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THESIS

AGROTERRORISM RISK COMMUNICATION: CHALLENGES AND IMPLICATIONS FOR COMMUNICATORS

by

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March 2005

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The Multi-State Partnership for Security in Agriculture, a collaborative effort of 10 states, has identified the need for development of a strategy for communicating to the public the risk resulting from an agroterrorism incident. Before the Partnership begins development of a strategy, however, it must take into consideration the factors that are important when communicating about agroterrorism risk: recognition that communication of risk about food carries with it specific challenges; the public's level of trust in government will affect how it perceives and accepts risk messages; and Americans' post-September 11, 2001 fear associated with terrorism alters perception and acceptance of risk.

Recognition of the existence of these factors is not enough, however. The Partnership must recognize, as well, that these factors may present barriers to effective communication. To overcome these barriers, the Partnership should apply tried-and-true risk communication principles, tailored to specifically address the factors that make agroterrorism risk communication unique.

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I. INTRODUCTION

September 11, 2001, brought to Americans the awareness that we are susceptible to terrorist attack. There are many potential targets for terrorists in the United States, one of which is our food supply system. Not only would an attack on the agricultural food supply system economically and psychologically affect farmers and producers, but it could have an enormous effect on the American public's confidence in the food they eat and as a result, on the nation's economy.

The United States' food supply system is a critical component of our nation's bio-defense system and could present an accessible and efficient delivery system for terrorist attacks against large populations and economic sectors. If an attack on the nation's food supply were to occur, there would be a great need for information to many audiences, primarily the general public.

The Multi-State Partnership for Security in Agriculture, a collaborative effort of 10 states, has identified the need for development of an interstate risk communication strategy as a priority of the Agriculture Counterterrorism Project.

Currently, there is no model or strategy that will fit the needs of the Partnership for communicating agricultural risk to the public on a collaborative, interstate scale. This is a problem not only for the Partnership, but for states across the nation that will need to present to the public a unified, coordinated message in order to prevent possible fear associated with conflicting information or misinformation, and the resultant loss of public confidence in agricultural products.

However, before the Partnership begins development of a collaborative risk communication strategy, it must first closely examine the factors that make agroterrorism incidents unique.

Risk communication is not an exact science. There are many approaches to communicating to the public about a hazard and its resultant risk. No one

approach fits all situations or hazards. It is important, therefore, for communicators to understand the factors that make communicating about an agroterrorism risk unique. This thesis will focus on three of those factors, and put forth recommendations to the Partnership that will help members better inform the public given the factors that make agroterrorism risk communication a special challenge.

Chapter II introduces the Multi-State Partnership for Security in Agriculture and the Agriculture Counterterrorism Project, which was the impetus for the author's research into the challenges of communicating the risk associated with an agroterrorism incident. Chapter III provides a brief description of risk communication theory and practices. Chapter IV defines and examines agroterrorism and the conditions that make the United States vulnerable to an attack to its food supply system. Chapter V outlines three factors that make communicating risk resulting from an agroterrorism incident different from communicating about other types of risk. Chapter VI provides practical recommendations, based on the factors identified in Chapter V, that the Partnership may utilize as it develops its risk communication strategy for the Agriculture Counterterrorism Project. Finally, Appendix A is an agroterrorism risk communication guide, based on findings and recommendations from this thesis, and developed for the Partnership.

II. MULTI-STATE PARTNERSHIP

The Multi-State Partnership for Security in Agriculture was created to ensure that America's agricultural system is secure, citizens are safe and the nation's economy is strong. Through this interstate agreement, states work together on surveillance of, preparation for, and response to threats in agriculture, whether intentionally introduced or naturally occurring, and coordinate those efforts with all levels of government.[1]

In July of 2003, an initial group, comprised of representatives from Iowa, Missouri, Illinois, and Wisconsin, drafted key partnership principles, including several strategic goals:

- Promote awareness of agro-terrorism vulnerabilities and consequences at all levels of government.
- Build an understanding of common concerns and vulnerabilities with regard to safety and security of the U.S. food supply and agriculture.
- Develop a protocol for resource sharing that addresses the issues of resource coordination, laboratory capacity, information sharing, joint planning, education, training, and exercise opportunities, and interstate surveillance.
- Develop a unified approach with specific security standards to animal and food security, specifically addressing issues regarding disease detection, animal identification, and animal movement, between states, federal agencies, and private industry.
- Develop joint strategies for maintaining public and consumer confidence.[2]

In August of 2003, the original discussion group was expanded to encompass additional states and state government departments, and a kickoff summit was held in Des Moines, Iowa. Agency representatives from homeland security, emergency management, agriculture, and state veterinarians attended from the states of Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin. Since that summit, Kentucky and Oklahoma have joined

[1] Mission Statement for the Multi-State Partnership for Security in Agriculture, August 2003.

[2] Gordon, Ellen M., Multi-State Initiatives—Agriculture Security Preparedness, Master's Thesis, Naval Postgraduate School, Monterey, California, June 2004.

the Partnership. Through consensus, the participants identified many areas for potential collaboration and agreed to form a partnership specifically designed to address the issues they had identified. The Partnership created three workgroups. The first workgroup focused on the use of resource sharing agreements, including the safety of plants and livestock, and the United States food supply processing and distribution mechanisms. The second workgroup focused on state-to-state issues of interstate collaboration for prevention of, planning for, and response to agricultural emergencies. The third workgroup focused on how state partners could best affect national policy and standards.[3]

The workgroups identified the need for improved communications, surveillance, and cooperation in animal identification. In order to carry out projects to fulfill the identified needs, the third workgroup, the State-to-Federal Workgroup, in conjunction with the State of Iowa, applied for and received a Department of Homeland Security grant. The grant, the Agriculture Counterterrorism Project, focuses on three areas: development of a model electronic syndromic surveillance and disease reporting system; investigation and development of mechanisms for interstate collaboration and animal tracking; and a state-to-state communications strategy.[4] This thesis will focus on the risk communication component of the Partnership's communications strategy.

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[3] Gordon, Ellen M., Multi-State Initiatives—Agriculture Security Preparedness, Master's Thesis, Naval Postgraduate School, Monterey, California, June 2004, pp. 21-23.

[4] Ibid., p. 23.

III. RISK COMMUNICATION

We live in a world of innumerable risks. Each day, it seems, we learn from the media, from our families, from our coworkers and friends, of a new hazard to our health, our safety, our way of life. Often there is little information immediately available to help us understand the risks posed by those hazards. When that is the case, how can we make decisions about those risks and how we will act upon or address them, if at all?

A. DEFINING RISK COMMUNICATION

The practice of risk communication helps us to understand the hazard, its consequences, and actions we may or should take if we are faced with that hazard. Risk communication is a science-based approach for communicating effectively in high-concern situations and provides a set of principles and tools that may be used to eliminate barriers to effective communication that arise in those situations.[5] According to risk communication expert Vincent Covello, in an emotionally-charged environment, the rules for effective communication change and familiar and traditional approaches to communication may not be suitable or may make the situation worse. Covello says risk communication offers insight into how these high-concern situations, where there are often strong emotions such as fear, anxiety, distrust, anger, outrage, helplessness, and frustration, can alter the usual rules of communication.[6]

In *Risk Communication, A Handbook for Communicating Environmental, Safety and Health Risks*, Regina Lundgren and Andrea McMakin describe the risk communication process as beginning with a hazard, a potential or actual danger to the environment or human health or safety. The organization that is responsible for managing the risks posed by the hazard begins a risk

[5] Covello, Vincent T., Peters, Richard G., Wojtecki, Joseph G., and Hyde, Richard C., "Risk Communication, the West Nile Virus Epidemic, and Bioterrorism: Responding to the Communication Challenges Posed by the Intentional or Unintentional Release of a Pathogen in an Urban Setting," Journal of Urban Health: Bulletin of the New York Academy of Medicine v. 78, No. 2, p. 3, 2001, available at www.centerforriskcommunication.com/pubs/crc-p1.pdf, accessed November 11, 2004.

[6] Ibid.

assessment. Risk managers use information from the risk assessment to decide how to handle the risk. Their decisions are communicated to the people who are affected by or interested in the risk.[7]

Lundgren and McMakin present an overview of 12 common approaches to risk communication that take into consideration how messages are sent and received, how conflicts are managed, and how decisions are made.[8] Approaches range from C.D. Shannon's traditional one-way communication model developed in 1948 which consists of an information source, message, communication channel and receiver, to more recently developed approaches that stress the importance of interaction and dialogue between communicators and the public.[9] The authors point out that each approach views risk communication from a different perspective, and that the more perspectives communicators understand, the more likely they will be able to implement the approaches that will meet the needs of a particular audience or situation, making it more likely that their communication efforts will succeed.[10]

B. ONE SIZE DOES NOT FIT ALL

There is no one-approach-fits-all formula for communicating risk. Because there are many types of risk, many different communicators who relay information about risk, and many situations in which risk may occur, there must be flexibility and knowledge of useful approaches when choosing how to best inform the public about that risk. There are, however, some generally accepted principles that are common and useful when communicating risk that can be used when carrying out the approaches and models mentioned above.

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[7] Lundgren, Regina and McMakin, Andrea, *Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*, third edition, p. 7.

[8] Ibid., p. 13.

[9] Ibid.

[10] Ibid.

C. RISK COMMUNICATION RULES

Covello has outlined seven rules for effectively communicating risk information. These rules provide communicators with basic and common-sense guidelines to communicating risk.[11]

> RULE 1. ACCEPT AND INVOLVE THE PUBLIC AS A LEGITIMATE PARTNER.
>
> Two basic tenets of risk communication in a democracy are generally understood and accepted. First, people and communities have a right to participate in decisions that affect their lives, their property, and the things they value. Second, the goal of risk communication should not be to diffuse public concerns or avoid action. The goal should be to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative.
>
> RULE 2. PLAN CAREFULLY AND EVALUATE PERFORMANCE.
>
> Different goals, audiences and media require different risk communication strategies. Risk communication will be successful only if carefully planned and evaluated.
>
> RULE 3. LISTEN TO YOUR AUDIENCE.
>
> People in the community are often more concerned about issues such as trust, credibility, control, competence, voluntariness, fairness, caring, and compassion than about mortality statistics and the details of quantitative risk assessment. If you do not listen to people, you cannot expect them to listen to you. Communication is a two-way activity.
>
> RULE 4. BE HONEST, FRANK AND OPEN.
>
> In communicating risk information, trust and credibility are your most precious assets. Trust and credibility are difficult to obtain. Once lost they are almost impossible to regain.

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9 Covello, Vincent T., McCallum, David B., and Pavlova, Maria T., eds., *Effective Risk Communication: The Role and Responsibility of Government and Nongovernment Organizations*, p. 302.

RULE 5. COORDINATE AND COLLABORATE WITH OTHER CREDIBLE SOURCES.

Allies can help you communicate risk information effectively. Few things make risk communication more difficult than conflicts or disagreements with other credible sources.

RULE 6. MEET THE NEEDS OF THE MEDIA.

The media are prime transmitters of information on risks. They play a critical role in setting agendas and in determining outcomes. The media are generally more interested in politics than in risk; more interested in simplicity than in complexity; and more interested in danger than in safety.

RULE 7. SPEAK CLEARLY AND WITH COMPASSION.

Technical language and jargon are useful as professional shorthand. But they are barriers to successful communication with the public.

Failure to plan carefully or ignore the rules of risk communication outlined by Covello can result in substantial consequences. These include:

- Bitter and protracted debates and conflicts between communicators and their audience
- High levels of public outrage
- The diversion of societal attention and resources from important problems to less important problems
- The diversion of individual attention from significant risks to insignificant risks and
- Unnecessary human suffering due to high levels of anxiety, fear, outrage, and worry.[12]

To avoid those consequences, organizations must not only have a good understanding of approaches to and principles of risk communication, but also have knowledge of the risk about which they are communicating. For agroterrorism, there are factors that must be taken into consideration when

[12] Covello, Vincent T., Peters, Richard G., Wojtecki, Joseph G., and Hyde, Richard C., "Risk Communication, the West Nile Virus Epidemic, and Bioterrorism: Responding to the Communication Challenges Posed by the Intentional or Unintentional Release of a Pathogen in an Urban Setting," Journal of Urban Health: Bulletin of the New York Academy of Medicine v. 78, No. 2, p. 3, 2001, available at www.centerforriskcommunication.com/pubs/crc-p1.pdf, accessed November 11, 2004.

providing information about a risk to the food supply system. Those factors will be discussed in Chapter V.

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IV. AGROTERRORISM

Since September 11, 2001, much of America's resources and attention have turned to the topic of terrorism in our homeland. Agroterrorism, however, has received relatively little attention.

This lack of attention to the possibility of an attack on the United States' food supply system stems, in part, from the widely-held belief that agroterrorism is not an adequate platform upon which to produce mass casualties.[13] However, this focus on mass casualties fails to take into account the economic disruption and political and social instability that an agroterrorism attack could create.[14]

Agroterrorism is the deliberate introduction of a disease agent, either against livestock or into the food chain, to undermine socioeconomic stability and/or generate fear.[15] It can be a tactic to generate economic, social, and political disruption, or as a form of direct human aggression.[16]

The targets of agroterrorism can be anything or anyone from the food supply system, from the farm to the dinner table, and include livestock, crops, timber, farmers and producers, grain holding facilities, food processors and processing facilities, slaughter houses, grocery stores, county and state fairs, transportation modalities, restaurants and their staff, one or more main sectors of

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[13] Greco, Jeff, A Report from the Agricultural Committee of the Midwest Legislative Conference, The Council of State Governments, "Agricultural Terrorism in the Midwest: Risks, Threats and State Responses," December 2002, p. 4.

[14] Chalk, Peter, "Hitting America's Soft Underbelly: The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry", at www.rand.org/pubs/monographs/2004/RAND_MG135.pdf, accessed November 3, 2004, p. xi.

[15] Chalk, Peter November 2003. "The Bio-Terrorist Threat to Agricultural Livestock and Produce, Testimony presented before the Government Affairs Committee of the United States Senate", on November 19, 2003, p. 2, available at www.rand.org/publications/CT/CT213/CT213.pdf, accessed November 3, 2004.

[16] Ibid.

agriculture such as the pork industry, wildlife, municipal water supplies, or the U.S. economy as a whole.[17]

A. ECONOMIC IMPORTANCE OF AGRICULTURE

The U.S. agriculture economy is vital to the nation's economy. The food and fiber system comprises the economic activities of the farms and firms that process, assemble, and transform raw agricultural commodities into final products. In 2001, the U.S. food and fiber system accounted for 12.3 percent of the national Gross Domestic Product (GDP), and added roughly $1.24 trillion to the U.S. economy.[18] In 2002, total gross farm sales in the U.S. were over $207 billion.[19]

Nearly 24 million people were employed in the food and fiber system in 2001. An estimated 800,000 jobs were generated by agricultural exports in 2001. Of those 800,000 jobs, 344,000 were on farms, the others in supporting jobs in food processing, manufacturing plants, and the transportation and trade sectors.[20]

Agricultural exports are an important contributor to the U.S. economy and have far-reaching effects. Every dollar of exports in 2001 generated an additional $1.48 in economic activity in supporting sectors.[21] In 2001, total exports in agricultural products were valued at $53.3 billion[22], while in 2002, the U.S.

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17 Davis, Radford G., *Agroterrorism: Overview of a Sleeping Target*, p. 3.

18 "Amber Waves: The Economics of Food, Farming, Natural Resources and Rural America," available at www.ers.usda.gov/Amberwaves/September03/Indicator, accessed December 29, 2004.

19 "2002 Census of Agriculture Volume 1 Chapter 1: U.S. National Level Data," available at www.nass.usda.gov/census/census02/volume1/us/index1.htm, accessed December 29, 2004.

20 "Food market structures: the U.S. food and fiber system," available at www.ers.usda.gov/briefing/foodmarketstructures/foodandfiber.htm, accessed December 29, 2004.

21 Ibid.

22 Ibid.

exported $53.7 billion of agricultural products. In both 2001 and 2002, agricultural products accounted for 8 percent of all U.S. exports. [23]

B. VULNERABILITIES

"For the life of me, I cannot understand why the terrorists have not attacked our food supply because it is so easy to do."[24]

The above quote, from Tommy Thompson during the December 3, 2004, announcement of his resignation as Health and Human Services Secretary, is indicative of the growing realization and acceptance that vulnerabilities exist in America's food supply system that make it a potential terrorist target.

In *Current Trends in Agro-terrorism and Their Potential Impact on Food Security*, Joseph Foxell, Jr. identifies 10 factors that contribute to America's vulnerability to agroterrorism.

- The livestock industry is concentrated in just a few essential geographic sectors: cattle feeding in western Kansas; hogs in North Carolina, Nebraska, and Iowa; and poultry in Virginia, Georgia, Arkansas, Pennsylvania, and Maryland's Eastern Shore district. This concentration would make it easier for agroterrorists to spread an agricultural disease by infecting only a small number of animals.
- The U.S. food business is moving in the direction of centralized ownership and larger individual farms. For example, by 2010, it's predicted that the 30 leading cattle feeding corporations will generate 50 percent of all beef products.
- Intensive animal husbandry practices have reduced the free range movement of farm animals on many of the largest farms, causing the American poultry and livestock industries to become much more vulnerable to the spread of both indigenous and foreign-originating infectious diseases. These practices have lead animals to be increasingly vulnerable to disease from increased stress levels that have lowered the animals' tolerance to fight disease, and from the overuse of antibiotics that have left animals vulnerable to "super bugs" that are resistant to treatment.

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[23] "2002 Census of Agriculture Volume 1 Chapter 1: U.S. National Level Data," available at www.nass.usda.gov/census/census02/volume1/us/index1.htm, accessed December 29, 2004.

[24] Associated Press, "Thompson Resigns with Grim Warning," MSNBC News Services, December 3, 2004, available at www.msnbc.msn.com/id/6644980/print/1/displaymode/1098/, accessed January 6, 2005.

- Increased levels of international air travel have greatly reduced the isolation that had previously protected American poultry, livestock, and field crops from foreign animal illnesses and pests, increasing the vulnerability of the U.S. to accidental or deliberate infection.
- Increased reliance on pesticides and herbicides has established a precursor state, wherein pesticide-immune and herbicide-resistant antagonists could decimate arable crop staples.
- Lack of crop diversity renders U.S. farmlands especially vulnerable to "cropicide" agroterrorist attacks. The lack of diversity, wherein single crops are grown over thousands of acres, renders the entire crop susceptible to a single pathological organism, and makes it easier for a terrorist to select effective crop pathogens.
- Lack of diversity is compounded by the fact that 80 percent of the nation's seed derives from one locale, the Idaho valley, due to the exceptionally dry climate in that region.
- A notable percentage of imported hybrid seeds used for crop production in the U.S. comes from just four countries: Mexico, Chile, Iran, and China. Worryingly, the latter two countries have been suspected of having covert bio-agricultural weapons development programs. Reliance on so few sources for the purchase of imported seed begets the possibility that agroterrorists could silently insinuate diseased seed into orders shipped to the United States.
- The soil itself is an ignored, and inadequately protected resource. Perhaps as much as half of the nation's topsoil blanket that existed 50 years ago has been lost due to runoff, intensive heavy equipment usage, and winds. Agroterrorist schemes that threaten topsoil viability – most likely through the use of a long-acting soil sterilant – pose long-term dangers to America's farmland productivity.
- A variety of pathogenic or market-value inhibiting agents that are foreign to U.S. animals and crops – and hence could spread rapidly in the absence of natural immunities or predators – are readily obtainable from a multitude of overseas sources. American agriculture is believed to be highly vulnerable to many of these agents.[25]

Dr. Peter Chalk, in "Hitting America's Soft Underbelly: The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry", identified additional factors that contribute to the U.S. agricultural and food industry's vulnerability to an agroterrorism attack:

[25] Joseph W. Foxell, Jr., "Current Trends in Agro-Terrorism (Antilivestock, Anticrop, and Antisoil Bioagricultural Terrorism) and Their Potential Impact on Food Security," Studies in Conflict and Terrorism, March 2000, pp. 110-113.

- Insufficient farm and food-related security measures are taking place on U.S. farms, and at auctions, sale barns, and processing packing plants. In addition, many facilities do not keep sufficient records of their distribution network, making it difficult to trace a tainted food item back to its source.
- The U.S. animal disease reporting system is not clearly defined. Producers have the responsibility to report unusual disease occurrences. Once the emergency management system gets involved, however, there is confusion brought on by the lack of guidelines that designate the appropriate agencies and personnel that need to be contacted in the event of a serious disease outbreak. Because of the reluctance of producers to report an animal disease, for fear of the consequences of doing so, and the inefficiencies of the emergency management system, the current animal disease reporting system does little to promote early warning and identification of disease outbreaks.
- The number of veterinarians trained to recognize and treat exotic livestock diseases is declining. This has resulted in a shortage of veterinarians with the expertise to deal with an agroterrorism incident caused by a foreign animal disease agent.
- An increasing number of animals are receiving no form of comprehensive medical examination or remedial checkup, leading to increased opportunity for diseases to be overlooked. The reasons for this are that the size and scale of agriculture have made it impossible for producers to tend to their animals on an individual basis, and the shrinking pool of accredited and state and local veterinarians.[26]

Taken together, these factors show there are many vulnerabilities to, and throughout, the U.S. food supply system. In addition, there is the possibility of terrorist groups turning to smaller-scale tactics against more accessible targets in the current climate where the capacity for al Qaeda and similar groups to conduct mass-casualty attacks inside the United States has been disrupted.[27]

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[26] Chalk, Peter, "Hitting America's Soft Underbelly: The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry", available at www.rand.org/pubs/monographs/2004/RAND_MG135.pdf, accessed November 3, 2004, pp. 10-13.

[27] Advisory Panel to Assess Domestic Response for Terrorism Involving Weapons of Mass Destruction [Gilmore Commission], Fourth Annual Report to the President and the Congress, II, Reassuring the Threat, December 15, 2002, p. 10, available at www.rand.org/nsrd/terrpanel/terror4.pdf, accessed January 14, 2005.

C. INTERNATIONAL AND DOMESTIC THREATS

Recently-discovered documentation shows that the United States is at risk for agroterrorism attacks from foreign and domestic organizations. Following the invasion of Afghanistan, hundreds of U.S. agricultural documents translated into Arabic were seized in that country.[28] The documents were attributed to the al Qaeda terrorist network and suggest the organization has a great interest in American agriculture. A significant portion of the organization's training manual is reportedly devoted to the destruction of crops, livestock, and food processing facilities.[29]

Domestic groups also constitute a threat to the U.S. food supply system. Although most do not think of them as terrorists, members of groups such as the Animal Liberation Front (ALF) and the Earth Liberation Front (ELF) have engaged in what many consider terrorist activity. These two groups alone, since 1996, have executed 600 violent acts and caused more than $40 million in damages.[30] The Ayn Rand Institute's MediaLink Department estimates that animal rights activists conduct more than 1,000 terrorist acts annually, including bombings, fires, and thefts.[31] Animal rights groups, including ALF, ELF, People for the Ethical Treatment of Animals (PETA) and Last Chance for Animals, are believed to have more than one million members.[32] Membership in these groups, and others like them, do not make someone a terrorist. However, the actions espoused by these and other groups, are cause for concern. Take for example a

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[28] Peters, Katherine McIntire, "Officials Fear Terrorist Attack on U.S. Food Supply," GovExec.com, June 10, 2003, available at www.govexec.com/dailyfed/0603/061003kp1.htm, accessed October 14, 2004.

[29] Ibid.

[30] Milbourn, Todd, "Lawmakers Target 'Eco-Terrorism'," Star Tribune (Minneapolis), April 7, 2002, available at www.amprogress.org/News/News.cfm, accessed October 14, 2004.

[31] Putze, Aaron, "Public Must Take a Stand Against Animal Rights Activists," Iowa Farm Bureau, November 3, 2001, available at www.furcommission.com/resource.perspect999ap.htm, accessed October 14, 2004.

[32] Ibid.

statement by Ingrid Newkirk, the co-founder and president of PETA, concerning the introduction of Foot-and-Mouth Disease in the United States.

> I openly hope that it comes here. It will bring economic harm only for those who profit from giving people heart attacks and giving animals a concentration camp-like existence. It would be good for animals, good for human health and good for the environment.[33]

The above statement suggests that animal rights groups, and perhaps other radical groups, may engage in the use of terrorist tactics to imitate the success of foreign terrorist groups, and that the threats to American agriculture are right here in America.[34]

D. EFFECTS OF TERRORISM

An attack on America's agricultural sector would extend beyond the targeted component of the food supply system and cause economic disruption throughout the U.S. economy, undermine the public's trust in government, and create social instability.[35]

The most immediate effect of an act of agroterrorism would likely be economic disruption, generating at least three expected levels of costs. First would be direct losses resulting from containment measures and the eradication of disease-ridden animals. Second, indirect multiplier effects would accrue from both the compensation paid to farmers for the destruction of agricultural commodities and the revenue deficits suffered by both directly and indirectly related industries. Third, international trade costs would be incurred in the form of protective embargoes imposed by major external export partners.[36]

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[33] Elsner, Alan, Reuters, "Hoping for Disease: PETA Hopes Foot-and-Mouth Strikes in the United States," ABCNews.com, April 2, 2001, available at www.animalscam.com/downloads/peta_abcnews.pdf, accessed October 14, 2004.

[34] Gordon, Ellen M., Multi-State Initiatives—Agriculture Security Preparedness, Master's Thesis, Naval Postgraduate School, Monterey, California, June 2004. p. 9.

[35] Chalk, Peter, "Hitting America's Soft Underbelly: The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry", available at www.rand.org/pubs/monographs/2004/RAND_MG135.pdf, accessed November 3, 2004, p. xi.

[36] Ibid., p. 19.

A second effect of an agroterrorism incident could be the loss of the public's confidence in and support for the government.[37] As happened following the September 11, 2001 attacks in the United States, the public would want to know how their government could let terrorists attack our food supply and why it did not put into place the proper preventive measures. The consequences of an attack could also generate much public criticism. The slaughter of large numbers of animals and disposal of the carcasses, for instance, could cause considerable opposition from interested groups, including the livestock owners and animal rights activists.[38]

Social instability, in the forms of fear and anxiety, is a third consequence that could arise from an agroterrorism attack.[39] An attack on one component of the food supply system could lead to fear of consuming the targeted food or product. That fear could produce economic repercussions even beyond the targeted product and well into the future.

An agroterrorism incident could exact great economic, political, and social costs. Having a strategy in place to inform the public about the risks that could result from an agroterrorism incident could mitigate some or all of those costs. Chapter V will discuss the factors that communicators must take into consideration when developing a strategy for communicating agroterrorism risk to the public.

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[37] Chalk, Peter, "Hitting America's Soft Underbelly: The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry", available at www.rand.org/pubs/monographs/2004/RAND_MG135.pdf, accessed November 3, 2004, p. 22.

[38] Ibid., p. 22.

[39] Ibid., p. 25.

V. AGROTERRORISM RISK COMMUNICATION: CHALLENGES AND IMPLICATIONS

As was defined in the previous chapter, agroterrorism is the deliberate introduction of a disease agent, either against livestock or into other aspects of the food chain, to undermine socioeconomic stability and/or generate fear. The targets of agroterrorism can be anything or anyone within the food supply system, from the farm to the dining table. It can be a tactic to generate economic, social, and political disruption, or as a form of direct human aggression. The characteristics and consequences of an act of agroterrorism, whether an actual incident or the threat of an act, call for a tailored approach to communicating the resultant risks. Three factors in particular must be taken into consideration when communicating risk in an agroterrorism context: recognition that communication of risk about food carries with it specific challenges; the public's level of trust in government will affect how it perceives and accepts risk messages; and Americans' post-September 11, 2001 fear of terrorism alters perception and acceptance of risk.

A. COMMUNICATION OF FOOD RISK

Food is more than just fuel for our bodies—it is an important part of our lives and cultures. From the turkey we share with our family and friends on Thanksgiving to the cake cut by the bride and groom, food has an importance beyond the calories it provides. Food is essential to survival, and any risk associated with its consumption is special cause for concern to consumers, and therefore, of particularly special concern to risk communicators.

Few things concern the public more than a known or perceived breakdown in the food safety chain. Because of the increasing concern over and awareness of food safety issues and the place food has in our lives, communicating about

related risk is different than communicating about any other type of risk because of the intrinsic qualities of food and the public's perception of food risk.[40]

We must have food to live. It is both a commodity and a luxury that we share with friends, family, and acquaintances. It is part of our cultural heritage and identity. Yet, to most of modern society, the process whereby, for instance, milk makes its way from a dairy farm to the dinner table, is an unknown. Evolution from a society that was once primarily rural to one that is mainly urban has caused the public to lose touch with the food chain and to feel they have lost control over the food they eat. This has forced the public to place great trust in farmers, processors, wholesalers, and food service establishments that the food they provide will be safe.

This lack of connection with and understanding of the food supply has also contributed to the public's impression that food is becoming another source of risk.[41] Food carries an inherent degree of risk, and since we all need food to survive, we are forced to take risks each time we eat. Although people have learned to avoid obvious risks, through proper cleaning and preparation, and modern technological developments have made our food safer, research shows that the public has become more concerned about food-related risks than ever before. This increased concern follows recent food scares, including salmonella in eggs, dioxin in Belgian chicken feed, and Bovine Spongiform Encephalopathy (BSE or mad cow disease) in the United Kingdom, Canada, and the United States.[42]

Public information about food and the impact it has on health can be overwhelming and confusing, leading people to worry about what they eat. In a

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[40] Chartier, Jean and Gabler, Sandra, "Risk Communication and Government, Theory and Application for the Canadian Food Inspection Agency," Fall 2000, available at www.inspection.gc.ca/english/corpaffr/publications/riscomm/riscomme.shtml, accessed October 1, 2004.

[41] Ibid.

[42] "An Introduction to Food Risk Communication: Lessons Learned from the Acrylamide Scare," EUFIC Review No 12, April 2003, available at www.eufic.org, accessed December 10, 2004. p. 1.

study on public perception of food safety, researchers found that food hazards may be perceived differently than other hazards because people are dependent on food in ways they are not dependent on other risk makers.[43] Add to that the "mystery" of the process by which food travels from the farm to the table and the public's lack of connection with the food they eat, and you have a recipe for alarm and misunderstanding that may prevent the public from hearing the message the risk communicator is trying to convey.

1. Risk Perception

Food is the target by which terrorists will attempt to achieve their goals in an agroterrorism incident. While providing information to the public that will educate and provide instruction on how to handle or respond to food hazards during an agroterrorism incident is very important, communicators must also take into consideration the public's perception of the associated risk.

Risk communication expert Peter Sandman describes risk as having two components: hazard, or the scientific aspect of the danger, and outrage, the audience's other concerns about the danger. The "Risk = Hazard + Outrage" model explains the importance of the public's perception of risk and the implications it has on communicators' ability to convey information to their audience. In this approach, the audience's view of risk reflects not only the expert's assessment of the situation (hazard), but also how the audience feels about the situation (outrage). The audience's perception of the risk, in this case, is as important as the actual risk.

2. Outrage Factors

An important determinant of how people process risk information involves the factors that affect how they judge the actual magnitude of the risk.[44]

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[43] Chartier, Jean and Gabler, Sandra, "Risk Communication and Government, Theory and Application for the Canadian Food Inspection Agency," Fall 2000, available at www.inspection.gc.ca/english/corpaffr/publications/riscomm/riscomme.shtml, accessed October 1, 2004.

[44] Covello, Vincent and Sandman, Peter, "Risk communication: Evolution ad Revolution," *Solutions to an Environment in Peril*, available at www.psandman.com/articles/covello.htm, accessed January 14, 2005. p. 4.

Research, which began in the 1960s, has concluded that there is a low correlation between the experts' assessment of the level of physical risk in a situation and the amount of worry it arouses in people. It was found that even more important in determining peoples' responses are "outrage factors," that include:

- Voluntariness. Risks from activities considered to be involuntary or imposed are judged to be greater, and are therefore less readily accepted, than risks from activities that are seen to be voluntary.
- Controllability. Risks from activities viewed as under the control of others are judged to be greater, and are less readily accepted, than those from activities that appear to be under the control of the individual.
- Familiarity. Risks from activities viewed as unfamiliar are judged to be greater than risks from activities viewed as familiar.
- Fairness. Risks from activities believed to be unfair or to involve unfair processes (e.g., inequities related to the siting of industrial facilities or landfills) are judged to be greater than risks from fair activities (e.g., vaccinations).
- Benefits. Risks from activities that seem to have unclear, questionable, or diffused personal or economic benefits (e.g., waste disposal facilities) are judged to be greater than risks from activities that have clear benefits (jobs; monetary benefits; automobile driving).
- Catastrophic potential. Risks from activities viewed as having the potential to cause a significant number of deaths and injuries grouped in time and space are judged to be greater than risks from activities that cause deaths and injuries scattered or random in time and space.
- Understanding. Poorly understood risks are judged to be greater than risks that are well understood or self-explanatory.
- Uncertainty. Risks from activities that are relatively unknown or that pose highly uncertain risks are judged to be greater than risks from activities that appear to be relatively well known to science.
- Delayed effects. Risks from activities that may have delayed effects (e.g., long latency periods between exposure and adverse health effects) are judged to be greater than risks from activities viewed as having immediate effects (e.g., poisonings).
- Effects on children. Risks from activities that appear to put children specifically at risk (e.g., milk contaminated with radiation or toxic chemicals; pregnant women exposed to radiation or toxic chemicals)

are judged to be greater than risks from activities that do not (e.g., workplace accidents).

- Effects on future generations. Risks from activities that seem to pose a threat to future generations (e.g., adverse genetic effects due to exposure to toxic chemicals or radiation) are judged to be greater than risks from activities that do not (e.g., skiing accidents).
- Victim identity. Risks from activities that produce identifiable victims (e.g., a worker exposed to high levels of toxic chemicals or radiation; a child who falls down a well; a miner trapped in a mine) are judged to be greater than risks from activities that produce statistical victims (e.g., statistical profiles of automobile accident victims).
- Dread. Risks from activities that evoke fear, terror, or anxiety are judged to be greater than risks from activities that do not arouse such feelings or emotions.
- Trust. Risks from activities associated with individuals, institutions or organizations lacking in trust and credibility are judged to be greater than risks from activities associated with those that are trustworthy and credible.
- Media attention. Risks from activities that receive considerable media coverage are judged to be greater than risks from activities that receive little.
- Accident history. Risks from activities with a history of major accidents or frequent minor accidents (e.g., leaks at waste disposal facilities) are judged to be greater than risks from those with little or no such history (e.g., recombinant DNA experimentation).
- Reversibility. Risks from activities considered to have potentially irreversible adverse effects (e.g., birth defects from exposure to a toxic substance) are judged to be greater than risks from activities considered to have reversible adverse effects (e.g., sports injuries).
- Personal stake. Risks from activities viewed by people to place them (or their families) personally and directly at risk (e.g., living near a waste disposal site) are judged to be greater than risks from activities that appear to pose no direct or personal threat (e.g., disposal of waste in remote areas).
- Ethical/moral nature. Risks from activities believed to be ethically objectionable or morally wrong (e.g., foisting pollution on an economically distressed community) are judged to be greater than risks from ethically neutral activities (e.g., side effects of medication).

- Human vs. natural origin. Risks generated by human action, failure or incompetence are judged to be greater than risks caused by nature or "Acts of God".[45]

These findings revealed that people often perceive or assess risk more in terms of these "outrage" factors than in terms of potential for "real" harm or hazard. Several of these factors have a bearing on communicating risk from an agroterrorism incident, most notably voluntariness, controllability, familiarity, catastrophic potential, uncertainty, dread, trust, media attention, reversibility, and human versus natural origin. Understanding the existence of these factors will help communicators gauge how a risk will be accepted by the public and must be considered when communicating the risk to food following an agroterrorism incident. For example, since risks viewed to be under the control of the individual are more readily accepted than those viewed under the control of others, it is important for communicators to include actions the public may take to ensure the safety of the food they eat.

3. Food Risk Factors: Implication for Communicators

The implication for risk communicators is that the cultural and emotional meanings attached to food, combined with people's dependence on it to live, may make it difficult for them to reach the public simply by providing factual information about the hazard and what actions they may or should take in response. Peoples' outrage, or emotion and feelings in relation to a hazard, cannot be ignored. The audience's opinions and feelings must be taken into consideration and addressed in any communication about an agroterrorism risk. This means a dialogue must be established with the audience in which not only do they receive information from the communicator, but the communicator listens to, and takes into account, how the audience perceives a hazard and how they feel about the resultant risk.

One-way communication, while of value in many situations and for many purposes, will not be sufficient to address all the factors that shape the public's perception of how an attack on the food supply may affect their health and that of

[45] Ibid., p. 5.

their family. Through dialogue with the public, the communicator can begin to understand how the public perceives the risk and can then take steps to address their concern through the application of various communication methods.

B. PUBLIC TRUST IN GOVERNMENT

If an agroterrorism incident were to occur in the United States, the primary responsibility for providing information to the public would fall to government communicators in the areas of agriculture, emergency management, and homeland security. While it is logical that government agencies responsible for regulating agriculture and responding to an agroterrorism incident take the lead in providing information to the public, there are significant challenges faced for those performing that task.

Trust is the most essential element of any successful risk communication venture. Yet, building and retaining the public's trust, and being perceived as a trusted source of information, is a major hurdle for government risk communicators because a large percentage of Americans say they do not place great trust their government. In a November 2004 Gallup Poll of U.S. residents, 32 percent of respondents said they had little or no trust in their state government, 31 percent said they had little or no trust in their local government, and 41 percent said they had little or no trust in the executive branch of the federal government.[46] These figures show that a significant percentage of the population may not receive information about potential or real risks because of the lack of trust they have in all levels of government.

When it comes to assessing trust and credibility of government communications efforts, there are some key factors the public uses in its evaluation: empathy and caring; competence and expertise; honesty and openness; and dedication and commitment.[47] Of those factors, more than 50

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[46] The Gallup Organization, "Government Trust Little Changed From Last Year But Highly Related to Presidential Preference in Specific Areas," November 2004, available at www.gallup.com/poll/content/login.aspx?ci=14026, accessed January 11, 2005.

[47] Washington, D.C. Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, "Communicating in a Crisis: Risk Communication Guidelines for Public

percent of a communicator's credibility will depend on whether or not they are perceived as empathetic and caring and in most situations, the audience will decide this in the first nine to 30 seconds.[48]

1. Public Trust in Government: Implication for Communicators

If the public does not perceive their government as trustworthy, then they will not accept the message the government is conveying. The implication for risk communicators is that citizens may not take actions that are important to maintain their health or safety during or after an agroterrorism incident. To be perceived as a trusted source of information, government communicators must work to establish credibility prior to an incident, with the public and the media, and apply risk communication principles that will maintain or increase the public's trust during and following the incident.

C. FEAR OF TERRORISM

Terrorism is now a reality in the United States. Part of that new reality is Americans' fear of a terrorist attack. An Associated Press poll published in April 2004, showed that fears about an attack against the United States remain high. Two-thirds of the respondents in the poll said it was likely terrorists would strike before the November elections and one-third said it was likely there would be an attack at one of the political conventions during the summer of 2004.[49] In addition, in a recent Cornell University survey, 37 percent of Americans believe a terrorist attack in the United States is still likely within the next 12 months.[50]

Officials," 2002, available at, www.riskcommunication.samhsa.gov/RiskComm.pdf, p. 25., accessed January 12, 2005.

[48] "Communication in Risk Situations, Responding to the Communication Challenges Posed by Bioterrorism and Emerging Infectious Diseases, Association of State and Territorial Health Officials," 2002, available at www.astho.org/pubs, accessed February 6, 2005.

[49] Associated Press, "More Americans fear terrorists are winning," April 22, 2004, available at www.msnbc.msn.com/id/4805575/, accessed February 6, 2005.

[50] Associated Press, "Poll shows U.S. views on Muslim-Americans," December 17, 2004, available at www.msnbc.msn.com/id/6729916/, accessed February 6, 2005.

Risk communication expert David Ropiek says Americans are afraid because they are facing a risk that is new, catastrophic, dreadful, personal, full of uncertainty and dominates our awareness.

- New vs. familiar. Terrorism is a relatively new threat to Americans and research shows people are more afraid of risks that are new and less afraid of risks with which they have lived for awhile and become familiar.
- Catastrophic vs. chronic. People are more afraid of risks that kill large numbers of people all at once and all in one place than those that kill people over a dispersed area and over time. Victims of terrorism all die at the same time and in one place, making it rate as high as possible on the "Catastrophic vs. Chronic" scale.
- Dread. Risk perception research shows that people are more afraid of risks that kill them in "really awful ways" than risks that lead to deaths that are more peaceful. Deaths from acts of terrorism are high on the dread scale.
- Me vs. them. The risk of terrorism is now real for Americans. It is no longer something that might happen to someone else, somewhere else. When people see a risk as a risk to themselves, they are more afraid than if they see that same risk as only threatening to someone else.
- Uncertainty. Americans do not know what may come next, when or where something might happen, or where terrorists are located. According to risk perception studies, the more uncertain people are, the more afraid they are.
- Awareness. People tend to be more afraid of the risks of which they are more aware. Right now, terrorism rates high on peoples' awareness scales.

These powerful emotional triggers, also discussed earlier in this chapter in relation to outrage and its affect on perception of risk, are at the roots of Americans' fears and understanding them can help explain why the fear of a terrorist incident is so high.[51]

1. Fear of Terrorism: Implication for Communicators

The implication for risk communicators is that they must be prepared to address the public's fears, and the perceptions that drive those fears, if their

[51] Ropiek, David, "'Fear factors' in an age of terrorism," October 2001, available at www.msnbc.msn.com/id/3077306/, accessed February 6, 2005.

message is to be heard. By understanding the reasons people perceive risks as they do, communicators can convey information in terms and language that are relevant to peoples' concerns.

> Risk communication which acknowledges and respects the affective motivators which underlie people's concerns, rather than dismissing their perceptions as "irrational" because they are not solely fact-based, is likely to be more successful in helping people make more informed choices about the risks they face.[52]

As has been demonstrated in this chapter, communicating about risk resulting from an agroterrorism incident is different than communicating about other types of risk. Communicators must first understand the factors that make agroterrorism risk communication unique, and then use that understanding to tailor the approach they use to inform the public. Chapter VI will discuss how the Multi-State Partnership for Security in Agriculture may apply tried-and-true risk communication principles to best inform the public about agroterrorism risk.

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[52] Ropiek, David and Slovik, Paul, "Risk Communication: A Neglected Tool in Protecting Public Health, Risk in Perspective," June 2003, volume 11, issue 2, available at www.hcra.harvard.edu/pdf/June2003.pdf, accessed February 6, 2005.

VI. RECOMMENDATIONS

The Multi-State Partnership for Security in Agriculture, as part of its Agriculture Counterterrorism Project, has defined the need for a strategy for how it, and its member states, will communicate to the public the risk associated with an attack on the United States food supply system.

As the Partnership develops its strategy, it must take into consideration the three factors, as outlined in the previous chapter, that are important when communicating about risk in an agroterrorism context: recognition that communication of risk about food carries with it specific challenges; the public's level of trust in government will affect how it perceives and accepts risk messages; and Americans' post-September 11, 2001 fear associated with terrorism alters perception and acceptance of risk.

Recognition of the existence of these factors is not enough, however. The Partnership must recognize, as well, that these factors may present barriers to effective communication. To overcome these barriers, the Partnership should apply risk communication principles, as presented in Chapter III. Doing so would enable the Partnership to more effectively communicate agroterrorism risk to the public.

A. APPLICATION OF RISK COMMUNICATION RULES TO AGROTERRORISM

Dr. Vincent Covello has outlined seven rules for effectively communicating risk to the public. Following are recommendations for application of these rules to the three factors determined to be important when communicating agroterrorism risk.

RULE 1. ACCEPT AND INOLVE THE PUBLIC AS A LEGITIMATE PARTNER

There are two basic tenets of risk communication in a democracy. First, people have a right to participate in decisions that affect their lives. Second, the goal of risk communication is not to diffuse

concerns, but to encourage the public to be involved, interested, reasonable, thoughtful, solution-oriented, and collaborative.[53]

Partnerships with the public, formed prior to an agroterrorism incident, are the foundation upon which true dialogue can be built. To promote this vital partnership:

- Employ methods, outlined in rule number three, below, to gain a better understanding of the public's concerns, then seek their solutions.
- Build a track record. The Partnership and member states should show the public that they are aware of their concerns and are addressing them, and have addressed them in the past.

RULE 2. PLAN CAREFULLY AND EVALUATE PERFORMANCE.

Different goals, audiences, and media require different risk communication strategies. Risk communication will be successful only if carefully planned and evaluated.[54]

The Partnership must clearly define its risk communication objectives, which, based on the conclusions of this thesis, are building and keeping the public's trust and promoting dialogue and exchange of information. Doing so will assist the Partnership and its member states as they develop plans to communicate with the public. Clearly-defined objectives are needed in order to most effectively determine in what form information should be communicated, by whom, and through what medium. Examples of planning include:

- Defining the message.
- Determining the most effective medium through which information should be distributed.
- Identifying credible and trusted spokespersons.
- Identifying capable and knowledgeable communication professionals and training them on the communicating organization's procedures and philosophies, ensuring consistent delivery of the organization's message.

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[53] Covello, Vincent T., McCallum, David B., and Pavlova, Maria T. (eds.), *Effective Risk Communication: The Role and Responsibility of Government and Nongovernment Organizations,* p. 302.

[54] Ibid.

Evaluation of procedures and practices results in better communication. Information gained from the evaluation of one effort can be used to strengthen future efforts.[55]

The Partnership should consider the following evaluation methods:

- Surveys and interviews. These may be conducted by telephone, mail, through a feedback mechanism on a Web site, or by conducting focus groups. Because of the large size of the consumer base affected by a food risk, care should be taken to conduct surveys and interviews in numbers large enough to be meaningful and representative.
- Review of risk communication plans, messages, and methods by experts schooled in the theories, principles, and practices of risk communication.

RULE 3. LISTEN TO YOUR AUDIENCE.

People in the community are often more concerned about issues such as trust, credibility, control, competence, voluntariness, fairness, caring, and compassion than about mortality statistics and the details of quantitative risk assessment. If you do not listen to people, you cannot expect them to listen to you. Communication is a two-way activity.[56]

This is perhaps the most important rule to apply to agroterrorism risk communication. Listening to the public, and using the understanding that can be gained to establish a dialogue, will help to focus communication efforts. One-way communication is not sufficient when conveying agroterrorism risk for two reasons:

- The cultural and emotional meanings attached to food, along with people's dependence on it for survival, make it difficult to reach the public simply by providing factual information about the hazard and the actions they may or should take. People's outrage, or their emotions and feelings, must be taken into consideration and addressed in any communication about an agroterrorism risk.

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55 Lundgren, Regina and McMakin, Andrea, *Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*, p. 376.

56 Covello, Vincent T., McCallum, David B., and Pavlova, Maria T., eds., *Effective Risk Communication: The Role and Responsibility of Government and Nongovernment Organizations*, p. 302.

- The public's fears and the perceptions that drive those fears must be addressed. Through understanding the reasons people perceive risks as they do, communicators can convey information that is relevant to peoples' concerns.

Therefore, the Partnership should engage the public in two-way dialogue to understand their perceptions of the risk, and then use that understanding to employ communication methods and tools. This dialogue may be achieved through a variety of activities, including:

- Conducting surveys and focus groups of representative samplings of consumers.
- Forming citizen advisory groups.
- Developing a Web site where the public may not only obtain information, but may also provide feedback, such as through forums and submission forms.
- Establishing a toll-free telephone number where the public may call with questions or concerns. Use the toll-free number, along with the Web site, to gather and analyze public input.

RULE 4. BE HONEST, FRANK AND OPEN.

> In communicating risk information, trust and credibility are your most precious assets. Trust and credibility are difficult to obtain. Once lost they are almost impossible to regain.[57]

As was discussed in Chapter V, the public often does not perceive government as a trusted source of information. As a collaboration of government entities, this will prove to be a challenge for the Partnership, since the public must perceive the source of risk information as being trustworthy before it will accept the message being conveyed. Without that trust in the message bearer and the message, the public may not take actions that are important to maintain their health and safety during or after an agroterrorism incident. To be perceived

[57] Ibid., p. 303.

as a trusted source of information, the Partnership and its member states must do the following:

- Trust the public enough to tell the truth. Do so carefully, using language that is clear and easily understood.
- Do not minimize nor inflate facts or other information pertaining to the situation or the resulting risk.
- When appropriate, use comparisons to help the public understand the true implications of a risk.
- Choose spokespersons with care. People who are empathetic, straightforward, knowledgeable and comfortable before the media and the public will engender trust.
- Avoid speculation. If the answer to a question is not known, say so, and give an expectation as to when the answer will be available. Then make the information available when promised.
- Admit mistakes, if made, and correct errors immediately.

RULE 5. COORDINATE AND COLLABORATE WITH OTHER CREDIBLE SOURCES.

Allies can help you communicate risk information effectively. Few things make risk communication more difficult than conflicts or disagreements with other credible sources.[58]

The Partnership is the result of member states recognizing the need for a collaborative approach to the challenge of agroterrorism. Lack of a strategy to provide the public with a unified, coordinated message could lead to the release of conflicting information or misinformation, and ultimately result in fear and loss of public confidence in agricultural products. To counter this, the Partnership must:

- Collaboratively develop coordinated messages, including pre-scripted materials on the risks that could result from an agroterrorism incident.
- Develop and agree upon a plan for release of information, including who will release information, through what mediums, and when it will be released.
- Provide a uniform and consistent message in an environment when the state does not control all sources of information to the media and the

[58] Ibid.

public.[59] If possible, work with organizations outside of government, such as livestock and grain producer associations, to share plans and ideas. Enlist their assistance when developing plans and information, and coordinate release of information during and following an incident.

RULE 6. MEET THE NEEDS OF THE MEDIA.

The media are prime transmitters of information on risks. They play a critical role in setting agendas and in determining outcomes. The media are generally more interested in politics than in risk; more interested in simplicity than in complexity; and more interested in danger than in safety.[60]

The media can be a partner or it can be an adversary. During or after an agroterrorism incident, communicators will need the media to help them provide the public with information that could be important to protecting their health and safety. To promote media partnership, the following activities are especially important:

- Respect reporters' deadlines. Try to meet their deadlines whenever possible, and when it is not possible, explain why.
- Be accessible and responsive to their requests for information. Return calls promptly and if follow-up is required, do so in as timely a manner as possible.
- Develop resource materials so they are available when journalists need them--at the onset of an emergency or crisis. Helping the media to be better prepared also helps the communicating organization. Reporters who have a better understanding of a topic will be able to better inform the public.
- Get to know local media and foster good working relationships.
- Be prepared for an onslaught of media requests. An agroterrorism incident will generate regional, national, and even international interest.
- Educate the media about the challenges government may face during an agroterrorism incident. Understanding the constraints within which an organization works during an emergency or crisis will help shape

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[59] Iowa Mobile Education Team (METS) report from December 16, 2004 seminar.

[60] Covello, Vincent T., McCallum, David B., and Pavlova, Maria T., eds., *Effective Risk Communication: The Role and Responsibility of Government and Nongovernment Organizations*, p. 303.

media expectations.[61] Involve media in exercises to help them better understand the constraints and challenges faced by government organizations during emergencies.

RULE 7. SPEAK CLEARLY AND WITH COMPASSION.

Technical language and jargon are useful as professional shorthand. But they are barriers to successful communication with the public. In situations of great concern, such as an agroterrorism incident, empathy and caring often are more effective than numbers and technical facts.[62]

When people are faced with a risk that is unfamiliar or causes great anxiety or fear, the Partnership and its members need to take particular care with what they say and how they say it. Some guidelines include:

- Use of clear, non-technical language. Do not use jargon or acronyms.
- If deaths or illness do occur, avoid using distant, abstract, unfeeling language. Be real. The public will respond to genuine emotion.
- Acknowledge and respond, with both actions and words, to emotions such as anxiety, anger, fear, anger, outrage, and helplessness.
- Use risk comparisons to help put risks into perspective.[63]

The previous suggestions for overcoming the barriers associated with agroterrorism risk communication are meant to provide a foundation upon which the Partnership may approach the development of its risk communication strategy. As has been stated in this thesis, communicators must carefully consider not only the risk itself, but how the audience may respond to that risk, based on factors such as cultural values, trust, and fear. When it comes to communicating about agroterrorism risk, perception really is reality. The Partnership must gain an understanding of the public's perceptions if it is to truly communicate effectively the risks associated with agroterrorism.

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[61] Iowa Mobile Education Team (METS) report from December 16, 2004 seminar.

[62] Covello, Vincent T., McCallum, David B., and Pavlova, Maria T., eds., *Effective Risk Communication: The Role and Responsibility of Government and Nongovernment Organizations*, p. 304.

[63] Covello, Vincent and Sandman, Peter, "Risk communication: Evolution ad Revolution," *Solutions to an Environment in Peril*, available at www.psandman.com/articles/covello.htm, accessed January 14, 2005.

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APPENDIX

If a component of America's food supply system were to be attacked by a terrorist, there would be a great need for coordinated and timely information to the public. This guide has been developed as a resource for the Multi-State Partnership for Security in Agriculture and its member states and contains information useful for communicating risk before, during, and after an agroterrorism incident. The recommendations included in this guide are founded on basic risk communication principles that have been applied to specifically address the challenges associated with communication of a risk that is the result of an agroterrorism incident.

A. PRE-INCIDENT

Prior to an agroterrorism incident, it is important for the Partnership to educate the public on possible risks and also learn from the public how it perceives those risks. The Partnership must also educate the media and enlist it as a partner prior to an agroterrorism incident.

1. Educate the Public

Agroterrorism is a new and little-known threat in the United States. To help the public understand the hazards and resultant risks of an agroterrorism incident, The Partnership must educate the public prior to an attack, using the following guidelines:

- Use clear, non-technical, easy-to-understand language when discussing hazards and their associated risks.
- Do not use jargon or acronyms.
- Provide information on steps the public may take to keep themselves and their families safe when they are faced with an agroterrorism-related risk.
- Provide information on steps producers need to follow to report suspected cases.
- Make information easily accessible. Develop and promote a multi-lingual Web site.
- Collaborate with partners to develop educational messages and materials.
- Initiate a dialogue with the public.

Through dialogue, the Partnership can gain an understanding of the public's perceptions of agroterrorism risks, and then use that understanding to more effectively provide information. Dialogue may be achieved in several ways:

- Conduct surveys and focus groups.
- Form citizen advisory groups and use their input to tailor your message.
- Develop a Web site where the public may not only get information, but which also provides a mechanism for feedback, such as through forums or submission forms.

2. Partner with and Educate the Media

The media is an important partner during an emergency or disaster. The Partnership can help the media inform the public by:

- Developing and making available prior to an incident, resource materials. Reporters who have a better understanding of a topic will be able to better inform the public.
- Educating the media about the challenges the Partnership and its member states may face during an agroterrorism incident may give them a better understanding and help to shape more realistic expectations of what Partnership members can and cannot do.
- Involving the media in exercises to help them better understand the constraints your organizations face during an emergency.

3. Planning

In addition to educating and dialoging with the public, and partnering with and educating the media, the Partnership must plan for how it will communicate during an agroterrorism incident. Well-defined objectives are needed to most effectively determine in what form information should be communicated, by whom, and through what medium. Examples of planning include:

- Defining the message and developing materials that address potential risks.
- Determining how to best coordinate release of information to the public—for instance, whether the Partnership should establish a joint information center, develop a plan for release of information by individual member states, or coordinate information delivery by some other method.
- Determining the most effective media through which information will be distributed during an incident.
- Identifying credible and trusted spokespersons.

- Identifying communication professionals within your organization and training them on your organization's procedures and philosophies to ensure consistent message delivery.

B. DURING AN AGROTERRORISM INCIDENT

The Partnership must provide to the public information that will ensure their safety during an agroterrorism incident. Good communication practices during an incident include:

- Use of clear and concise language.
- Use of a trusted spokesperson. Choose someone who is empathetic, straightforward, knowledgeable and comfortable before the public and the media.
- Tell the truth and admit mistakes. Correct errors immediately.
- Coordinate and collaborate with partners to ensure consistent messages are being delivered.
- Establish a mechanism through which the public can obtain information and share concerns, such as a toll-free telephone number or a Web site with forum or feedback capabilities.
- Establish a mechanism through which producers can obtain information and share concerns, such as a toll-free number or a Web site with forum or feedback capabilities.

1. Meeting the Media's Needs

The media is an important partner for providing information to the public during an agroterrorism incident. There are several things the Partnership can do to meet the media's needs:

- Be accessible and responsive.
- Return calls and provide follow-up information in as timely a manner as possible.
- Respect reporters' deadlines and try to meet them whenever possible. If that is not possible, explain why.
- Provide information on a regular basis. If there is nothing new to share, let them know when you expect to have additional information.

C. POST-INCIDENT

Following an agroterrorism event, the Partnership should evaluate their risk communication efforts. This may be done through:

- Public surveys and interviews, via telephone, mail, a Web-site feedback mechanism, or through in-person interviews such as focus groups. Use

these resources to help determine what worked, what didn't work, and what could be done better next time.

- Assessing the Partnership's communication strategy and encouraging each member state to assess its communication efforts, including staffing and message delivery.

Application of the previous recommendations will enable the Multi-State Partnership for Security in Agriculture to more effectively communicate agroterrorism risk to the public. Of course, not all recommendations are appropriate for use in every situation, but application of all or a portion of these methods and tools will prove useful for tackling the challenge of communicating agroterrorism risk. Additionally, these guidelines may be used by the Partnership, and other organizations, to communicate about the risk associated with outbreaks of naturally-occurring animal and plant disease, which would result in many of the same risks as produced by human-made hazards.

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