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## Risk and Emergency Communications: How to Be Heard When the Message Counts Most

Heather N. Kolich

*University of Georgia Extension, Forsyth County, hnkolich@uga.edu*



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## **Risk and Emergency Communications: How to Be Heard When the Message Counts Most**

### **Abstract**

To cope with disasters and emergencies, agricultural producers need specific information addressing livestock care, disease containment, secure storage of volatile chemicals, and other unique concerns. Effective risk and emergency communications result from a time- and resource-intensive process that begins well before emergencies occur. To influence our agricultural clients to engage in risk-mitigation and emergency-preparedness behaviors, Extension agents must build trust with the community, provide information through a variety of channels, and convey an image of professional emergency response competency.

### **Heather N. Kolich**

Extension Agent,  
Agriculture and  
Natural Resources  
University of Georgia  
Extension, Forsyth  
County  
Cumming, Georgia  
[hkolich@uga.edu](mailto:hkolich@uga.edu)

## **Introduction**

Across the U.S., emergencies and disasters are frequent occurrences. Floods are the most common natural disaster, but fires, storms, man-made disasters, and localized emergencies disrupt communities and individual families. Basic emergency preparation helps limit damage (Extension Disaster Education Network [EDEN], 2012), but for farmers and livestock producers, the generic "get a kit" recommendation is inadequate. This population may need specific information about moving or evacuating livestock, preparing adequate stores of food and water if animals must stay behind, containing infectious diseases, securing volatile materials, or other special concerns. Because farms are often spread across sparsely populated rural areas, disaster assistance from emergency responders is likely to be delayed by distance and priority to high-population centers (EDEN, 2012). Farm families and employees must become their own first responders, and emergency preparation is a key factor in mitigating damage and achieving a more complete recovery (EDEN, 2012).

How can Extension professionals ensure that agricultural producers trust and follow our advice relating to disaster preparation and mitigation, actions to take during an emergency event, and steps for recovery after the dust, smoke, or flood waters recede? We must engage in a multi-step communication and trust-building process that begins long before an emergency or disaster strikes. We must also tailor our communication methods to the preferences of our intended audience. As Perry and Nigg (1985) state, "Without the active compliance of citizens, an emergency plan simply cannot be effectively implemented" (p. 75).

## **Importance of Agricultural Security**

In 2012, farm cash receipts for crops, livestock, and related agricultural products exceeded \$390 billion (Klobuchar, 2013). Of that total, \$141.3 billion derived from exported products, representing 10% of U.S. exports for that year (Klobuchar, 2013). Agriculture is a significant element in the U.S. economy and supports other industries both upstream, such as fertilizer and farm equipment manufacturers, and downstream, including food processing plants, clothing manufacturers, transportation companies, and retailers (Klobuchar, 2013; Lipton, Edmondton, & Manchester, 1998; Sundell, 2013). Disruption of farm production due to a disaster or emergency causes economic hardship not only to the farm owner and employees; it also negatively affects both ends of the food and fiber system, one of the largest sectors of the U.S. economy (Lipton et al., 1998).

After the September 11, 2001 terrorist attacks in New York, Washington D.C., and Pennsylvania, concern grew regarding the security of our food production systems (Monke, 2007). Because the wide distribution of farms across the U.S. denies aggressors the shock value of a single, large primary target, agroterrorism is considered a backdoor approach to creating the economic strain and fear that terrorists desire (Monke, 2007). However, the relative isolation of farms and typically low emphasis on security make them "a viable secondary target" (Monke, 2007, Summary section, para. 2). More routinely, our nation's farms and the livelihood of farm owners and workers are vulnerable to harm from several other sources.

Natural disasters—Floods, wildfires, storms (including tornadoes and hurricanes), drought, earthquakes, and landslides cause significant economic and agricultural losses.

Disease—Animal and plant diseases can spread quickly and decimate farm productivity or create export difficulties. Diseases may be introduced through animals comingled at livestock events; new animals entering the general farm population without adequate quarantine measures; wild animals; rodents; and farm visitors or agritourists.

Intentional damage—Isolated farms may be targets for mischief ranging from vandalism to bioterrorism.

Accidents—Industrial spills, train derailments, and fires can contaminate water sources and air. New or beginning farmers in particular may be unaware of safety and security concerning routine farm operations (Byler, Kiernan, Steel, Neiner, & Murphy, 2013), creating an additional category of potential farm hazard: operator error.

Small-scale, localized disasters are more frequent and, in combination, have a more devastating economic affect than the large-scale disasters that draw media attention (EDEN, 2012; Federal Emergency Management Agency [FEMA], 2013). Primary weather-related natural disasters, such as floods or tornadoes, can cause secondary emergencies, including chemical spills and fires (EDEN, 2012). Localized disasters can compromise safety of the food supply, injure or kill livestock, and put farmers and emergency responders in physical jeopardy as producers attempt to rescue animals or refuse to evacuate and leave them behind (FEMA, 2013). Communicating with agricultural producers about risks and emergency preparedness and response is a step toward influencing behavior changes that help mitigate farm losses.

## **Communication Points Relating to Emergency Events**

Two objectives drive risk and emergency communications:

1. To raise public awareness of potential danger
2. To teach people how to mitigate risk and protect themselves before and during emergency events (Perry &

Nigg, 1985)

Just as an emergency or disaster unfolds in three phases (event, response, and recovery), emergency communications have phases. The Crisis and Emergency Risk Communication Model (CERC) identifies five stages of emergency progression during which emergency response agencies need to provide information to the public:

Pre-crisis—provide risk, warning, and preparation information

Initial event—provide basic information, reassurance, and instruction

Maintenance—expand basic information, correct misinformation, listen to feedback from affected groups

Resolution—update the situation, communicate new risks, examine problems and reinforce successes

Evaluation—evaluate response and document actions for improvement (Sheppard, Janoske, & Liu, 2012)

In order to guide an effective emergency response and recovery effort, emergency response agencies, including Extension, must establish trust and credibility within the community before emergencies strike. For this reason, the pre-crisis communication phase is critical. During an active emergency, expert strangers who fall from the sky proclaiming, "I'm here to help," have little chance of influencing the behavior of people they want to assist.

## How to Be Heard Through the Alarms

### Build Trust

Building and maintaining trust in the community, particularly with target clients such as farmers and livestock producers, proceeds over time and along multiple avenues. Parker and Lillard (2013) note that trust in an individual (a particular Extension agent) and trust in an institution (Extension) don't necessarily transfer from one to the other. Extension agents, therefore, must establish an individual presence in the community to foster relationships with agricultural producers. Attending or hosting audience-specific events, such as Cattlemen's Association meetings, Certified Naturally Grown workshops, and poultry health lectures, brings agents into direct contact with our potential clients.

While networking at local functions, we can survey attendees about their information needs or interests and collect contact information that facilitates further, targeted communications to address these needs. We must also be accessible to answer questions. Two-way communications are important for fostering client-agency relationships, establishing our expertise and reliability, building our credibility within the community, and reducing the "distance" that farmers may feel toward the Extension institution (Parker & Lillard, 2013; Perry & Nigg, 1985).

As an example for making contacts, the first time I attended the local Cattlemen's Association meeting—an audience that had long been neglected in my county—I was given the opportunity to introduce myself. After doing so, I let the attendees know that while I wasn't an expert in crop insurance like the guest speaker, I could help them with pasture weed control and forage system establishment. In addition to showing my interest in their success, this offer opened an ongoing dialog between the cattle producers and me that expanded my ability to reach this clientele. Consequently, I was able to alert them when foxtail barley (*Hordeum jubatum*), a noxious weed that injures the mouths and tongues of cattle and inhibits feeding, turned up in a local pasture. At a later date, I provided recommendations on feed supplements to avoid

losses from that year's particularly poor-quality hay.

## Leverage Leadership

Studies show that people are more receptive to information they receive from those whom they perceive to be leaders (Kanté et al., 2009). Extension agents who accept community leadership roles make strides toward building credibility for the agency and the information it communicates. Alternatively, if we concentrate on working with agricultural organization and community leaders, we can build credentials by association and efficiently maximize the spread of Extension's research-based information and recommendations. We can train as a group the leaders of several organizations, and then let them conduct training sessions for the members of their respective organizations. This tactic leverages the leaders' opinion-shaping influence to increase chances that our recommended emergency preparedness and mitigation measures will be heeded (Kanté et al., 2009). According to Sheppard et al. (2012):

Surveys reveal that publics that feel a connection with the spokespeople delivering messages are more likely to have increased problem recognition and involvement. With a stronger understanding of spokesperson impact, risk communicators can choose more effective ways to disseminate information and engage publics (p. 9).

During the event phase of an emergency, we can call again on these organizational leaders to relay our response recommendations to their memberships.

## Frequently Deliver Valuable, Accessible Information

We may deliver information to our agricultural clients in a variety of ways; however, as adult educators, we must understand that different populations use or respond to different forms of communication (Table 1). Older people and those with low literacy or lower educational achievement prefer to receive information through face-to-face communications and direct mailings, the type that require postage stamps (Bardon, Hazel, & Miller, 2007; Cartmell, Orr, & Kelemen, 2006; Kanté et al., 2009). Mid-aged people and those with higher levels of education also like direct mail, but are receptive to magazine articles, short programs, webinars, and email communications, as well (Bardon et al., 2007; Cartmell et al., 2006). Some people, whom Jansen, Steuten, Renes, Aarts, and Lam (2010) describe as "proactivists" (p. 1300) and "do-it-yourselfers" (p. 1301), actively seek information from all sources and critically evaluate it based upon their perception of the expertise of the advisor, the consistency of the message, and for the do-it-yourselfers, their own experiences with the issue. These people seem to be more of a personality type than a demographic set. In another study, Bardon et al. (2007) identified a "Fan Club" cluster (23% of survey respondents) that "expressed interest in all information delivery methods" (Discussion section, para. 3). Members of the Fan Club tended to be younger, married, more highly educated, and have minor children.

**Table 1.**

Preferred Communication Methods of Different Audience Types

Communication Method	Use by Audience		
	Older/ Retired Low literacy and/or Lower education	Mid-age (30s- 60s) Higher education Children at	Proactivists Do-it- yourselfers Fan Club

		home	
Personal conversations (Cartmell et al., 2006; Jansen et al., 2009; Kanté et al., 2009)	X	X	X
Direct mailings such as newsletters (Bardon et al., 2007; Cartmell et al., 2006)	X	X	X
Newspaper and magazine articles (Bardon et al., 2007; Cartmell et al., 2006; Jansen et al., 2010; Kanté et al., 2009)	X	X	X
Meetings, Association meetings (Bardon et al., 2007; Kanté et al., 2009)	X		X
Internet and website content, webinars (Bardon et al., 2007; Cartmell et al., 2006; Jansen et al., 2010)		X	X
Short classes, lectures or workshops (Bardon et al., 2007; Cartmell et al., 2006)		X	X
Full- or multi-day classes, study groups, open farm visits (Bardon et al., 2006; Jansen et al., 2010)			X

To reach all clients, Extension personnel must create and deliver a variety of audience-appropriate materials. This dovetails well with study findings that effective emergency preparedness information is "communicated over multiple channels" (Sheppard et al., 2012, p. 11). Based on the type of emergencies most likely to occur in our region (flood, wildfire, tornado, earthquake, volcano eruption, et cetera), we should research and prepare in advance generalized emergency communications into which we can plug event-specific details (Sheppard et al., 2012). This preparation ensures that we're able to respond with accurate information and instructions immediately when emergencies strike. However, if we are to effectively influence our clients' behaviors, our communications cannot be limited to emergency recommendations.

Building relationships with our clients begins with providing them information they find useful and valuable, including the type of information they request during networking activities. Our responsive, value-adding communications should be regular and frequent, but periodically and strategically we need to address potential risks.

My monthly, emailed Extension newsletter originated as an alert to a late hard freeze. It contained specific information on protecting plants through the use of covers and, for our blueberry producers, overhead irrigation to protect their crops. The positive feedback from this alert, as well as the fact that recipients forwarded it to their friends and neighbors, evidenced a link of trust that had been forged between the community and me, the new addition to the Extension office. Into subsequent newsletters relaying seasonal

information, I tucked warnings about the above-mentioned injurious pasture weed and poor-quality forage, as well as the increased risk of prussic acid poisoning from certain forages following a frost, signs and symptoms of rabid animals, and tactics for safely enduring power failures, including a simple fireplace cooking method and recipe.

I take a similar approach with my monthly newspaper column, alternating articles about plant diseases and pruning techniques with columns on the importance of wearing personal protection equipment when using pesticides, locating overhead and underground utilities before engaging in landscape renovation, and detailing items that need to be included in emergency preparedness kits for the home, office, and vehicles.

These useful and timely communications have been well received and, along with in-person community efforts, have helped my email contact list grow to over 2,200 community members. To reach the younger, proactivist, and do-it-yourselfer members of the community, I post the articles and newsletters on our county Extension website. Since my contact list includes news outlets, several newsletter features and newspaper articles have been reprinted locally and featured on our statewide Internet Extension news presence, further expanding the reach of the messages. On the other hand, when I was short on time one month and only included announcements about upcoming Extension classes and events in the newsletter, I received several requests from clients to be removed from the contact list. That newsletter did not meet their needs or add value to their lives.

Now that I've established a level of trust with community members, my emergency communications plan includes broaching topics that require behavior change, such as designating a separate, locked building for storing combustible and toxic agricultural chemicals to discourage theft and to mitigate the potential harm to livestock (poisoning, feed contamination) that could result from accidental spillage and discussing factors that could impede the movement of livestock trailers during an evacuation. In addition to highlighting risks, we need to recommend pre-crisis actions to take to mitigate losses. In the animal relocation communication, I'll urge livestock owners to map out and practice two-three alternative evacuation routes. Communications of this type help clients critically assess their own situations and at least begin to think about making loss-mitigating improvements and emergency response action plans.

By bringing clients to a thoughtful stage before emergencies happen, we help them create a "mental model" of capability (Sheppard et al., 2012, p. 12). A study to determine how people decide whether a situation has high-risk or low-risk found that:

People use systematic processing when they have previous knowledge of or strongly held beliefs about the information presented. This previous interaction with the information allows individuals to further their knowledge and to increase the strength of their attitudes toward the topic (Sheppard et al., 2012, p. 9).

In other words, our risk and recommendation communications can build in our clients the idea that they can exert control over some aspects of emergency or disaster situations. Having control creates a feeling of empowerment and increases the chances that clients will implement our risk mitigation recommendations before emergencies strike, as well as accept the response advice we give during an emergency event (Sheppard et al., 2012).

## **Establish Competency**

Finally, organizations that are less associated with emergency response, such as Extension, must convince the

public and other emergency response groups that we are knowledgeable professionals. According to Perry and Nigg (1985):

A major thrust of citizen contacts during normal times, then, should be to establish the technical expertise of the manager and his/her staff. Making the public aware that emergency managers have both technical training and access to special equipment to cope with environmental threats sets the manager apart as having a *professional* approach to handling community threats (p. 73).

To do this, Extension personnel must acquaint the community with our organization's defined role in emergency response, such as training agricultural producers in agrosecurity, managing animal evacuation shelters, coordinating and distributing emergency agricultural supplies, and/or "providing communications to the public" (University of Georgia, 2007, p. 2). And we need to seek training in those tasks. I had completed Community Emergency Response Team (CERT) training before joining the Extension team. Since then, I've completed several online trainings, including FEMA's [Livestock in Disasters](#) and [Animal Agrosecurity and Emergency Management](#), offered by Extension Disaster Education Network. These are the credentials I presented when I approached my county's new Deputy Director for Emergency Management and suggested that we work together to plan, prepare, and practice for agricultural emergencies that might affect our community.

## Conclusions and Recommendations

Risk and emergency leaders who communicate with the public in ways that make people feel empowered to mitigate disaster through preparation and appropriate response are more likely to influence them to take preparedness measures (Sheppard et al., 2012). The most effective way to achieve this goal is to establish relationships of trust with the community well before an emergency occurs and to deliver information by the communication methods most preferred and used by our various clients.

Establishing community-agency trust and building a mental model of empowerment in the community to prepare for and appropriately respond to emergencies are time-intensive and ongoing processes. Following these pre-crisis communication recommendations will set the stage for successful emergency response and recovery efforts.

- Research and analyze local and regional risks.
- Prepare risk and emergency communications, and plan their strategic delivery to the community and our target clients well before emergencies strike.
- Network in the community to build relationships, and collect contact information from residents and community and organizational leaders.
- Organize contact information into interest groups, and use it to expand our ability to disseminate requested and valuable information to the community and target groups.
- Establish regular communications providing requested and valuable information to clients.
- Include occasional educational articles about specific risks, mitigation, and emergency preparation as part of our regular communications.



- Employ a variety of information delivery methods to reach all segments of the community and our target audience.
- Reiterate consistent emergency preparation messages.
- Define Extension's role in emergency response.
- Plan and practice emergency response scenarios with other local emergency response agencies.

A sound, well-planned and executed pre-crisis communication program strengthens the likelihood that the community and our particular clients will engage in emergency-preparedness and risk-mitigation activity, as well as follow recommended response behaviors from Extension personnel during an emergency. Combined, these efforts can lead to a more satisfactory recovery after emergency events.

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