.		
1.2.4.2	31142	*Fruit and Vegetable Canning, Pickling, Drying*	• Production • Type of Product Produced	
		Facilities primarily engaged in manufacturing canned, pickled, and dried fruits, vegetables, and specialty foods, and may package the dried or dehydrated ingredients they make with other purchased ingredients. Examples of products made in these facilities are canned juices canned baby foods canned soups (except seafood) canned dry beans canned tomato-based sauces, pickles, relishes, jams and jellies, dried soup mixes and bullions, and others.		
1.2.5	3115	**Dairy Product Manufacturing**		
		Facilities primarily engaged in manufacturing dairy products from raw milk and/or processed milk products manufacturing dairy substitutes from soybeans and other nondairy substances and manufacturing dry, condensed, concentrated, and evaporated dairy and dairy substitute products.		18.1.5 Dairy Product Manufacturing

1.2.5.1	311511	*Fluid Milk Manufacturing*	• Production • Type of Product Produced	
		Facilities primarily engaged in manufacturing processed milk products, such as pasteurized milk or cream and sour cream and/or manufacturing fluid milk dairy substitutes from soybeans and other nondairy substances.		
1.2.5.2	311512, 311513, 311514	*Other Non-Frozen Dairy Product Manufacturing*	• Production • Type of Product Produced	
		Facilities engaged in manufacturing butter, cheese, and dry, condensed, evaporated dairy products.		
1.2.5.3	31152	*Ice Cream and Frozen Dessert Manufacturing*	• Production • Type of Product Produced	
		Establishments primarily engaged in manufacturing ice cream, frozen yogurts, frozen ices, sherbets, frozen tofu, and other frozen dairy desserts.		
1.2.6	3116	**Animal Slaughtering and Processing Facilities**		18.1.6 Animal Slaughtering and Processing Facilities
		Establishments primarily engaged in slaughtering animals preparing processed meats and meat byproducts and rendering and/or refining animal fat, bones, and meat scraps. Includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased carcasses.		
1.2.6.1	311611, 311612, 311613	*Non-Poultry Animal Slaughtering and Processing*	• Production • Type of Product Produced	
		Includes facilities for processing beef, hogs, pigs, lamb, and other such animals.		
1.2.6.2	311615	*Poultry Slaughtering and Processing*	• Production • Type of Product Produced	
		Includes facilities for processing chickens, ducks, geese, turkeys and other small game.		
1.2.7	3117	**Seafood Product Processing**		18.1.6 Seafood Product Processing
		This industry comprises establishments primarily engaged in one or more of the following: (1) canning seafood (including soup) (2) smoking, salting, and drying seafood (3) eviscerating fresh fish by removing heads, fins, scales, bones, and entrails (4) shucking and packing fresh shellfish (5) processing marine fats and oils and (6) freezing seafood. Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are included in this industry.		

1.2.7.1	311711	*Seafood Canning*	• Production • Type of Product Produced	
		Facilities are primarily engaged in canning seafood (including soup) and marine fats and oils and/or smoking, salting, and drying seafood.		
1.2.7.2	311712	*Fresh and Frozen Seafood Processing*	• Production • Type of Product Produced	
		Facilities primarily engaged in eviscerating fresh fish by removing heads, fins, scales, bones, and entrails shucking and packing fresh shellfish manufacturing frozen seafood and processing fresh and frozen marine fats and oils.		
1.2.8	3118	**Bakery Products Manufacturing**	• Production • Type of Product Produced	18.1.7 Bakery Products Manufacturing
		Establishments producing bakery products. Includes breads, cakes, cookies, crackers, pastas, tortillas, flour mixes, and similar products.		
1.2.9	3119	**Other Food Manufacturing**		18.1.8 All Other Food Manufacturing
		This industry group comprises establishments primarily engaged in manufacturing food (except animal food grain and oilseed milling sugar and confectionery products preserved fruit, vegetable, and specialty foods dairy products meat products seafood products and bakeries and tortillas). The industry group includes industries with different production processes, such as snack food manufacturing coffee and tea manufacturing concentrate, syrup, condiment, and spice manufacturing and, in general, an entire range of other miscellaneous food product manufacturing.		
1.2.9.1	31191	*Snack Food Manufacturing*	• Production • Type of Product Produced	
		Establishments primarily engaged in salting, roasting, drying, cooking, or canning nuts processing grains or seeds into snacks manufacturing peanut butter and manufacturing potato chips, corn chips, popped popcorn, pretzels (except soft), pork rinds, and similar snacks.		
1.2.9.2	31192	*Coffee and Tea Manufacturing*	• Production • Type of Product Produced	
		Establishments primarily engaged in roasting coffee manufacturing coffee and tea concentrates (including instant and freeze-dried) blending tea manufacturing herbal tea and manufacturing coffee extracts, flavorings, and syrups.		
1.2.9.3		*All Other Food Manufacturing*	• Production • Type of Product Produced	
		Includes condiments, spices, syrups, and other food products.		

1.2.10	312	**Beverage Manufacturing**		18.2 Beverage Manufacturing
		Industries in the Beverage Manufacturing subsector manufacture beverage products. The industry group, Beverage Manufacturing, includes three types of establishments: (1) those that manufacture nonalcoholic beverages (2) those that manufacture alcoholic beverages through the fermentation process and (3) those that produce distilled alcoholic beverages. Ice manufacturing, while not a beverage, is included with nonalcoholic beverage manufacturing because it uses the same production process as water purification.		
1.2.10.1	31211	*Soft Drink Manufacturing*	• Production • Type of Product Produced	
		Establishments primarily engaged in manufacturing soft drinks; manufacturing ice; and purifying and bottling water.		
1.2.10.2	312113	*Ice Manufacturing*	• Production	
		Establishments primarily engaged in manufacturing soft drinks; manufacturing ice; and purifying and bottling water		
1.2.10.3		*Alcoholic Beverage Manufacturing*		
		Establishments primarily engaged in manufacturing alcoholic beverages.		
1.2.10.3.1	31212	*Breweries*	• Production • Type of Product Produced	
		Establishments primarily engaged in brewing beer, ale, and malt liquors.		
1.2.10.3.2	31213	*Wineries*	• Production • Type of Product Produced	
		Establishments primarily engaged growing grapes and manufacturing wine and brandies, manufacturing wine and brandies from grapes and other fruits grown elsewhere, and blending wines and brandies.		
1.2.10.3.3	31214	*Distilleries*	• Production • Type of Product Produced	
		Establishments primarily engaged in distilling potable liquors, distilling and blending liquors, and blending and mixing liquors and other ingredients.		
1.2.11	3122	**Tobacco Product Manufacturing**	• Production • Type of Product Produced	
		Establishments engaged in the stemming and redrying of tobacco and the manufacture of tobacco products including cigarettes, cigars, pipe tobacco, and similar products.		

1.3		AGRICULTURAL AND FOOD PRODUCT STORAGE		
		Establishments engaged in operating warehousing and storage facilities for agricultural and food products. These establishments provide facilities to store goods. They do not sell the goods they handle. These establishments take responsibility for storing the goods and keeping them secure. They may also provide a range of services, often referred to as logistics services, related to the distribution of goods.		
1.3.1	49313	**Bulk Food Storage Facilities**		
		Establishments primarily engaged in operating warehousing and storage facilities for bulk food (e.g., grains, unprocessed vegetables and fruits). Includes grain elevators. Facilities may be unrefrigerated or refrigerated.		
1.3.1.1	493130	*Grain Elevators*	• Product(s) Stored • Storage Capacity	
		Facilities for storing large quantities of grains. Generally located in farming areas and receive grain from several farms.		
1.3.1.2	493130	*Non-Refrigerated Bulk Food Storage Facilities*	• Product(s) Stored • Storage Capacity	
		Facilities for storing bulk farm products (e.g., vegetables and fruits) in unrefrigerated areas.		
1.3.1.3	493120	*Refrigerated Bulk Food Storage Facilities*	• Product(s) Stored • Storage Capacity	
		Facilities for storing bulk farm products in refrigerated areas.		
1.3.2		**Processed Food Storage Facilities**	• Product(s) Stored • Refrigerated • Storage Capacity • Type of Facility • Unrefrigerated	
		Establishments primarily engaged in operating warehousing and storage facilities for processed foods, either intermediate or finished products. Facilities may be unrefrigerated or refrigerated.		
1.3.2.1	493130	*Non-Refrigerated Processed Food Storage Facilities*	• Product(s) Stored • Storage Capacity	
		Facilities for storing processed food products in unrefrigerated areas.		
1.3.2.2	493120	*Refrigerated Processed Food Storage Facilities*	• Product(s) Stored • Storage Capacity	
		Facilities for storing processed food products in refrigerated areas.		

1.4		**AGRICULTURAL AND FOOD PRODUCT TRANSPORTATION**		
		Establishments engaged in transporting agricultural and food products. These establishments provide facilities to store goods.		
1.4.1	484	**Road Transport of Agricultural and Food Products**	• Products Transported • Quantity	
		This category includes transportation facilities (e.g., trucks, truck terminals, truck wash and disinfection facilities, highways, bridges, and tunnels) involved in the transport of agricultural and food products by truck.		
1.4.2	482	**Rail Transport of Agricultural and Food Products**	• Products Transported • Quantity	
		This category includes transportation facilities (e.g., rail tank cars, rail car loading/unloading terminals, rail car wash and disinfection facilities, rail rights-of-way, railroad bridges, and railroad tunnels) involved in the transport of agricultural and food products by rail.		
1.4.3	483	**Maritime Transport of Agricultural and Food Products**	• Products Transported • Quantity	
		This category includes transportation facilities (e.g., barges, loading/unloading piers, waterways, canals and locks, and ports) involved in the transport of agricultural and food products by water.		
1.4.4	481	**Air Transport of Agricultural and Food Products**	• Products Transported • Quantity	
		This category includes aviation facilities (e.g., aircraft and airports) involved in the transport of agricultural and food products by air.		
1.5		**AGRICULTURAL AND FOOD PRODUCT DISTRIBUTION**		
		Wholesale and retail distribution of agricultural and food products.		
1.5.1	4245	**Farm Product Wholesalers**		
		Establishments primarily engaged in the merchant wholesale distribution of agricultural products, such as grains; field beans; livestock; and other farm product raw materials (excluding seeds).		
1.5.1.1	42451	*Grain and Field Bean Wholesalers*	• Products Wholesaled • Quantity	
		Establishments primarily engaged in the merchant wholesale distribution of grains, such as corn, wheat, oats, barley, and unpolished rice, dry beans and soybeans, and other inedible beans.		
1.5.1.2	42452	*Livestock Markets*	• Livestock Marketed • Quantity	
		Establishments that receive, hold, and sell livestock (cattle, sheep, swine, horses, llamas, bison, etc.) to all entities within the production chain (from ranchers, to backgrounders, to feedlots) and to processing (slaughter) facilities.		

1.5.1.3	42459	*Other Farm Product Wholesalers*	• Products Wholesaled • Quantity	
		Establishments primarily engaged in the merchant wholesale distribution of other farm products.		
1.5.2		**Grocery and Related Product Wholesalers**	• Products Wholesaled • Quantity	
		Establishments primarily engaged in the merchant wholesale distribution of a general line (wide range) of groceries. Includes general line groceries, packaged frozen foods, dairy products, poultry products, confectionaries, fish and seafood products, meat and meat products, fresh fruits and vegetables, and others.		
1.5.3	445	**Food and Beverage Retailers**		
		Establishments retailing food and beverages merchandise from fixed point-of-sale locations. Generally have special equipment (e.g., freezers, refrigerated display cases, and refrigerators) for displaying food and beverage goods. Generally have staff trained in the processing of food products to guarantee the proper storage and sanitary conditions required by regulatory authority.		
1.5.3.1	44511	*Supermarkets and Grocery Stores*	• Chain Supermarket • Independent Market • Location • Outside Metropolitan Area • Sales Volume • Store Size • Suburban • Type of Store • Urban	
		Establishments generally known as supermarkets and grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included are delicatessen-type establishments primarily engaged in retailing a general line of food.		
1.5.3.2	44512	*Convenience Stores*	• Chain • Independent • Location • Outside Metropolitan Area • Sales Volume • Store Size • Suburban • Type of Store • Urban	
		Establishments known as convenience stores or food marts primarily engaged in retailing a limited line of goods that generally includes milk, bread, soda, and snacks. May be located at motor vehicle refueling stations.		

1.5.3.3	4452	*Specialty Food Stores*	• Chain • Independent • Location • Outside Metropolitan Area • Sales Volume • Store Size • Suburban • Type of Store • Urban	
		Establishments primarily engaged in retailing specialized lines of food. Includes meat markets, fish and seafood markets, fruit and vegetable markets, baked goods stores, and others.		
1.5.3.4	4453	*Beer, Wine, and Liquor Stores*	• Chain • Independent • Location • Outside Metropolitan Area • Sales Volume • Store Size • Suburban • Type of Store • Urban	
		Establishments primarily engaged in retailing packaged alcoholic beverages, such as ale, beer, wine, and liquor.		
1.5.4	722	**Food Service and Drinking Facilities**		
		Facilities preparing meals, snacks, and beverages to customer order for immediate on-premises and off-premises consumption.		
1.5.4.1	7221	*Full Service Restaurants*	• Location • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Establishments primarily engaged in providing food services to patrons who order and are served while seated (i.e., waiter and waitress service) and pay after eating. May also provide other services, such as takeout services. May be stand-alone facilities or may be attached to another facility (e.g., hotel).		

1.5.4.2	7222	*Limited Service Food Facilities*	• Location • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Establishments primarily engaged in providing food services where patrons generally order or select items and pay before eating. Most establishments do not have waiter/waitress service. Includes carry out restaurants, delicatessen restaurants, fast food restaurants, pizzerias, sandwich shops, cafeterias, snack bars, ice cream stands, doughnut shops, mobile food service vehicles, and similar facilities.		
1.5.4.3	72241	*Drinking Establishments*	• Location • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Facilities primarily engaged in preparing and serving alcoholic beverages for immediate consumption. May also provide limited food services.		
1.5.4.3.1	722410	*Bars*	• Location • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Facilities serving alcoholic beverages generally with no or limited live entertainment. Includes bars, taverns, and cocktail lounges.		
1.5.4.3.2	722410	*Nightclubs*	• Location • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Facilities serving alcoholic beverages and with regular live entertainment and/or dancing.		

1.5.4.3.3	722410	*Nightclub Districts*	• Location • Number of Nightclubs and Related Facilities in District • Patron Capacity • Patron Volume • Recreational Area • Rural • Suburban • Urban–Downtown • Urban–Other	
		Areas in which there is a concentration of nightclubs and related facilities.		
1.6		**AGRICULTURE AND FOOD SUPPORTING FACILITIES**		
		Facilities providing supporting services in agriculture and food.		
1.6.1	3253	**Agricultural Chemical Manufacture**		
		Includes fertilizers, pesticides, and other chemicals.		
1.6.2	325412	**Veterinary Pharmaceutical Manufacture**	• Production • Type of Pharma-ceuticals Manufactured	10.4.3.1 Pharmaceutical Manufacturing Facilities
		Establishments engaged in the manufacture of pharmaceuticals for use in animals.		
1.6.3	42491	**Farm Supply Wholesalers**	• Sales Volume • Type of Supplies Wholesaled	
		Establishments primarily engaged in the merchant wholesale distribution of farm supplies, such as animal feeds, fertilizers, agricultural chemicals, pesticides, plant seeds, and plant bulbs.		
1.6.4	4442	**Farm Supply Retailers**	• Sales Volume • Type of Supplies Retailed	
		Establishments primarily engaged in retailing farm supplies.		
1.6.5	54194	**Veterinary Services**	• Case Load • Type of Animals Treated	
		Establishments engaged in the practice of veterinary medicine, dentistry, or surgery for animals.		
1.6.6	541712	**Agricultural Testing Laboratories**	• Case Load • Type of Testing Done	
		Establishments conducting soil, seed, plant, animal, and related testing.		

1.6.7	541712	**Agricultural and Food Research**	• Number of Employees on Site • Type of Research Done	
		Establishments engaged in conducting research and experimental development in agriculture and food sciences.		
1.7		**REGULATORY, OVERSIGHT, AND INDUSTRY ORGANIZATIONS**		
		Organizations that provide technical, operation, pricing, and business oversight and support to the Agriculture and Food Sector.		
1.7.1	921110	**Federal Agriculture and Food Agencies**	• Number of Employees at Site	
		Federal agencies that deal with the agriculture and food system, including: USDA; FDA; and others. Includes Federal extension services.		
1.7.2	921110	**State, Local, Regional Agriculture and Food Agencies**	• Number of Employees at Site	
		State, local, and regional agencies dealing with agriculture and food in their jurisdiction, including: public health departments; agricultural extension services; and others.		
1.7.3		**Agriculture and Food Industry Organizations**	• Number of Employees at Site	
		Industry organizations (e.g., farmers associations, ranchers associations, etc.) that provide industry-wide support.		
1.7.4		**International Agriculture and Food Organizations**	• Number of Employees at Site	
		International organizations dealing with agriculture and food issues.		
1.8	**2122**	**OTHER AGRICULTURE AND FOOD**		
		Agriculture and Food facilities not elsewhere classified.		

Appendix 4. Sector Protective Programs, Resiliency Strategies, and Tools

A.4.1 Tools and Programs

A.4.1.1 CARVER + Shock

CARVER + Shock is an offensive targeting prioritization tool adapted from the military version (CARVER) for use in the food industry. The tool can be used to assess the vulnerabilities in a system or infrastructure to an attack, and it allows the user to think as an attacker to identify the most attractive targets for an attack. By conducting a CARVER + Shock assessment of a food production facility or process, the user can determine the most vulnerable points in their infrastructure and focus resources on protecting the most susceptible points in the system. **http://www.fda.gov/Food/FoodDefense/CARVER/default.htm**

A.4.1.2 Food and Agriculture Sector - Criticality Assessment Tool

The FAS-CAT software tool is designed to assist States, in partnership with both the private sector and other regional multi-State consortium (i.e., Multi-State Partnership for Agriculture Security, GLBHI, and SAADRA) as appropriate, in determining what the most critical elements, nodes and subsystems are in the Food and Agriculture infrastructure. FAS-CAT helps a State provide an effective response to DHS data calls for information on critical infrastructure components for food and agriculture. The software provides a means to identify sector systems and subsystems that are critical to key State commodity chains or food systems and that should be prioritized for further State or organizational level vulnerability assessment and possible protective measures or mitigation strategy development. **http://www.ncfpd.umn.edu**

A.4.1.3 Food Emergency Response Network

Created in response to HSPD-9 mandates, FERN is a national initiative designed to establish and maintain the U.S. laboratory infrastructure to better detect and respond to bioterrorism agents at the Federal, State, and local levels. Laboratories that are part of FERN are responsible for: analyzing food samples implicated in threats; responding to terrorist events or contamination; responding to large scale food emergencies; and providing continual monitoring support. **www.fernlab.org**

A.4.1.4 Food-Related Emergency Exercise Boxed Set

FDA initiated a project in 2008, in coordination with USDA, the Centers for Disease Control and Prevention (CDC), DHS, and State and local agency partners, to develop a tool kit to assist stakeholders in conducting food and agriculture emergency response-related exercises. The target audience for the kit will be State regulators, but the kit will also be designed for local and private industry groups. The objective of the tool kit is to elicit discussion of emergency preparedness and response activities to ensure that all players have a common understanding of the communications plans and systems that could be used to respond to an emergency through scenario-driven exercises. **http://www.fda.gov/Food/FoodDefense/default.htm**

A.4.1.5 H1N1 Facts

Scientific studies conducted by USDA have proven that the H1N1 flu is a respiratory virus rather than a foodborne illness. The main way influenza viruses are thought to spread is from person to person in respiratory droplets of coughs and sneezes. Janet Napolitano, Secretary of Homeland Security, has stated that "Pork and pork products are safe, and there is no basis for restricting imports. You should also know that you cannot get H1N1 flu from eating pork. Pork products are perfectly safe."

The U.S. Government has strict safeguards in place to protect the safety of our food supply. All pork found in retail stores has been inspected to the rigors of USDA inspection for wholesomeness. The "Passed and Inspected by USDA" seal ensures the pork is wholesome and free from disease.

The two most important steps to take to protect against the H1N1 flu are frequent hand washing with soap and water or hand sanitizer and avoiding touching the eyes, nose, or mouth. **http://www.factsaboutpork.org/**

A.4.1.6 Integrated Consortium of Laboratory Networks

The Integrated Consortium of Laboratory Networks (ICLN) comprises five major laboratory networks and Federal systems that are specifically responsible for laboratory preparedness and response, forming a system of laboratory networks capable of integrated and coordinated response to compound incidents. These five networks include: the National Animal Health Laboratory Network; National Plant Diagnostic Network; Laboratory Response Network (LRN); environmental LRN; and FERN. **http://www.icln.org**

A.4.1.7 Lessons Learned Information Sharing

Lessons Learned Information Sharing (LLIS) is the national network of lessons learned and best practices for emergency response providers and homeland security officials. The secure, restricted-access information on LLIS is designed to facilitate efforts to prevent, prepare for, and respond to acts of terrorism and other incidents across all disciplines and communities throughout the United States. **http://www.llis.gov/index.do**

A.4.1.8 Mitigations Database

Version 2 of the software is currently under development and will expand the scope of businesses addressed (retail, food service, and agriculture). **http://www.fda.gov/Food/FoodDefense/default.htm**

A.4.1.9 Operational Risk Management

Operational Risk Management (ORM) is an integration of separate judgments on severity and probability. The results produced by ORM are the product of a multistep process. If implemented successfully, the six-step process will result in a much more robust Risk Management System, which ultimately leads to a much safer food supply. **http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/fdb%20ORM%202001.pdf**

Table A.4.4-1: ORM Matrix

		PROBABILITY				
		Very High	High	Medium	Low	Very Low
SEVERITY	Very High	Higher Risk	Higher Risk	Higher Risk	Higher Risk	Lower Risk
	High	Higher Risk	Higher Risk	Higher Risk	Lower Risk	Lower Risk
	Medium	Higher Risk	Lower Risk	Lower Risk	Lower Risk	Lower Risk
	Low	Lower Risk	Lower Risk	Lower Risk	Lower Risk	Lower Risk
		RISK LEVELS				

A.4.1.10 Strategic Partnership Program Agroterrorism Initiative

DHS, USDA, Federal Drug Administration (FDA), and Federal Bureau of Investigation (FBI) developed a joint assessment program known as the Strategic Partnership Program Agroterrorism (SPPA) Initiative and collaborated with private industry and the States. The SPPA Initiative was a true partnership program where an industry member, trade association, or State may volunteer to participate. These assessments supported the requirements for a coordinated food and agriculture infrastructure protection program, as stated in the National Infrastructure Protection Plan (NIPP), Sector-Specific Plan (SSP), National Preparedness Guidelines, and HSPD-9. **http://www.fda.gov/Food/FoodDefense/FoodDefensePrograms/ucm170509.htm**

A.4.1.11 Target Capabilities List: Food and Agriculture Safety and Defense; Animal Disease and Emergency Support

The September 2007 Target Capabilities List (TCL) published by DHS is a national-level, generic model of operationally ready capabilities defining all-hazards preparedness. Users can refer to the TCL to assess capabilities, identify needs, and inform plans and strategies, taking into account their risk. The vision for the National Preparedness Guidelines is "A Nation Well Prepared," with coordinated capabilities to prevent, protect against, respond to, and recover from all hazards in a way that balances risk with resources and need. (As of the writing of this SSP, the TCL revision process is under a strategic pause, and updates to this appendix may be provided in the SSP.) **http://www.fema.gov/pdf/government/training/tcl.pdf**

A.4.2 Guidance and Other Resources

A.4.2.1 Department of Homeland Security's Role in Food Defense and Critical Infrastructure Protection (2007)

While DHS is not the designated lead for a number of key activities related to defending the food supply from international attacks and natural hazards, Congress and the President have assigned DHS many important food defense and CIP responsibilities. This report examines DHS activities relating to post-harvest food, and focuses on prevention, protection, preparedness, and detection efforts. **http://www.dhs.gov/xoig/assets/mgmtrpts/OIG_07-33_Feb07.pdf**

A.4.2.2 Developing a Food Defense Plan for Meat and Poultry Processing Plants (USDA, 2008)

A Food Defense Plan helps you identify steps you can take to minimize the risk that food products in your establishment will be intentionally contaminated or tampered with. **http://www.fsis.usda.gov/pdf/food_defense_plan.pdf**

A.4.2.3 Emergency Handbook for Food Service Managers

The Handbook includes training materials for environmental health professionals that address environmental health emergency preparedness and has tools and resources for preparedness that can be used by public health departments nationwide. **http://www.naccho.org/topics/environmental/foodsafety/EmergencyHandbookFSManagers.cfm**

A.4.2.4 EPA Waste Management for Homeland Security Incidents

EPA's Homeland Security efforts include the management of wastes from homeland security incidents. Homeland security incidents, or incidents requiring a national response, include acts of terrorism perpetrated with, for example, radiological dispersal devices or chemical or biological warfare agents, large-scale natural disasters, such as Hurricane Katrina, and animal disease outbreaks. This site provides waste management information that can be used by emergency planners, managers, and responders in planning before a homeland security incident occurs and in decision-making during and after an incident occurs. **http://epa.gov/waste/homeland/**

A.4.2.5 FEMA Comprehensive Preparedness Guide, CPG 101

The FEMA Comprehensive Preparedness Guide, CPG 101 provides general guidelines on developing Emergency Operations Plans (EOPs). It promotes a common understanding of the fundamentals of planning and decision making to help emergency planners examine a hazard and produce integrated, coordinated, and synchronized plans. This Guide helps emergency managers in State, Territorial, Local, and Tribal governments in their efforts to develop and maintain a viable all-hazard EOP. **http://www.fema.gov/about/divisions/cpg.shtm**

A.4.2.6 FDA 101: Product Recalls - From First Alert to Effectiveness Checks

When an FDA-regulated product is either defective or potentially harmful, recalling that product—removing it from the market or correcting the problem—is the most effective means for protecting the public. **http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm049070.htm**

A.4.2.7 FDA – "Floods, Hurricanes & Power Outages Food Safety Information for Hurricanes, Power Outages, & Floods guidance for industry and consumers"

http://www.fda.gov/Food/FoodDefense/Emergencies/FloodsHurricanesPowerOutages/default.htm

A.4.2.8 FDA Food Security Guidance for Industry (with self assessment tool)

Guidance includes: Importers and Filers; Dairy Farms, Bulk Milk Transporters, Bulk Milk Transfer Stations, and Fluid Milk Processors; Food Producers, Processors, and Transporters; Retail Food Stores and Food Service Establishments; and Cosmetics Processors and Transporters. FDA Preventative Measure Guidance: **http://www.fda.gov/Food/FoodDefense/FoodSecurity/default.htm**

A.4.2.9 Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities (2005)

The Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities document describes the general Federal roles and responsibilities for decontamination and disposal in response to animal, crop, and food incidents. It is consistent with the Government's National Response Plan (NRP) and Annexes, and it is intended to clarify and document existing relationships among the Federal community rather than replace existing plans or agreements. **www.epa.gov/OHS/pdfs/conops11222005.pdf**

A.4.2.10 FIRST / ALERT

FDA works with other government agencies and private sector organizations to help reduce the risk of tampering and other malicious, criminal, or terrorist actions on the food and cosmetic supply. **http://www.fda.gov/Food/FoodDefense/default.htm**

A.4.2.11 Food Protection Plan (2007)

FDA has developed a comprehensive Food Protection Plan to address the changes in food sources, production, and consumption that are faced in today's world. The Plan builds in prevention first, then intervention, and finally, response. The new strategy will help ensure that Americans continue to benefit from one of the safest food supplies in the world. **http://www.fda.gov/Food/FoodSafety/FoodSafetyPrograms/FoodProtectionPlan2007/default.htm**

A.4.2.12 FSIS Model Food Security Plans for Import Establishments

http://www.fsis.usda.gov/PDF/Model_FoodSec_Plan_Import.pdf

A.4.2.13 Guidelines for Foodborne Disease Outbreak Response (2009)

The Council to Improve Foodborne Outbreak Response has a mission to "improve methods at the local, State, and Federal levels to detect, investigate, control, and prevent foodborne disease outbreaks". **http://www.cifor.us**

A.4.2.14 Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Food Facilities (2006)

The Guidelines address the need to plan for response actions in the event that the food supply is intentionally adulterated somewhere in the supply chain. The document describes current procedures used by each agency to respond to unintentional contamination events and how those procedures can provide a framework for planning response actions in the case of an intentional contamination emergency. **http://www.fsis.usda.gov/PDF/Disposal_Decontamination_Guidelines.pdf**

A.4.2.15 Industry Self-Assessment Checklist for Food Security

It is vital that all food slaughter and processing establishments, and all import, export, and identification warehouses take steps to ensure the security of their operations. FSIS created this self-assessment instrument to provide a tool for establishments to assess the extent to which they have secured their operations. The contents of the instrument are based primarily on the food security guidelines FSIS published in 2002, Food Security Guidelines for Food Processors, available at **http://www.fsis.usda.gov/PDF/Self_Assessment_Checklist_Food_Security.pdf**

Additional Resources below contain security guidelines applicable to multiple sections of the checklist that establishments can adopt to enhance their capabilities to prevent intentional product tampering and respond to threats or actual incidents of intentional product tampering. Additional resources with guidelines that apply only to specific sections are shown at appropriate sections throughout the document for easy access and reference.

A. Canadian Food Inspection Agency – "Suggestions for Improving Security". **http://www.inspection.gc.ca/english/ops/secur/protrae.shtml**

B. CDC, National Institute of Occupational Safety and Health –"Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks" **http://www.cdc.gov/niosh/bldvent/2002-139.html**

C. County of San Diego, Department of Environmental Health, "Guidelines for Food Safety and Security" **http://www.sdcounty.ca.gov/deh/fhd/pdf/food_safety_security_217.pdf**

D. FDA – "Retail Food Stores and Food Service Establishments; Food Security Preventive Measures Guidance"
http://www.cfsan.fda.gov/~dms/secgui11.html

E. FDA – "Food Security, Processors, and Transporters; Food Security Preventive Measures Guidance"
http://www.cfsan.fda.gov/~dms/secguid6.html

F. FSIS "Consumer Alert" USDA's Food Safety in an Emergency
http://www.fsis.usda.gov/News_&_Events/NR_111309_01/index.asp

G. FSIS "Security Guidelines for Food Processors"
http://www.fsis.usda.gov/oa/topics/SecurityGuide.pdf

A.4.2.16 NASDA Emergency Response Plan: Food Emergency Template

The "Emergency Response Plan: Food Emergency Template" addresses the goal of enhancing protection of the U.S. agricultural industry and food security through increased prevention, detection, response, and recovery planning. NASDA was charged to develop best practices and guidelines for State and local emergency response efforts regarding incidents that involve the Nation's food supply. **http://www.nasda.org/FoodSafetyTemplate/NASDAFoodPlanTemplate.pdf**

A.4.2.17 New General Food Defense Plan (USDA, 2009)

A new voluntary Food Defense Plan is provided for small and very small plants. **http://www.fsis.usda.gov/PDF/General-Food-Defense-Plan-9-3-09%20_2_.pdf**

A.4.2.18 Summary of Food Defense Exercise After-Action Reports

USDA is actively addressing the need to maintain the safety and defense of the food supply. The exercises focus on the roles of Federal, State, and local government agencies as well as the food industry to work together to detect, respond to, and recover from a non-routine emergency incident.

FDA funds and conducts numerous exercises designed to ensure the safety of the Nation's food supply. The exercises cover a wide range of scenarios including intentional contaminations of food and natural disasters. Exercise players include Federal, State, local, and private partners. They are conducted throughout the Nation. **http://www.fsis.usda.gov/food_defense_&_emergency_response/Exercise_Reports/index.asp**

A.4.2.19 USDA FNS "A Biosecurity Checklist for Food Service Programs, Developing a Biosecurity Management Plan"

http://schoolmeals.nal.usda.gov/Safety/FNSFoodSafety.html

A.4.2.20 World Health Organization (WHO) – "Terrorist Threats to Food: Guidelines for Establishing and Strengthening Prevention and Response Systems"

http://www.who.int/foodsafety/publications/general/terrorism/en/

Appendix 5. Information Sharing and Communications

A.5.1 Information Sharing Working Group

In September 2008, DHS requested that all CIKR sectors establish an Information Sharing Working Group (ISWG). DHS mandated that all criteria for developing and documenting core mission-based processes be met with the following capabilities: Alerts, Warnings, and Notifications; Suspicious Activity Reporting; Data Management; Incident Collaboration and Communication; and Routine Collaboration and Communication.

To meet these criteria, the FA Sector developed a strategy that began with establishing GCC/SCC ISWG Operations. The FA Sector then identified information sharing mechanisms. The next step was to draft sector information sharing processes. The processes were then tested and exercised. The last step was to submit validated processes to the GCC/SCC leadership and implement the processes. Summaries of the drafts information sharing processes are provided below.

A series of Web-based platforms, including HSIN, FoodSHIELD, and InfraGard are currently being used by the FA Sector to ensure message dissemination. For the complete Information Sharing Tool Summary, see section A.5.2.

A.5.1.1 Alerts, Warnings, and Notification Process

Purpose: This process is written to define information sharing processes and procedures adopted by industry and government CIKR owners, operators, and their associates in the FA Sector. The document is intended to describe the agreed upon and standardized procedures for the distribution of alerts, warnings, and notifications (AWN) to the FA Sector. This process has been developed under the auspices of the FA Sector in coordination with the CIKR Information Sharing Environment (ISE).

Scope: This process defines the management and distribution of alerts, warnings, and notifications to and in the FA Sector. The processes capture how AWN will be submitted to and distributed in the sector. The nature of the information managed in these procedures includes general alerts (information or intelligence about a threat or an immediate action or decision that may need to be made), warnings (critical infrastructure protection (CIP) information relevant to the sector), notifications for situational awareness, and general information announcements and bulletins. These procedures do not govern or define general e-mail correspondence to and among FA Sector members. The conceptual idea of the process is to efficiently and effectively share information among a trusted group in and between affected sectors.

A.5.1.2 Routine Communication and Collaboration Process

Purpose: This process is written to define the information sharing requirements and procedures adopted by FA Sector public and private CIKR partners to achieve coordinated and effective communication and information exchange during steady-state. This process has been developed under the auspices of the FA Sector in coordination with the CIKR ISE.

Scope: This process defines the way routine communication and collaboration on infrastructure protection will occur in the FA Sector in a steady-state environment. This process will identify the roles and responsibilities of GCC and SCC leadership and members. The conceptual idea of the process is to efficiently and effectively share information pertinent to infrastructure protection among a trusted group of sector members. These procedures do not govern or define general e-mail correspondence to and among FA Sector members.

A.5.1.3 Suspicious Activity Reporting Process

Purpose: This process is written to define information sharing processes and procedures adopted by industry and government CIKR owners, operators, and their associates in the FA Sector. The document is intended to describe the agreed upon and standardized procedures for the submission of suspicious activity reports in the FA Sector. This process has been developed under the auspices of the FA Sector in coordination with the CIKR ISE.

Scope: This process defines the criteria, management, and submission of suspicious activity reports to and in the FA Sector. The process document captures how the FA Sector partners may observe and report suspicious activity to sector leadership and government agencies. The nature of the information managed in these procedures includes information identified by the FA Sector as suspicious or unusual activity that may be deemed as possible acts of terrorism against critical infrastructure locations.

A.5.1.4 Incident Communications Process

Purpose: This process provides a standard operating procedure for the FA Sector GCC and SCC leadership and members to achieve a coordinated and effective communication and information exchange during catastrophic incidents or events. The goal is to achieve situational and operational awareness of food and agriculture issues during an incident for FA Sector GCC and SCC leadership, members, and partner agencies and organizations.

A.5.1.5 User Vetting Process

The FA Sector controls the content, site administration, and user vetting policies on the HSIN-FA portal. The user vetting process document defines policies for vetting HSIN-FA users. HSIN-FA membership should consist of individuals in the sector who are in a need-to-know position or occupation. For this concept to be effective, the HSIN-CS program requires all members to be vetted and approved for portal access. Thus, the FA Sector has established operational procedures for vetting and approving its HSIN-FA users.

A.5.1.6 Document Management Process

Purpose: This process is written to define information-sharing processes and procedures adopted by industry and government CIKR owners, operators, and their associates in the FA Sector. The purpose of the document is to provide a process for FA Sector GCC and SCC leadership and members to systematically manage, post, delete, and archive data in the FA Sector Information Sharing Portal Environment. This process has been developed under the auspices of the FA Sector in coordination with the CIKR ISE.

Scope: This process defines the way the FA Sector will develop, maintain, post, and distribute documents and other forms of data in the sector in a steady-state environment. This process will identify the roles and responsibilities of participants. The conceptual idea of the process is to efficiently and effectively share information among a trusted group of sector partners.

A.5.2 Information Sharing Tool Summary (DRAFT)

System	Description	URL	Host or Supporting Agency
FoodSHIELD	FoodSHIELD is a Web-based platform designed to create community between the various laboratories and Federal, State, local, tribal, and territorial regulatory agencies that make up the FA Sector. Through secure, integrated resources, such as detailed agency profile, members can communicate and coordinate with their peers in other States.	**http://www.FoodSHIELD.org**	University of Minnesota and National Center for Food Protection and Defense (NCFPD)
Epi-X	Epi-X is the CDC's Web-based communications solution for public health professionals. Through Epi-X, CDC officials, State and local health departments, poison control centers, and other public health professionals can access and share preliminary health surveillance information quickly and securely. Users can also be notified of breaking health events as they occur. Key features of Epi-X include: scientific and editorial support; controlled user access; digital credentials and authentication; rapid outbreak reporting; and peer-to-peer consultation.	**http://www.cdc.gov/epix/**	CDC
FoodNet	The Foodborne Diseases Active Surveillance Network (FoodNet) is the principal foodborne disease component of the Emerging Infections Program (EIP) at CDC. FoodNet is a collaborative project of the CDC, ten EIP sites, USDA, and FDA. The project consists of active surveillance for foodborne diseases and related epidemiologic studies designed to help public health officials better understand the epidemiology of foodborne diseases in the United States.	**http://www.cdc.gov/foodnet/**	CDC (Host), USDA, FDA (Support)
PulseNet	PulseNet is a national network of public health and food regulatory agency laboratories coordinated by the CDC. The network consists of: state health departments; local health departments; and Federal agencies (FDA, CDC, FSIS). PulseNet participants perform standardized molecular subtyping (or "fingerprinting") of foodborne disease-causing bacteria by pulsed-field gel electrophoresis, which can be used to distinguish strains of organisms such as Escherichia coli O157:H7, Salmonella, Shigella, Listeria, or Campylobacter at the DNA level. DNA fingerprints or patterns are submitted electronically to a dynamic database at CDC. These databases are available on demand to participants—this allows for rapid comparison of the patterns.	**http://www.cdc.gov/pulsenet/**	CDC (Host), USDA, FDA (Support)

NBIS	National Biosurveillance Integration System (NBIS) provides early detection and situational awareness of biological events of potential national consequence by acquiring, integrating, analyzing, and disseminating existing human, animal, plant, and environmental biosurveillance system data into a common operating picture that represents a comprehensive depiction of the global biosurveillance security environment. The NBIS will facilitate collaborative interagency analysis to ensure fully integrated biosurveillance situational awareness and provide near-real time awareness to the Incident Management Group and the DHS National Operations Center (NOC). The resulting improved information sharing and enhanced situational awareness facilitates national decision making to enable timely response.	**http://fazd.tamu.edu/products/information-analysis-systems/national-bio-surveillance-integration-system-nbis.html/**	DHS
HSIN	HSIN is a computer-based counterterrorism communications system connecting all 50 States, five territories, Washington, D.C., and 50 major urban areas. HSIN allows all States and major urban areas to collect and disseminate information among Federal, State, and local agencies involved in combating terrorism. This communications capability delivers to States and major urban areas real-time interactive connectivity with the NOC. This collaborative communications environment was developed by State and local authorities.	**www.hsin.gov**	DHS
eLEXNET	The Electronic Laboratory Exchange Network (eLEXNET) is a seamless, integrated, Web-based information network that allows health officials at multiple government agencies engaged in food safety activities to compare, share, and coordinate laboratory analysis findings. eLEXNET is the data capture and communications system for FERN and provides the necessary infrastructure for an early warning system that identifies potentially hazardous foods and enables health officials to assess risks and analyze trends.	**https://www.elexnet.com/elex/index.jsp**	FDA

InfraGard	InfraGard is an information-sharing and analysis effort serving the interests and combining the knowledge base of a wide range of members. At its most basic level, InfraGard is a partnership between the FBI and the private sector. InfraGard is an association of businesses, academic institutions, State and local law enforcement agencies, and other participants dedicated to sharing information and intelligence to prevent hostile acts against the United States. InfraGard Chapters are geographically linked with FBI Field Office territories. Each InfraGard Chapter has assigned an FBI Special Agent Coordinator that works closely with Supervisory Special Agent Program Managers in the Cyber Division at FBI Headquarters in Washington, DC. The Food-Agriculture InfraGard Special Interest Group (SIG) is a resource dedicated to safeguarding the FA Sector in both private industry and government through information-sharing networks and a private secure portal of communication. It is a collaborative effort of the WMD Directorate and Cyber Divisions of the FBI. The Food-Agriculture InfraGard SIG is intended to enhance the sharing of information among private sector security partners that can be called on to assist the FBI in detecting, deterring, assessing, and preventing threats and attacks targeting the FA Sector. It aims to be a consortium of agriculture security professionals and law enforcement officials with the common goal of protecting America's farmland, food products, animals, and industry. Assessments, news, relevant links, and up-to-date information on protection issues related to the food-agriculture community are available to Food-Agriculture InfraGard SIG members. Members may submit articles for posting on the site. Participation in the Food-Agriculture InfraGard SIG requires membership in the national InfraGard Program and affiliation with the food and agriculture industry. Visit www.infragard.net for national membership. After becoming a member in the national program, participants may request access to the Food-Agriculture InfraGard SIG by submitting an e-mail containing answers to questions about his/her association with the food and agriculture industry.	**http://www.infragard.net**	FBI
LLIS.gov	LLIS.gov is a national online network of lessons learned and best practices designed to help emergency response providers and homeland security officials prevent, prepare for, respond to, and recover from all hazards, including terrorism. LLIS.gov enhances national preparedness by giving response professionals the ability to tap into a wealth of validated front-line expertise on effective planning, training, equipping, and operational practices for homeland security. The secure, restricted-access information on LLIS.gov is designed to facilitate efforts to prevent, prepare for, and respond to acts of terrorism and other incidents across all disciplines and communities throughout the United States.	**https://www.llis.dhs.gov/**	DHS

Appendix 6. Joint Committee on Research 2009 Annual Report

2009 ANNUAL REPORT AND RECOMMENDATIONS
June 15, 2009
MR. RICHARD RYAN
COMMITTEE CHAIR
ASSISTANT DEPUTY DIRECTOR,
CORPORATE SECURITY
ARCHER DANIELS MIDLAND

CRITICAL INFRASTRUCTURE PARTNERSHIP ADVISORY COUNCIL
FOOD AND AGRICULTURE SECTOR

EXECUTIVE SUMMARY

In July 2006, the Food and Agriculture Sector ("the Sector"), mandated by HSPD-7 to coordinate critical infrastructure protection (CIP) activities across the spectrum of systems and activities that move agricultural and food products from "farm-to-fork," established an owner-operator led Critical Infrastructure Partnership Advisory Council (CIPAC) working group known as the Joint Committee on Research (JCR). Reflective of the entire Sector, the JCR includes representatives from Federal, State, and local government, and the private sector.

Created to establish priorities and commonalities in Sector security shortcomings and to identify applicable recent or ongoing research initiatives, the Sector charged the JCR with collecting information to identify and study potential gaps in agricultural security and food defense ("security/defense") research and development (R&D) efforts.

The JCR's work from 2006-2009 has reinforced the concept of the Food-Agriculture Sector as an amalgam of critical systems that constitute the Sector as a whole. It is clear that traditional security measures (i.e., the "gates, guns, and guards" approach) cannot provide an acceptable level of security/defense in the food supply system. Through its initial research, the JCR has further revealed that within these systems, the currently used risk analysis methods for security/defense are inadequate for reliable understanding as to the true nature of the Sector's intentional food/feed contamination risk.

As reported in the 2008 annual report, the JCR reached an impasse with its tasking-sequence due to a lack of fiscal and personnel resources necessary to collect, review, and categorize relevant information in a timely, thorough manner. To remedy the lack of money and resources, the JCR sought funding from the Department of Homeland Security (DHS) in order to expand support for the JCR, to include staff and software-supported data collection.

Pursuant to the above, DHS met with the JCR in mid-2008 to discuss the white papers presented to the Department in 2008. Receptive to the funding proposals outlined by the JCR, the then Assistant Secretary for Infrastructure Protection committed

to work with the Sector Specific Agencies, USDA and FDA, to arrange the transfer of funds to the National Center for Food Protection and Defense (NCFPD) at the University of Minnesota. Moreover, DHS committed to working with the Office of Science and Technology (S&T) to help prioritize the Departments' current R&D efforts towards security/defense. Finally, DHS offered to continue to look for further resources within the allocated S&T budget in order to support the JCR's critical mission.

Additionally, per Recommendation 2 of the 2008 Annual Report, the JCR began work with NCFPD to create a Known-Anticipated Agent List that would be available to the JCR and other private sector partners. Once complete, this agent list will be a food-contamination agent matrix containing agent characteristics sufficient to allow for agent modeling determining agent-specific threat.

Though the JCR has realized some measures of success over the year, progress towards the completion of the task-sequence and recommendations has again stalled in the latter-half of 2008 as the JCR waits for DHS to process the funding for the JCR.

INTRODUCTION

As noted in previous annual reports, the JCR has set up a basic task-sequence of activities that it views as leading to the eventual end-goal of identifying research gaps in Sector security/defense R&D. As a reminder, the JCR's basic task-sequence is as follows:

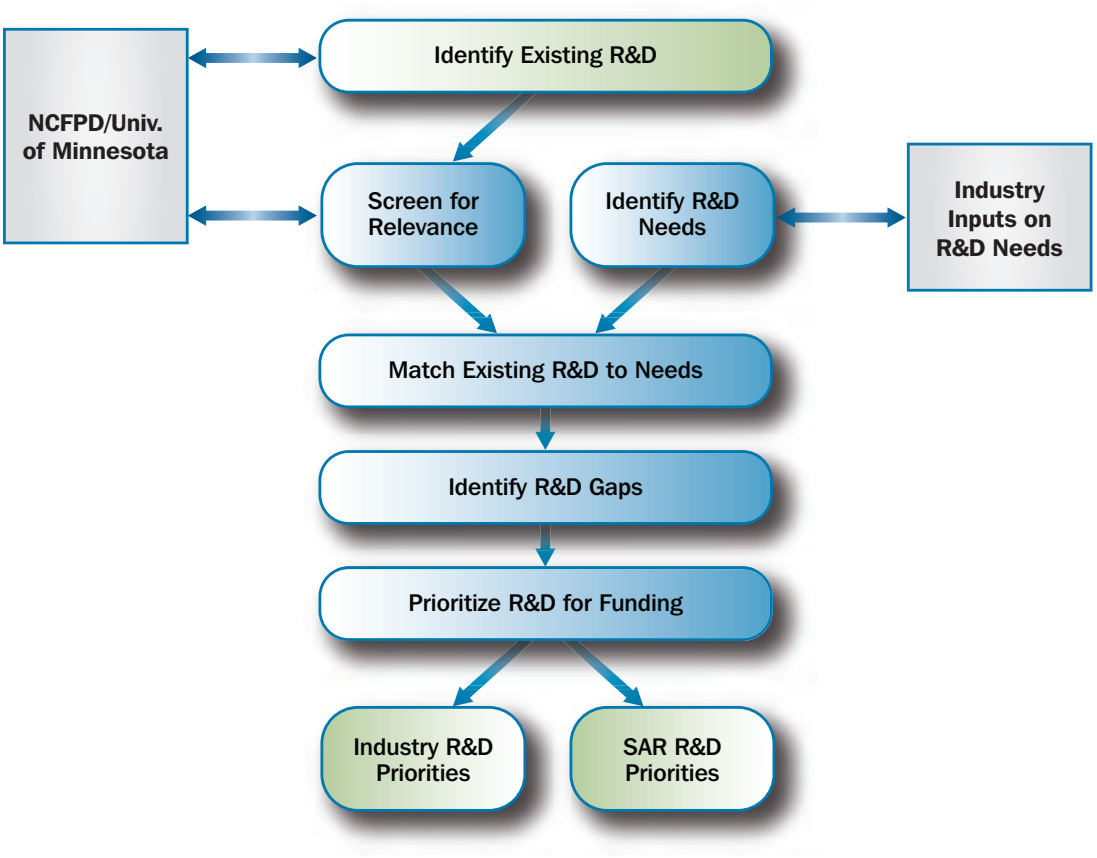
1) Identify and assess existing, on-going domestic and international, public and privately funded food defense related research with potential applicability for the Sector;
2) Screen identified research for relevance and categorize into a useable database;
3) Identify current industry security/defense research needs;
4) Match on-going research with identified needs, as appropriate;
5) Conduct gap analysis to identify security/defense research needs that on-going research does not address;
6) Make formal recommendations for agricultural security and security/defense research funding to DHS via the Sector Annual Report.

This task-sequence, or R&D Planning Methodology, is represented in Figure 1.

Task 1 & 2: As Figure 1 indicates, Tasks 1 & 2 (Identifying Existing R&D and Screening for Relevance) will be completed by the National Center for Food Protection and Defense (NCFPD) at the University of Minnesota. USDA, FDA and DHS are currently working on transferring funding to NCFPD through the DHS S&T University Programs to complete these tasks. NCFPD will be in charge of collecting existing food & agriculture R&D program information from throughout the U.S. and among international partners with whom NCFPD has established a relationship regarding this project. Once this information is collected, NCFPD will then screen the data for its relevance to food security/defense issues, and then sort the R&D data into a categorization scheme.

Task 3: Following the completion of Tasks 1 & 2, the JCR would then move to identifying industry R&D needs. It is the JCRs opinion that Task 3 should not begin until a methodology and reporting protocol are developed, per Tasks 1 & 2.

Figure A.6-1: JCR R&D Planning Methodology



It is also important to note here that the successful completion of Task 3 also requires the delivery and controlled distribution of the food-contamination-agent matrix (discussed in Recommendation 2, below) currently being prepared by NCFPD. In order for industry to accurately identify and report specific research needs, it is necessary that they model the specific process using the agent list to be provided.

Tasks 4-6: Tasks 4-6 will occur following the aggregation of R&D data and the identification of industry research needs. These tasks serve to align existing R&D programs with identified needs (Task 4), identify any gaps that may exist between existing R&D and industry's stated need (Task 5) and then prioritizing those identified gaps in R&D for funding (Task 6). The JCR anticipates that rather than there being "industry" research needs vs "government" research needs, that there will be Sector-wide (both government and industry) research needs, as well as those which meet the needs identified by the GCC-SCC partnership (currently listed as the "SAR R&D Priorities").

In 2008, the JCR made progress towards completing Tasks 1 & 2, but the process remains at a stand-still while DHS, USDA and FDA work through the transfer of funds to NCFPD to complete the necessary work. As detailed in the 2008 Annual Report, data management challenges have proved prohibitive to JCR progress without investment in functional methods to review and quantify incoming information. Additionally, the JCR has neither the internal resources, such as dedicated staff or analytical tools, nor monetary wherewithal to fund the support needed to move forward with Tasks 2, 4 and 5.

Recently, FDA, USDA, and DHS Office of Infrastructure Protection (IP) have all committed varying levels of funding to the JCR project. DHS S&T, however, has not yet committed funding as they see the JCR Data Analysis White Paper proposal as identifying a proposed solution with no R&D component. In discussions with NCFPD, DHS-IP has realized the importance of new

technology development in order to initiate this project. To this end, NCFPD will be developing a semantic ontology search system for mining data in multiple languages to accomplish the JCR basic task-sequence. With this goal in mind, DHS IP is currently working with DHS S&T to seek additional funding for the JCR project by providing them with the new R&D technology development information from NCFPD.

While the funding process is underway, the JCR has explored the possibility of continuing with Task 3 (soliciting industry for their identified research gaps) prior to the completion of Tasks 1 & 2. However, utilization of the agent list under development is critical to the identification of meaningful research gaps. In addition, industry participants have expressed their hesitation to invest in such a data-call without the mechanisms already in place to analyze the results. The JCR, too, is reluctant to engage in such an activity until the capacity exists to do something useful with the collected information.

Without the capability to move forward with the task-sequence and fulfill the mission of the JCR, the JCR is hampered in its ability to address and meet many of the recommendations put forth in both the 2007 and 2008 Annual Reports. The practical value that the JCR concept brings to the national food defense effort lies in the willing participation of private industry towards identification of research gaps based on real-world practical risk modeling of highly proprietary industrial processes.

It is essential that fundamental aspects of the JCR task sequence be in place to effectively demonstrate that the partnership is serious, committed, and focused on developing real-world, usable solutions to the complex problems that exist, or are believed to exist, in the food defense world. Without the basic ability to move forward, it is, at best, difficult to convince private industry to engage to the degree necessary. When the initial tasks have been completed and are in place, the JCR concept should be able to move forward towards meaningful food defense.

2008 JCR ANNUAL REPORT RECOMMENDATION STATUS

In the 2008 Annual Report, the JCR stated that their recommendations for the upcoming year will remain the same if not met. If they were met, then an additional three would be added. Below are the original 5 with updates on their status and the additional three with updates. A review of the minutes from each of the meetings held throughout 2008 and early 2009 demonstrate a recommitment to the original goals. However, the complexity of the goals and the scarcity of resources resulted in limited advancement of the stated recommendations.

1. **Provide for staff and software supported research identification, evaluation and classification capabilities.**

   Last year the JCR requested the transfer of the data management function to the National Center for Food Protection and Defense (NCFPD). The shift of operational responsibility was intended to allow the JCR to focus its effort towards the identification of practical industry food defense research needs, the relative prioritization of those needs from the industry perspective, and the coordination of effort to ensure that research toward practical solutions for identified real-world security/defense issues. As the shift has yet to take place, the recommendation remains uncompleted. It is the hope of the JCR that review of the two white papers submitted to DHS in 2008 and continued requests will result in the shift within the next year.

2. **Develop a food-contamination-agent matrix containing agent characteristics sufficient to allow for agent modeling through an industrial or agricultural process to determine agent-specific threat.**

   The JCR communicated regularly with the National Center for Food Protection and Defense. NCFPD is in an ongoing process to create a Known-Anticipated Agent List that would be available to the JCR and other private sector partners. This agent list will provide a wide range of information including attributes such as heat sensitivity, solubility, and range of effective does. In addition, the agent list will include non-threat agent surrogates to help industry test preventative measures. At the current time, the agent list is still in development. The JCR reiterated an interest in the final product and a commitment to aid in any way it can.

3. **Develop an evaluation tool to allow for equitable comparison for the Sector when compared with other Critical Infrastructure and Key Resource (CIKR) Sectors for risk-based DHS funding.**

   Last year's report explained that the Food and Agriculture Sector Criticality Assessment Tool (FAS-CAT), developed by the National Center for Food Protection and Defense, is designed to support State level criticality assessments, but does not directly address the relative cross-sector risk comparison envisioned in Recommendation 3. The report further stated, "Two risk consequence categories common to all sectors that may allow for true cross-sector risk comparison are potential losses or costs associated with economic impact and human health impact. In order to obtain accurate data to allow for those comparisons, however, risk evaluations must be based on end-to-end systems analysis (see Recommendation 4)." No new progress was made in developing the evaluation tool, though this remains a priority for the JCR.

4. **Develop systems risk analysis projects to determine cascading impacts of a contamination event at various points throughout the "food system" and to identify the most efficient points within the "food system" to integrate detection or mitigation/control technologies.**

   During the year, the JCR submitted a white paper proposal to encourage the development of a methodology for security/defense systems risk analysis. The proposal is yet to be acted upon. The JCR continues to believe that the ability to identify critical nodes in the supply chain will facilitate strategic preparations.

5. **Identify the "human health impact dose" for potential agents.**

   The 2008 Report explained, "Current data available for modeling many critical threat agents, particularly chemical agents, use LD50 as the basis for human health impact evaluation. From the industry perspective, LD50 is inadequate for a variety of reasons, including that any level of negative health impact can result in catastrophic impact on business, with resultant cascading economic impact on interdependent systems. Additionally, useful detection technology cannot be developed without data to support acceptable sensitivity for the screen." At last report the JCR was not aware of any ongoing projects to address the problem. The same remains true at the current time.

As the previous five recommendations remain incomplete, the following three were not undertaken. The stated need for them remains true and therefore they are presented here again.

6. **Develop a methodology to ensure that research and development recommendations to DHS from JCR are based on a sound industry developed R & D priorities.**

   JCR leadership determined during 2007 that the Sector Coordinating Council will decide upon and approve recommendations to the Department of Homeland Security. To facilitate the evaluation by the SCC of identified research needs, a methodology must be developed to evaluate considered research needs according to criteria independent of individual company concerns and consistent with Sector and National impact concerns.

7. **Identify industry food defense research needs.**

   A methodology and reporting protocol should be developed to assist interested companies in their effort to identify food defense research gaps necessary for their security/defense process to attain the level of food defense necessary for business viability as well as to protect the public from harm and the food system from adverse impact resulting from an intentional contamination event. In addition, much work is necessary to motivate industry and companies throughout the Sector to participate actively within the DHS structure.

8. **Revitalize the JCR membership.**

   JCR membership must be expanded to include representation across the Food and Agriculture Sector. If the JCR situation evolves such that meaningful progress can be made toward the accomplishment of the original JCR mission, and in doing so be able to demonstrate tangible benefits for participating companies, JCR and SCC leadership must actively reach out to sub-sector representatives to encourage participation.

JCR NEXT STEPS: MOVING FORWARD IN 2009

It is the position of the JCR that more work has to be done to accomplish previously stated recommendations before new ones are to be created. As part of the ongoing effort to accomplish the JCR's officially stated goals (see Introduction) the JCR employed private contractors to facilitate the process of making its goals more operational. It is the hope of the JCR that in course of reaching these goals, the previously stated recommendations will be met. In addition, with the expectation that many of the recommendations will be met over the next year, the JCR plans to develop a controlled distribution protocol to assist in the release of the food-contamination-agent matrix, once complete and ready for use. Such a controlled distribution protocol would allow for the distribution of information critical to any broad-based intentional product contamination risk modeling effort to appropriate private industry personnel, while protecting that same information from release to those who may intend to use it to cause harm.

The private sector is very sensitive to the risk associated with the uncontrolled release of information which could be used to cause harm to the Sector. Clearly, a reasonable balance must be achieved so that critical work can move forward within the legitimate private sector, but such that adversaries of the nation and Sector are denied access to that same information. Establishing the release protocol, within the parameters of Controlled Unclassified Information, with strict "need-to-know" and authenticity verification, should allow for the risk modeling necessary to precisely identify research gaps so that technologies can be developed that are suitable for integration into industrial processes. It is expected that such technologies will have dual value in that they will also contribute to the food safety effort as well as provide for food defense.

Similarly, the JCR will also work on the development of a research needs prioritization methodology to allow for a priority listing of identified research needs for annual JCR recommendations. Such a prioritization methodology will allow industry members to accurately identify specific research needs and, in conjunction with the development of the food-contamination agent matrix and modeling process, report specific research needs to the appropriate individuals or agencies.

CONCLUSION

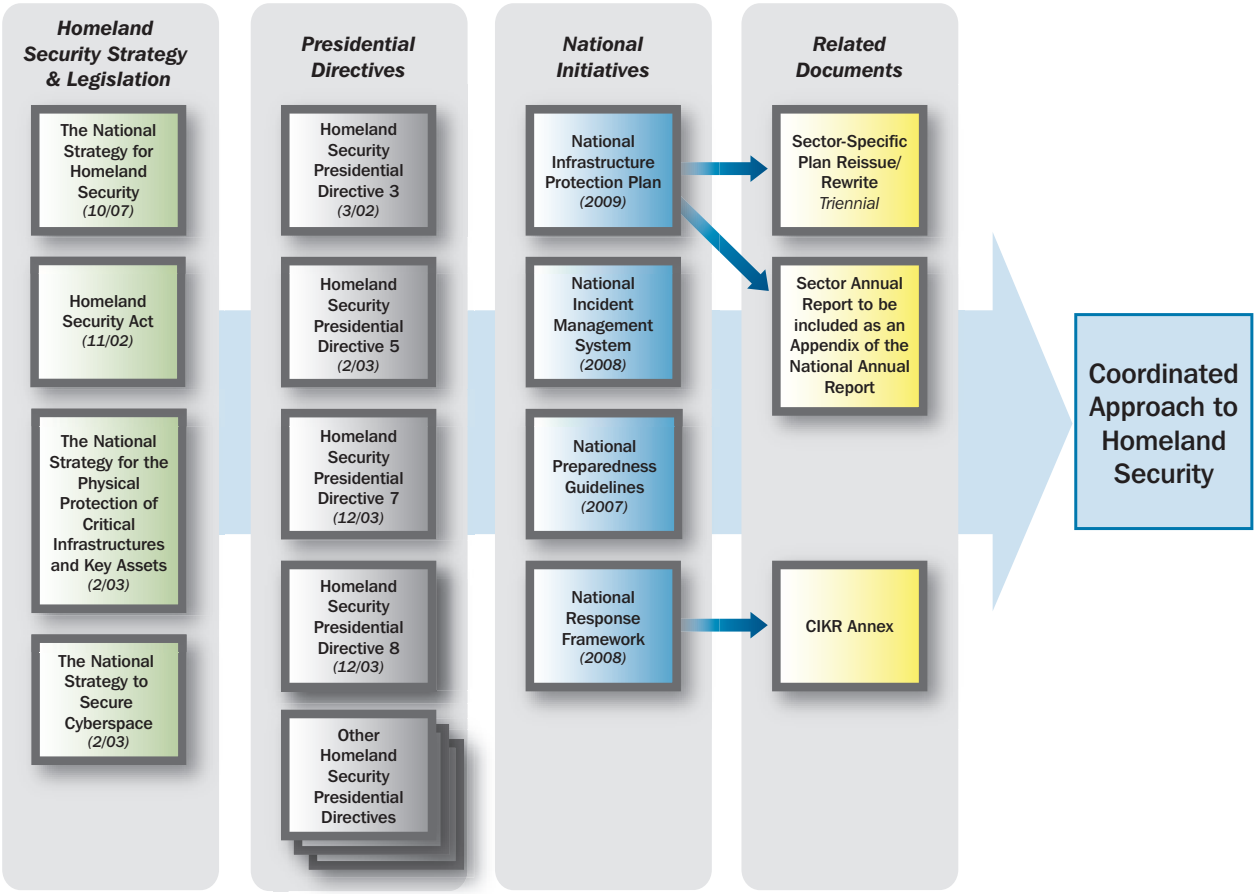
As this report demonstrates, though the JCR has taken steps forward in this past year, progress towards the completion of the task-sequence and recommendations has again stalled in the latter-half of 2008. While the JCR is encouraged by the sector's interest in, and stated commitment to, funding the JCR project, the JCR must reiterate the importance of this additional funding in order to complete the basic tasks that it outlined in its mission statement.

Without the capability to move forward with the task-sequence and fulfill the mission of the JCR, the JCR is hampered in its ability to address and meet many of the recommendations put forth in both the 2007 and 2008 Annual Reports. It is essential that fundamental aspects of the JCR task sequence be in place to effectively demonstrate that the partnership is serious, committed, and focused on developing real-world, usable solutions to the complex problems that exist, or are believed to exist, in the food defense world.

Appendix 7. SSP Rewrite and Revision Process

Beginning in 2002, a series of laws and presidential directives have created a strategy for infrastructure protection. One component of the infrastructure protection strategy is the creation and maintenance of the NIPP. Under the NIPP, the Nation's infrastructure is divided into 18 sectors, and each sector is responsible for a major infrastructure component (e.g., water, transportation). Federal departments and agencies were assigned to lead each sector based on the department or agency's mission. One responsibility of the SSA is to draft the SSP, which is revised every three years. Figure A.7-1 illustrates the authorities and coordinated national approach to homeland security. DHS is responsible for developing homeland security strategies and plans in accordance with legislation and presidential directives; national initiatives; and related documents.

Figure A.7-1: Coordinated Approach to Homeland Security



The FA Sector is unique because it does not have one sole SSA. Instead, the SSA responsibilities are divided between FDA and USDA. In the past, each SSA wrote an individual SSP. For the 2010 revision, sector partners determined that there would be only one SSP for the entire FA Sector, and thus, much material was moved to the appendices for easier use by stakeholders. An administrative team, created to oversee the revision process, is composed of representatives from USDA, FDA, and contractors. Meetings began in early November 2008, and a timeline was established to map out the entire revision process. The 2010 Food and Agriculture SSP Development Working Group was created to gain input from FA Sector CIKR partners. Invitations were sent to sector partners from State, local, tribal, and private entities. The membership breakdown is shown in table A.7-1.

Table A.7-1: 2010 Food and Agriculture SSP Development Working Group Members

Members	Total
Academia	1
Federal	2
Industry	2
Local	1
SSA	5
State	4
Tribal	1
Contract Support	4
Grand Total	**20**

According to the timeline established, one chapter of the SSP would be distributed to the working group each month. The working group then had two weeks to read the draft and submit comments. Reviewers were given two mechanisms through which they could submit comments. Comments could either be done line-by-line with specific edits, or they could be in the form of general thoughts on broad subjects that were submitted in response to theme-based questions created by the administrative team. From there, the comments received would be compiled and used to draft the next version of the chapter. The revised version was then posted for members to review once again.

FoodSHIELD, an Internet-based forum, was used to distribute and submit material. All working group members were given access and tutorials on how to use FoodSHIELD. The system was modified as the needs of the working group grew. In addition to use of the online system, monthly conference calls and Webinars were held to provide working group members with an opportunity to raise concerns and have questions answered.

After all of the chapters, including the Executive Summary and Appendices, were updated, a complete draft SSP was given to FDA and USDA officials for final approval. The entire process was completed by December 2009. For future revisions, the administrative team recommends using a similar process. The structured format coupled with online tools provided a means for participation from all facets of the sector. Publication of the 2010 SSP and increased advertisement should increase the number of working group members. Generally speaking, the process only benefits from increased participation from CIKR sector partners.

Appendix 8. Academia and Research Centers

A.8.1 National Center for Foreign Animal and Zoonotic Disease Defense

Founded in April 2004 as a Homeland Security Center of Excellence, the Foreign Animal and Zoonotic Disease (FAZD) Center develops products to protect the United States from exotic animal diseases that threaten public health and economic stability. The FAZD mission is to create products that will protect against the introduction of high-consequence FAZDs to the United States, with an emphasis on prevention, surveillance, intervention, and recovery. **http://fazd.tamu.edu/**

The FAZD Center focuses on zoonotic diseases that pose catastrophic risks to human health, livestock health, and the national agricultural economy. Zoonotic diseases infect both humans and animals and are transmissible between them. At least 60 percent of all human pathogens are zoonotic, according to the CDC. 75 percent of emerging, infectious human diseases began as infectious animal diseases.

FAZD products and projects are organized by the center's thematic categories, including:

- Biological Systems. Vaccines, anti-viral agents, detection and diagnostic tests and universal platforms that satisfy DHS goals of detection, diagnosis, prevention and recovery;
- Information and Analysis Systems. Modeling and analysis tools to support better informed decision making at multiple levels of scale; and
- Education and Outreach. Graduate programs, early responder training, and stakeholder workshops to provide the next generation of science power for homeland security.

A.8.2 National Center for Biomedical Research and Training

The National Center for Biomedical Research and Training (NCBRT), which began at Louisiana State University in 1998, provides training to emergency responders throughout the United States. NCBRT is part of the National Center for Security Research and Training (NCSRT), as well as the National Domestic Preparedness Consortium (NDPC), recognized by DHS as the principal vehicle through which the Training and Exercise Integration Division identifies, develops, tests, and delivers training to Federal, State, local, and tribal emergency responders. **http://www.ncbrt.lsu.edu**

The NCBRT mission is to help America prevent, prepare for, respond to, and recover from acts of domestic and international terrorism, weapons of mass destruction, and high-consequence events through teaching, training, technical assistance, and research. NCBRT strives to be a pace-setting organization that is committed to preparing America today for tomorrow's threats.

NCRBT is involved on a national scale in research, curricula development, training, and other projects in the areas of WMD, mass casualty incidents, and counterterrorism. As a founding member of NDPC, NCBRT is one of seven partners that identifies, develops, tests, and delivers training to State and local emergency responders. NCBRT goals include:

- Prepare America to address its threats;
- Expand the NCBRT business and financial bases to ensure fiscal viability and continuity;
- Recruit and retain highly qualified people who will accept the mission, embrace the vision, and embody the core values; and
- Expand and strengthen the NCBRT relationships among colleagues, customers, and competitors.

A.8.3 National Center for Food Protection and Defense

The National Center for Food Protection and Defense (NCFPD) was officially launched as a Homeland Security Center of Excellence in July 2004. A multidisciplinary and action-oriented research consortium, NCFPD addresses the vulnerability of the Nation's food system to attack through intentional contamination with biological or chemical agents.

The NCFPD research and education program is aimed at reducing the potential for contamination at any point along the food supply chain and mitigating potentially catastrophic public health and economic effects of such attacks. The program incorporates cutting-edge research across a wide range of disciplines, taking a comprehensive, farm-to-table view of the food system and encompassing all aspects from primary production through transportation and food processing to retail and food service.

In delivering on its mission to defend the safety and security of the food system through research and education, NCFPD places a high priority on addressing potential threats to the food system that could lead to catastrophic damage to public health or the economy.

Specific program goals include:

- Significant improvement in supply chain security, preparedness, and resiliency;
- Development of rapid and accurate methods to detect incidents of contamination and to identify specific agents involved;
- Application of strategies to reduce the risk of foodborne illness resulting from intentional contamination in the food supply chain;
- Development of tools to facilitate recovery from contamination incidents and resumption of safe food system operations;
- Rapid mobilization and delivery of appropriate and credible risk communication messages to the public; and
- Delivery of high-quality education and training programs to develop a cadre of professionals equipped to deal with future threats to the food system.

More than 150 experts from academia, private sector research organizations, professional organizations, State and Federal Government agencies, and the food industry are currently involved in the NCFPD research and education program. NCFPD research teams are organized thematically in systems (supply chain, public health response, and economic analysis), agents (detection, inactivation, and decontamination), and training (risk communication and education).

Academic collaborators are: University of Minnesota; Michigan State University; University of Wisconsin at Madison; North Dakota State University; Georgia Institute of Technology; University of Tennessee at Knoxville; and individual investigators from 21 other universities. **http://www.ncfpd.umn.edu/**

A.8.4 The Extension Disaster Education Network

The Extension Disaster Education Network (EDEN) is a collaborative multistate effort by Extension services across the United States, enabling them to use and share resources to improve the delivery of services to citizens affected by disasters. The EDEN mission is to reduce the impact of disasters through research-based education, including:

- Interdisciplinary and multi-State research and education programs addressing disaster mitigation, preparation, response, and recovery;
- Linkages with Federal, State, and local agencies and organizations;
- Timely and prompt communications and delivery of information that meets audience needs;
- Anticipation of future disaster education needs and actions; and
- Credible and reliable information.

EDEN delegates communicate informally through an e-group maintained by Michigan State University. The delegates meet annually, usually in the fall. The EDEN Web site receives support from the Cooperative State Research, Education, and Extension Service (CSREES). **http://eden.lsu.edu/**

A.8.5 International Food Protection Training Institute

In March 2009, the Association of Food and Drug Officials (AFDO) was awarded a $2 million grant from the W.K. Kellogg Foundation to create and develop the International Food Protection Training Institute (IFPTI). While the overall purpose of the training institute is to address the unmet educational needs of food protection professionals, its immediate focus will be on the urgent need for standardized, graduated, and career-spanning training of State and local food protection professionals to meet generally recognized food safety standards.

IFPTI will fill in gaps in the development or delivery of training essential for food protection by improving and maintaining the knowledge and skills of people who work in the food safety community. The IFPTI will record and provide, but not duplicate, training developed or delivered to food protection professionals by others.

The certified curricula will meet specific standards, span a professional's entire career, and serve as an umbrella to incorporate existing training programs. IFPTI delivered its inaugural training course, "Managing Retail Food Safety," on July 14–16, 2009. **http://www.ifpti.org/**

A.8.6 Additional Research Centers

Iowa State University

The Center for Food Security and Public Health at Iowa State University works to increase awareness of bioterrorism, agroterrorism, foreign animal diseases, and zoonotic diseases; provide tools on biological risk management; and assist State and local governments to prepare for animal emergencies. **http://www.cfsph.iastate.edu/**

Kansas State University

The National Agricultural Biosecurity Center (NABC) was established by Kansas State University to coordinate interdisciplinary activities focused on protecting U.S. agricultural infrastructure and economy from endemic and emerging biological threats. In addition, K-State formed the Food Science Institute in 2001 to facilitate initiatives across five colleges and 11 departments. Food

Safety and Security is one of the major program areas of the Food Science Institute. **http://www.nabc.ksu.edu/content/** and **http://www.fss.k-state.edu/**

Pennsylvania State University

Food Safety Programs in the Penn State Department of Food Science enhance food safety by providing a collaborative and multidisciplinary approach that integrates research, teaching, and outreach. **http://www.foodsafety.psu.edu/default.html**

Purdue University

The National Biosecurity Resource Center at Purdue University is dedicated to providing educational and resource opportunities for the protection and sustainment of the health and wellbeing of companion animals, livestock, and food supply. **http://www.biosecuritycenter.org/**

South Dakota State University

"Food Defense: Security in a Foodservice Operation" is a DVD developed by the South Dakota State University Cooperative Extension Service in cooperation with FSIS. While the title implies it is for foodservice businesses, the information contained in the DVD can apply to any business. The video covers assessing risks to a business, developing contingency plans, communicating plans with employees, and implementing plans. **http://www.media.sdstate.edu/mma/FoodProtectDVD.wmv**

Texas A&M University

The National Center for FAZD Partners: University of California at Davis; University of Southern California; University of Texas Medical Branch; University of Minnesota; Georgetown University; and Purdue University. **http://www.fazd.tamu.edu/**

University of California, Davis

The Western Institute for Food Safety and Security (WIFSS) at the University of California, Davis is a training partner of the FEMA Protection and National Preparedness Directorate at DHS and is tasked with the development and delivery of DHS certified agroterrorism courses. The overall goal of WIFSS is to enhance national security by strengthening preparedness of the frontline responders to ensure capacity to respond early, effectively, and in coordination with State and Federal agencies. **http://www.wifss.ucdavis.edu/**

University of Georgia

The Center for Food Safety at the University of Georgia (UGA) partners with food industry to engage in research for the maintenance and improvement of the microbiological safety of the world's food supply. In addition, UGA is the only institution in the United States offering an Agrosecurity Certificate Program, which attracts and motivates students to think critically about emerging issues in food system infrastructure, policy, and security. **http://www.ugacfs.org**

University of Maryland

Jointly administered by the University of Maryland and FDA, the Joint Institute for Food Safety and Applied Nutrition (JIFSAN) is the foundation of public and private partnerships. JIFSAN provides the scientific basis for ensuring a safe and wholesome food supply and the infrastructure for contributions to national food safety programs and international food standards. **http://www.jifsan.umd.edu**

University of Minnesota

The Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota is a global leader in addressing public health preparedness and emerging infectious disease response. **http://www.cidrap.umn.edu/index.html**

University of New Mexico

The Sustainability Studies Program at the University of New Mexico has begun a coordinated effort to develop a carbon-neutral foodshed for the State of New Mexico. The Program mission statement is to "create a thriving New Mexico food supply system while contributing to a balanced carbon budget. **http://www4.unm.edu/sust/index.php?page=program**

University of Tennessee

The Food Safety Center of Excellence at the University of Tennessee develops and evaluates strategies to destroy or control foodborne pathogens and reduce the occurrence of foodborne illnesses. Also at the University in the College of Veterinary Medicine, the Center for Agriculture and Food Security and Preparedness is dedicated to helping protect agriculture and food supply critical infrastructure across the Nation. **http://www.foodsafe.tennessee.edu/** and **http://www.vet.utk.edu/cafsp/**

A.8.6.1 Additional Resources

As an additional resource, EDEN links extension educators from across the United States and various disciplines, enabling them to use and share resources to reduce the impact of disasters. EDEN has resources from food safety to field safety, from physical to psychological, and from government to community development. **http://www.eden.lsu.edu**

Appendix 9. Exercise Information

Operation Crystal Clear (6/1/2006)

The North Carolina Department of Agriculture hosted *Operation Crystal Clear* in Raleigh in 2006. The successful exercise examined the decision-making process, communication, and coordination of a multi-agency and private sector response and recovery to a fictitious bottled water contamination incident in the southeastern United States. Exercise coordinators focused participant activities on interagency and private sector communication, emergency response coordination, resource integration, and issue identification and resolution.

Intentional Animal Feed Contamination Exercise (9/25/2006–9/26/2006)

Harrisburg, PA, was the site of a tabletop exercise September 25–26, 2007. The tabletop included participants from numerous Federal Government organizations, representatives from four States: Maryland; Ohio; Pennsylvania; and West Virginia), and private sector partners. The scenario for this exercise focused on the intentional contamination of animal feed that eventually led to contamination in the human food chain.

The Federal Response to *Hurricane Katrina:* Lessons Learned (2/23/2006)

Published February 23, 2006, the "Federal Response to *Hurricane Katrina*: Lessons Learned" report is organized for comprehensive and clear understanding of what happened during the Federal response to *Hurricane Katrina*. The objective of this Report is to identify and establish a roadmap on how to pursue a real and lasting vision of preparedness in the Nation from every level of government, the private sector, individual citizens, and communities.

Demeter's Resilience (5/27/2008–5/29/2008)

In 2004 and 2005, G8 leaders committed to defending against bioterrorism by: strengthening national and international bio-surveillance capabilities; increasing protection of the global food supply; and improving bioterrorism investigation, response, and mitigation capabilities. In 2005 the G8 Bioterrorism Experts Group agreed on a work plan to develop a food defense tabletop exercise. Demeter's Resilience initiated discussion among G8 member nations on communication mechanisms during an intentional bioterrorist attack on the G8 food supply. Demeter's Resilience, which occurred May 27–29, 2008, was hosted by the National Center for Food Protection and Defense at the University of Minnesota in Minneapolis. The exercise provided an opportunity for G8 nations to strengthen lines of communication, which may enhance prevention, mitigation, and recovery efforts in food system events. The simulated attack scenario was a hypothetical food product that is widely exported and imported to all G8 nations.

Demeter's Resilience had the following primary objectives:

- Examine food defense communication and coordination procedures in and among G8 countries in response to a terrorist attack on the food supply.
- Discuss the roles and responsibilities of the various ministries, organizations, and sectors in responding to a terrorist threat or attack on the food supply (e.g., law enforcement; foreign affairs; food, agriculture, and public health agencies; and the private sector).
- Through facilitated discussion and simulation, examine G8 countries' responses to a bioterrorism incident targeted at the food supply system.

Food and Drug Administration

Department of Agriculture

Homeland Security