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HOMELAND SECURITY

Challenges for the Food and Agriculture Sector in Responding to Potential Terrorist Attacks and Natural Disasters

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Chairman Akaka, Ranking Member Johnson, and Members of the Subcommittee:

I am pleased to be here today as you examine issues related to food and agriculture emergencies. Agriculture is critical to public health and the nation's economy. It annually produces $300 billion worth of food and other farm products and is estimated to be responsible for 1 out of every 12 U.S. jobs. As a result, any natural or deliberate disruption of the agriculture or food production systems—including natural disasters, disease outbreaks, and food contamination—can present a serious threat to the national economy and human health and can halt or slow trade. The food and agriculture systems are also vulnerable to terrorist attacks, such as the intentional introduction of a foreign animal or plant disease or the intentional contamination of food products.

Recognizing the vulnerability of the U.S. food and agriculture systems, the President issued Homeland Security Presidential Directive (HSPD) -9 in January 2004 to establish a national policy to defend these systems against terrorist attacks, major disasters, and other emergencies. HSPD-9 assigns various emergency response planning and recovery responsibilities to federal agencies, including the Departments of Agriculture (USDA), Health and Human Services (HHS), and Homeland Security (DHS), and also the Environmental Protection Agency (EPA). Separately, DHS's 2008 National Response Framework outlines how the nation will collectively respond to any emergency, regardless of its cause or size. The framework includes 15 emergency support functions (ESF) for the federal response to an emergency or for federal support to states during an emergency. DHS activates individual ESFs when a threat or emergency necessitates a specific type of coordinated federal response. ESF-11 specifically addresses the federal food and agriculture response during emergencies, and USDA is designated as coordinator.

Protecting food and agriculture has been a topic of interest to the Subcommittee for many years. For example, in 2005, we reported to this Subcommittee that, although many steps had been taken to protect agriculture from a terrorist attack, complex challenges limited the nation's ability to quickly and effectively respond to a widespread attack on agriculture.[1] In 2007, we also reported to this Subcommittee that USDA

[1]GAO, *Homeland Security: Much Is Being Done to Protect Agriculture from a Terrorist Attack, but Important Challenges Remain*, GAO-05-214 (Washington, D.C.: Mar. 8, 2005).

and DHS had not determined how they will work together during an outbreak of highly pathogenic avian influenza that is sufficient in scope to warrant various federal disaster declarations.[2] Our prior work has shown that roles and responsibilities must be clearly defined and understood to facilitate rapid and effective decision making.[3] This issue has yet to be resolved.

In 2009, we testified before this Subcommittee that the lack of a government-wide initiative to address current and future veterinarian shortages may place human health, the economy, and the nation's food supply at risk.[4] We made numerous recommendations, including that agencies with food safety responsibilities assess their veterinarian workforces to identify current and future workforce needs, including training and employee development, and that a government-wide approach be used to address these shortcomings. In response, agencies created an interagency forum and developed a strategic workforce plan to obtain a government-wide understanding of the current status and future needs of the federal veterinary workforce. This is a positive step, but more work remains to be done. For example, steps are still necessary to understand the veterinarian workforce needed during a potential catastrophic event—whether a pandemic or an attack on the food supply.

Most recently, you asked us to look at response and recovery from potential terrorist attacks and natural disasters affecting food and agriculture. This statement summarizes our report being released today[5] that (1) evaluates the extent to which there is oversight of federal agencies' overall progress in implementing the nation's food and agriculture defense policy (HSPD-9); (2) evaluates the steps USDA has

[2]See, GAO, *Avian Influenza: USDA Has Taken Important Steps to Prepare for Outbreaks, but Better Planning Could Improve Response*, GAO-07-652 (Washington, D.C.: June 11, 2007).

[3]GAO, *Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System*, GAO-06-618 (Washington, D.C.: Sept. 6, 2006).

[4]GAO, *Veterinarian Workforce: The Federal Government Lacks a Comprehensive Understanding of Its Capacity to Protect Animal and Public Health*, GAO-09-424T (Washington, D.C.: Feb. 26, 2009).

[5]GAO, *Homeland Security: Actions Needed to Improve Response to Potential Terrorist Attacks and Natural Disasters Affecting Food and Agriculture*, GAO-11-652 (Washington, D.C.: Aug. 19, 2011).

taken to implement its response and recovery responsibilities outlined in this policy, and identifies challenges, if any, that the department faces in implementing these responsibilities; and (3) identifies the circumstances under which USDA has coordinated the federal food and agriculture response for an emergency for which ESF-11 was activated and challenges, if any, that the parties involved experienced.

I will focus my testimony today on three key points. First, there is no centralized coordination to oversee federal agencies' overall progress in implementing the nation's food and agriculture defense policy. Second, USDA does not have a strategy for implementing its HSPD-9 responsibilities and faces challenges implementing these responsibilities. Third, USDA faces challenges in coordinating the federal food and agriculture response for natural disasters for which ESF-11 was activated.

My statement summarizes the findings in our report, being released by the Subcommittee today, on response and recovery efforts for food and agriculture emergencies. To perform this work we, among other things, reviewed key documents; surveyed animal health officials from all 50 states and five U.S. territories; and interviewed state and industry officials, as well as officials from USDA, DHS, HHS, and EPA—because these agencies have the most responsibilities under HSPD-9. Our report contains a detailed overview of our scope and methodology. We conducted this work in accordance with generally accepted government auditing standards.

No Centralized Coordination Exists to Oversee Federal Agencies' Overall Progress in Implementing the Nation's Food and Agriculture Defense Policy

There is no centralized coordination to oversee the federal government's overall progress implementing the nation's food and agriculture defense policy. Because the responsibilities outlined in this policy (HSPD-9) cut across several different agencies, centralized oversight is important to ensure that efforts are coordinated to avoid fragmentation, efficiently use scarce funds, and promote the overall effectiveness of the federal government. Previously, the White House Homeland Security Council conducted some coordinated activities to oversee federal agencies' HSPD-9 implementation by gathering information from agencies about their progress, and DHS supported these activities by coordinating agencies' reporting of HSPD-9 implementation progress. However, the Homeland Security Council and DHS's efforts are no longer ongoing. Top-level review can help ensure that management's directives are carried out and determine if agencies are effectively and efficiently using resources. Because there is currently no centralized coordination to oversee agencies' HSPD-9 implementation progress, it is unclear how

effectively or efficiently agencies are using resources in implementing the nation's food and agriculture defense policy. As a result, the nation may not be assured that crosscutting agency efforts to protect agriculture and the food supply are well-designed and effectively implemented in order to reduce vulnerability to, and the impact of, terrorist attacks, major disasters, and other emergencies.

USDA Does Not Have a Department-wide Strategy for Implementing Its Response and Recovery Responsibilities

USDA does not have a department-wide strategy for setting priorities and allocating resources for implementing its numerous HSPD-9 responsibilities. Instead, according to USDA, the department assigned HSPD-9 implementation responsibilities to its agencies based on their statutory authority and expertise and allowed individual agencies to determine their implementation and budget priorities. We have previously reported that developing a strategy to accomplish national security goals and desired outcomes helps agencies manage their programs more effectively and is an essential mechanism to guide progress in achieving desired results.[6] Moreover, effective strategies help set priorities and allocate resources to inform decision making and help ensure accountability. Such priority setting and resource allocation is especially important in a fiscally constrained environment. Without such a strategy, USDA cannot be assured that its agencies' efforts are making progress to align with departmental priorities and effectively allocate resources. Therefore, USDA also cannot be assured that it is fulfilling its HSPD-9 responsibilities. According to USDA officials, the department would benefit from strategic direction from the National Security Staff—which supports the White House Homeland Security Council under the current administration—to help prioritize specific activities and funding decisions, given this time of limited resources.

Moreover, although USDA agencies have taken steps to implement the department's response and recovery responsibilities, they also face challenges. For example:

- *National Veterinary Stockpile (NVS):* USDA's Animal and Plant Health Inspection Service (APHIS)—which is responsible for issuing orders and regulations to prevent the introduction or dissemination of animal and plant pests and diseases—has developed the NVS to respond to

[6]See, for example: GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, GAO-04-408T (Washington, D.C.: Feb. 3, 2004).

the 17 most damaging animal diseases, such as highly pathogenic avian influenza. This disease is associated with high morbidity and mortality in poultry, and the H5N1 strain of avian influenza is associated with illness and death in humans. Among the steps APHIS took to develop the NVS, was the acquisition of critical supplies to respond to animal disease outbreaks. APHIS also took steps to prepare states to use these supplies, such as developing guidance and hiring a full-time liaison to, among other things, help states develop a plan to manage these supplies.

However, APHIS also experiences complex implementation challenges. For example, although the NVS has acquired various supplies to respond to each of the 17 animal disease threats, vaccines and diagnostic test kits for certain diseases have either not yet been developed or may be too costly for the NVS to purchase. In addition, APHIS officials told us that although they have the capability to deploy certain supplies within 24 hours—as required by HSPD-9—it will take longer to deliver certain vaccines to states. Furthermore, states may not be adequately prepared to receive and use NVS supplies. About one-third of all the states and territories responding to our survey reported completing an NVS plan, which, according to guidance, is needed to ensure emergency responders get the NVS supplies they need. Finally, NVS may be missing opportunities to leverage resources, where appropriate, from the Strategic National Stockpile, as directed by HSPD-9. The Strategic National Stockpile contains medical supplies to address public health emergencies affecting humans, and as such, may have resources that are also useful in emergencies affecting animals. HHS's Centers for Disease Control (CDC), which manages the Strategic National Stockpile, and APHIS have taken some steps to help the NVS leverage these resources. However, confusion about the mission and infrastructure of each stockpile, and disagreement about whether additional resources can be leveraged, may be impeding efforts to identify further leveraging opportunities. Because they have no formal agreement regarding if and when leveraging is appropriate, USDA and HHS may miss opportunities to more effectively utilize federal and state resources.

- *National Plant Disease Recovery System (NPDRS):* USDA's Agricultural Research Service (ARS)—which is the department's chief research agency—has taken steps to develop the NPDRS, a system intended to help the nation recover from high-consequence plant disease outbreaks that could devastate the nation's production of

economically important crops. According to the NPDRS's 2010 draft strategic plan, ARS's principal method for fulfilling this responsibility is to develop an estimated 30 to 50 recovery plans for select high-consequence plant diseases that may enter the United States. As of May 2011, ARS had completed 13 plans, which are intended to provide a brief primer on each plant disease and identify research gaps and priorities. For example, the NPDRS recovery plan for stem rust of wheat—one of the most devastating plant diseases worldwide—states that current understanding of the disease is based largely on 50-year-old data that must be reexamined and identifies 13 specific areas that require updated research. ARS also uses NPDRS funds as a flexible source of funding to help ARS initiate research on new, emerging plant disease problems as they arise.

However, ARS lacks a systematic process to monitor and fill research gaps included in the plans. According to ARS officials, they rely on a variety of entities—including other federal agencies, state governments, land grant universities, and the private sector—to conduct research on high-consequence plant diseases that may fill research gaps identified in the recovery plans. Without a documented, systematic process to monitor the extent to which research gaps are filled, USDA may not have critical information needed to help the nation recover from high-consequence plant disease outbreaks. Moreover, NPDRS guidance states that recovery plans provide an opportunity to indicate where research dollars need to be concentrated in the future. ARS also has not effectively communicated the NPDRS to key stakeholders that need to know about these plant disease recovery plans. The NPDRS draft strategic plan states that recovery from high-consequence plant diseases will require coordination between USDA and states. However, the 12 USDA and state plant health officials we met with all had limited or no knowledge about NPDRS recovery plans, even though ARS officials told us that they were sharing plans through a variety of venues. As a result, key state and federal plant health officials may not have the necessary information to facilitate recovery from high-consequence plant diseases.

- *Recovery from an emergency:* Various USDA agencies have taken steps to enhance recovery efforts for emergencies affecting food and agriculture. For example, several USDA agencies participated in a 2005 EPA-led effort that produced guidance on federal roles and responsibilities for disposing of contaminated animals, crops, and food products and decontaminating affected areas in order to prevent the

spread of disease. APHIS also is partnering with universities, states, and industry to develop continuity-of-business plans for some animal disease emergencies.

However, recovery efforts face critical challenges. For example, there may not be sufficient workforce capacity to depopulate—or slaughter—animals quickly in the event of a catastrophic outbreak of a highly contagious animal disease, such as foot-and-mouth disease, a viral disease of cattle, swine, sheep, and other cloven-hoofed animals. Foot-and-mouth disease could create the need to depopulate millions of animals to control the outbreak. However, APHIS officials told us that it could take as long as 80 days to depopulate a single feedlot with about 100,000 cattle. Also, burial has traditionally been the preferred method for disposal, but USDA officials told us that this may not be feasible on a large scale because, among other things, it is labor intensive and may be limited by topography, soil type, and environmental regulations. According to APHIS officials, the public health consequences of carcass burial on a large scale are unacceptable, as recent outbreaks of foot-and-mouth disease in Japan, Korea, and the United Kingdom have shown. For example, the media reported groundwater contaminations in Korea near some burial sites—including near several schools—that made the water unfit for human use. USDA's November 2010 draft foot-and-mouth disease response plan takes into consideration alternative approaches to depopulation and disposal—such as increasing the use of vaccines for at-risk animals—that could help mitigate the depopulation and disposal resource concerns.

USDA Faces Challenges Coordinating the Federal Food and Agriculture Response for Natural Disasters

According to USDA, from 2007 through May 2011, it coordinated the federal food and agriculture response for 28 natural disasters, including hurricanes, floods, winter storms, and other weather-related emergencies. USDA and state officials we met with said that having a single USDA coordinator to facilitate communication during ESF-11 emergencies contributed to the success of USDA's ESF-11 response. However, they also identified some challenges. For example, when ESFs are activated and multiple federal agencies become involved, agencies' responsibilities for disposing of animal carcasses are not always clear, which has delayed previous disposal efforts and could pose a public health risk. In one case, during Hurricane Ike in Texas in 2008, water surges washed cattle, horses, and poultry 15 to 20 miles inland, leaving dead livestock in backyards, in front of hospitals, and on roads and highways. Texas officials involved with the response told us that valuable time was lost as

federal officials debated whether the U.S. Army Corps of Engineers or USDA would carry out the disposal. Ultimately, DHS's Federal Emergency Management Agency (FEMA)—which directs response to emergencies and major disasters—asked USDA's Natural Resources Conservation Service to do so. The Natural Resources Conservation Service administers a number of programs that encourage conservation, development, and productive use of the nation's land. However, according to officials from that agency, FEMA did not make the request until several days after the hurricane struck, and the carcasses had begun to decompose. We have previously reported that a lack of clarity in leadership roles and responsibilities can result in disjointed federal emergency response efforts among collaborating agencies and confusion about what resources would be provided within specific time frames.[7] To address such a lack of clarity in leadership roles among collaborating agencies, we have reported that a practice to enhance and sustain collaboration is for agencies to work together to define and agree on their respective roles and responsibilities, including how the collaborative effort will be led.[8]

In addition, we found that USDA has not consistently prepared after-action reports—documents that summarize what went well and what needed improvement during an emergency response. Specifically, USDA completed 14 after-action reports—including one that covered the 2008 hurricane season—for various emergencies, even though USDA officials reported to us that ESF-11 has been activated for about 28 emergencies.[9] Moreover, not all of the after-action reports that USDA completed contained the perspectives of key parties involved in the response, such as FEMA officials, relevant USDA officials at the state level, and state officials. Without a more consistent and comprehensive after-action reporting process, USDA managers may not have the necessary information to identify gaps or challenges and address them through corrective actions to help ensure that past mistakes are not repeated. Moreover, in February 2006, a White House report on Hurricane Katrina stated that "too often, after-action reports for exercises

[7]See GAO-06-618.

[8]GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, GAO-06-15 (Washington, D.C.: Oct. 21, 2005).

[9]Three of these 28 emergencies occurred in spring 2011 and, therefore, the agency would not have developed after-action reports at the time we completed our audit work.

and real-world incidents highlight the same problems that do not get fixed."[10] According to the report, all departments and agencies should translate findings of homeland security gaps and vulnerabilities into concrete programs for corrective action that are fully implemented in a timely fashion.

In our report, we are making nine recommendations to help ensure that the federal government is effectively implementing the nation's food and agriculture defense policy and to ensure that the nation is adequately prepared to respond to and recover from emergencies affecting food and agriculture. In written comments on the report, USDA, HHS, and DHS generally concurred with the recommendations. In addition, in an e-mail received July 22, 2011, the National Security Staff's Deputy Legal Advisor stated that the National Security Staff agrees that a review of HSPD-9 is appropriate and that they will look for an opportunity to do so. The report contains a complete list of our recommendations, along with agencies' comments, and our evaluation of those comments.

Chairman Akaka, Ranking Member Johnson, and Members of the Subcommittee, this concludes my prepared remarks. I would be happy to respond to any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

For questions or further information regarding this testimony, please contact Lisa Shames, Director, Natural Resources and Environment, at (202) 512-3841 or shamesl@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this testimony. Key contributors to this testimony include Mary Denigan-Macauley, Assistant Director, and Amanda Krause. Kevin Bray and Benjamin Shouse also made important contributions.

[10]The White House, *The Federal Response to Hurricane Katrina: Lessons Learned* (Washington, D.C.: Feb. 26, 2006).

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