

IDENTIFYING ORGANIZATIONS WITH ROLES IN
DISASTER RESILIENCY FOR RURAL AREAS AND
AGRICULTURAL BUSINESSES IN OKLAHOMA:
A DELPHI STUDY

By

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Abstract:

In an effort to increase resilience, the purpose of this study was to describe the perceptions of two groups of professionals, one agriculture-focused and the other disaster-focused, regarding organizations that should be involved in mitigation, preparedness, response, and recovery after a disaster impacting rural areas and agricultural businesses. The target population included all 77 counties in Oklahoma with purposive sampling used to select the 40 counties throughout Oklahoma which had experienced four or more disaster declarations from 2010 to 2012. From within these counties, members of the local emergency planning committees (LEPCs) were recruited for participation as the disaster-focused panel, while alumni of the Oklahoma Agricultural Leadership Program (OALP) fulfilled the agriculture-focused panel. This research was implemented using a modified Delphi technique that collected data across three rounds of study.

The disaster-focused panel provided between two and 20 years of experience in serving on local emergency planning committees with 53% of respondents having previous experience responding to disasters impacting agriculture. Likewise, the OALP panel contributed 24 to 55 years of service in agriculture with 66% having experience in response to disasters.

Across three rounds of this study, the LEPC panel reached consensus on the involvement of 116 organizations across the four phases of disaster and 147 roles with the most being identified for the response phase of disaster.

The OALP panel reached consensus on 79 organizations and 188 roles. While the panel agreed upon the most organizations for response, more roles were identified for mitigation.

Comprehensively, 101 organizations across the four phases of disaster reached consensus with 335 roles. Organizations with roles identified across all phases of disaster, for the disaster-focused panel reached agreement on primarily governmental organizations while the agriculture-focused panel identified more with individuals and local groups. Eleven organizations with roles were identified and agreed upon by both panels.

Identifying participants prior to a disaster that should be involved and what roles they should play is necessary to increase resilience. Consensus reached in this study provides this information in a comprehensive inventory.

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CHAPTER I

INTRODUCTION

At the 2010 United States Department of Agriculture (USDA) Outlook Forum dinner, Dr. Roger Beachy, National Institute of Food and Agriculture Director and USDA Chief Scientist, offered the following words...

Today, agriculture production systems are under pressure as never before. The FAO warns that the combined effects of population growth, strong income growth, and urbanization will require a doubling of food production by 2050. That doubling of production will need to occur despite climate disruptions, critical water shortages in some parts of the globe, increased salinity of soil, and the necessity to reduce the energy and environmental footprints of agriculture practices. . . . American farmers and foresters already are seeing strong downward pressure on the production system, and many areas of the U.S. are as vulnerable to climate disruption as any place on earth (p. 4).

Climate disruption, one of the pressures identified by Beachy (2010), involves the weather conditions of a region including the increasing frequency and severity of natural disasters (Lashof & Stevenson, 2013; U.S. Department of Agriculture, 2012). This, along with the rapidly increasing world population and cost of goods (Beachy, 2010; Committee on Increasing National Resilience to Hazards and Disasters, 2012) has

resulted in questions of how to deal with and reduce the level of devastation caused by disasters (Committee on Increasing National Resilience to Hazards and Disasters, 2012). The National Academies of Science report, *Disaster Resilience: A National Imperative*, questioned, “what happens to the magnitude of these losses of lives, livelihoods, property and community in the future as our population expands and our infrastructure ages” (Committee on Increasing National Resilience to Hazards and Disasters, 2012). Beachy (2010) echoed these concerns when he identified one of the biggest challenges for the agricultural industry today: the critical need to increase production while facing greater levels of vulnerability.

Background and Setting

In 1998, a presidential directive on protecting critical infrastructure did not include agriculture, and the industry was not added to the list until 2003 (Monke, 2007). Moats (2007) explained the oversight: “because the agriculture industry is so robust, many of us recognize agriculture only by what we see in the grocery store.” However, agriculture is much greater than just the “grocery store” (Moats, 2007, p. 5) as more than \$230 billion, or 15%, of the United States gross domestic product comes from the food and fiber sector (U.S. Department of Homeland Security, 2011a).

Agriculture, however, is a complex, multilayered industry facing a host of changes (Moats, 2007). Between 2002 and 2007, the number of farm operators over the age of 75 grew by 20%, while operators under 25 years of age decreased by 30% (U.S. Department of Agriculture, 2007a). Additionally, while almost 40% of the nation’s population lived and worked on farms in the early 20th century, now less than 2% of the population resides there (Monke, 2007). Production characteristics also are changing (U.S. Department of Agriculture, 2007a) with just 2% of farms producing 16% of total products nationwide (U.S.

Department of Agriculture, 2007a). This concentration of agricultural production, along with numerous other challenges has resulted in an exponential increase in the vulnerability of the agricultural industry (Beachy, 2010; Moats, 2007).

As attributes of the agricultural industry are morphing and resulting in increased vulnerability (Beachy, 2010; Moats, 2007), the climate, globally, also is changing, with natural disasters expanding in both frequency and ferocity. Kusumasari, Alam, and Siddiqui (2010) found in a review of the International Disasters Database that 73 natural disasters were recorded from 1900-1909, while this number rose to 2,788 recorded disasters from 2000 to 2005. In 2011, economic damages from natural disasters in the United States exceeded \$55 billion (Committee on Increasing National Resilience to Hazards and Disasters, 2012). In addition, from 1992 to 2012, 1.3 million people have been killed worldwide in natural disasters and the United States has sustained \$560 billion in natural disaster damages (United Nations Office of Disaster Risk Reduction, 2012a).

With these disaster concerns in mind, presidential policy directives were introduced to address issues of national security (U.S. Department of Homeland Security, 2003) along with frameworks for disaster mitigation, preparedness, response, and recovery (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c). The national preparedness goal, for example, defined success against the increasing disasters as, “a secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk” (U.S. Department of Homeland Security, 2011c).

In an effort to reach this “secure and resilient nation” (U.S. Department of Homeland Security, 2011c) and apply it to the agricultural industry, resilience must first be defined.

Resilience, while recognized to have numerous definitions across disciplines, in its simplest form, is the “ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events” (Committee on Increasing National Resilience to Hazards and Disasters, 2012, p. 1). The Committee on Increasing Resilience to Hazards and Disasters (2012), stated that for the nation to reach this resiliency, “such capacity building starts with individuals taking responsibility for their actions and moves to entire communities working in conjunction with local, state, and federal officials, all of whom need to assume specific responsibilities for building the national quilt of resilience” (p. vii).

Agricultural groups, however, are often overlooked. Within local emergency planning committees (LEPCs), a 2008 survey administered by the United States Environmental Protection Agency revealed agriculture groups were defined in the other category along with local schools, colleges, universities, and public utilities groups (U.S. Environmental Protection Agency, 2008). Survey results showed only 14.1% included these groups within their membership (U.S. Environmental Protection Agency, 2008).

Statement of the Problem

With the vastness of hazards impacting the agricultural industry, increasing resiliency for this sector should be an industry priority. As Moats (2007) indicated, resources and capabilities need to be cataloged, and yet, very little work in this area has been completed. With low membership of agricultural producers interacting with the LEPC’s, these planning committees may or may not know what assistance producers need after a disaster to recover or become more resilient and likely do not know what agricultural resources are already in their communities. Likewise, agricultural producers may not know what resources are available after a disaster or where to go for assistance.

According to the Federal Emergency Management Agency, identification and prioritization of these goals should be led at the local level by the individuals who will be impacted by a disaster (U.S. Department of Homeland Security, 2011a). Using these local resources, collaboration has been found to increase flexibility and improvisation during response and recovery and has been credited with yielding stronger and more resilient communities post-disaster (Patton, 2007).

By developing an inventory of perceptions from an agriculturally-focused (insider) and a disaster-focused (outsider) panel, both local groups will be able to identify their resources. The groups, then, will be able to implement a collaborative approach to mitigation, preparedness, response, and recovery of disasters.

Purpose

The purpose of this study was to describe the perceptions of two groups of professionals, one agriculture-focused and the other disaster-focused, regarding organizations that should be involved in mitigation, preparedness, response, and recovery after a disaster impacting rural areas and agricultural businesses.

Objectives

The following objectives guided this study and were focused on each phase of disasters impacting rural areas and agricultural businesses in Oklahoma:

- 1) Describe selected professional characteristics of panelists.
- 2) Describe selected disaster industry experts' perceptions regarding organizations that should be involved in each phase.
- 3) Describe selected disaster industry experts' perceptions regarding the roles each organization identified should fulfill during each phase.

- 4) Describe selected agricultural industry experts' perceptions regarding organizations that should be involved in each phase.
- 5) Describe selected agricultural industry experts' perceptions regarding the roles each organization identified should fulfill during each phase.
- 6) Compare agricultural industry experts' and disaster industry experts' perceptions regarding organizations that should be involved in each phase.
- 7) Compare agricultural industry experts' and disaster industry experts' perceptions regarding the roles each organization identified should fulfill during each phase.

Scope of the Study

This study included two panels, one composed of agricultural industry experts and the other composed of disaster experts who reside in the 40 counties that have had four or more disaster declarations in the past three years.

Significance of the Study

This study will benefit the agricultural industry in Oklahoma by identifying organizations that should be working within their respective communities before, during, and after a disaster impacting a rural community and agricultural businesses. By defining players and roles prior to a disaster situation, mitigation, preparedness, response, recovery, and eventual resilience of the agricultural industry from disasters will increase in efficiency and effectiveness. When a disaster strikes, prior planning and collaboration may decrease total death loss, lessen the spread of disease, and decrease total economic loss, all of which will allow the industry to rebound more rapidly from disasters. The greater strides achieved toward resiliency ultimately will provide more stability to Oklahoma's economy and food supply.

Assumptions

This study was conducted under the following assumptions:

1. Agriculture and disaster panelists will respond honestly, accurately, and appropriately to all questions, statements, or other items.
2. Panelists are familiar with the rural areas and agricultural businesses in their respective communities.
3. Social capital theory can be used to describe agriculture and disaster panelists and the collaborative efforts of their community involvement.
4. Panel members have reliable Internet to receive each round of the study and return answers to the researcher.

Limitations

The following limitations were identified for this study:

1. Participants selected for this study may not be representative of all agriculture and disaster experts in the state of Oklahoma. Therefore, the results of this study cannot be generalized beyond the counties involved in this study.
2. This study does not reflect all variables that may impact the agricultural industry's ability to increase resilience.
3. All organizations identified may not be present or available in every county involved in this study.
4. Panelists' definitions of rural areas and agricultural businesses may differ.

Definitions

The following terms were identified as follows for use in this study:

Agriculture: “The science, art or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products” (Agriculture, n.d.).

Catastrophic incident: “Any natural or human-induced incident, including terrorism, that leaves unprecedented levels of damage and disruption severely affecting the population, infrastructure, environment and economy. A catastrophic event would result in sustained national impacts over a period” (Moats, 2007, p. 182).

Climate: “The composite or generally prevailing weather conditions of a region, throughout the year, averaged over a series of years” (U.S. Department of Agriculture, 2012).

Collaborative: “To co-labor, to cooperate to achieve common goals working across boundaries in multisector relationships” (Robinson & Gaddis, 2012, p. 256).

Critical infrastructure: “Systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination thereof. The Nation’s critical infrastructure is composed of 18 sectors: banking and finance; chemical; commercial facilities; communications; critical manufacturing; dams; defense industrial base; emergency services; energy; food and agriculture; government facilities; healthcare and public health; information technology; national monuments and icons; nuclear reactors, material, and waste; postal and shipping; transportation systems; and water” (U. S. Department of Homeland Security, 2011c, p. A-1).

Disaster: “They: (1) are sudden-onset occasions, (2) seriously disrupt the routines of collective units, (3) cause the adoption of unplanned courses of action to adjust to the disruption, (4) have unexpected life histories designated in social space and time, and (5) pose danger to valued social objects” (Quarantelli, 2000, p. 682).

Emergency: “Any natural or human caused situation that results in or may result in substantial injury or harm to the population or substantial damage to or loss of property” (Moats, 2007, p. 182).

Farm: “Any place from which \$1,000 or more of agricultural products were, or normally would be, produced and sold during the Census” (U.S. Department of Agriculture, 2007c, p. 1).

Farm operator: “An individual or group that controls the day-to-day management and decision making of a farming operation” (U.S. Department of Agriculture, 2012).

Food and fiber system: “Encompasses all the processes necessary to bring food and fiber products to the consumer including production, processing, research, development, distribution, and marketing. Food and Fiber Systems provide peoples’ basic needs of food, clothing, shelter, and more” (Food and Fiber Systems Advisory Committee, 1998, p. 9).

Hazard: “Something that is potentially dangerous or harmful, often the root cause of an unwanted outcome” (Moats, 2007, p. 184).

Incident: “An occurrence, either human caused or resulting from natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources” (Moats, 2007, p. 184).

Incident Command System (ICS): “A management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities,

equipment, personnel, procedures, and communications operating within a common organizational structure” (Moats, 2007, p. 184).

Local Emergency Planning Committee (LEPC): “Local Emergency Planning Committees were established under the Emergency Planning and Community Right-to-Know Act. LEPCs are non-profit community organizations that must include in their membership, at a minimum, local officials including police, fire, civil defense, public health, transportation, and environmental professionals, as well as representatives of facilities subject to the emergency planning requirements, community groups, and the media. LEPCs must assist in the development of emergency response plans, conduct annual reviews at least annually, and provide information about chemicals in the community to citizens” (Department of Homeland Security, 2007, p. 1).

Mitigation: The initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster (National Governor’s Association, 1979; Neal, 1997; Phillips, 2009).

National Incident Management System (NIMS): “A core set of doctrine, concepts principles, terminology, and organizational processes to enable effective, efficient, and collaborative incident management at all levels, developed by the U.S. Department of Homeland Security to meet objectives established by President George W. Bush through Homeland Security Presidential Directive 5” (Moats, 2007, p. 186).

National preparedness: “The actions taken to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose the greatest risk to the security of the Nation” (U.S. Department of Homeland Security, 2011c, p. A-2).

National Response Framework: “A guide to how the Nation conducts all-hazards response. It is built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities across the Nation. It describes specific authorities and best practices for managing incidents that range from the serious but purely local, to large-scale terrorist attacks or catastrophic natural disasters” (U.S. Department of Homeland Security, 2008c, p. i).

Phases of disaster: Developed by the National Governor’s Association for comprehensive emergency management; known as the life cycle and include mitigation, preparedness, response, and recovery (National Governor’s Association, 1979; Neal, 1997; Phillips, 2009).

Preparedness: Occurs close to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations (National Governor’s Association, 1979; Neal, 1997; Phillips, 2009) .

Recovery: Begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property (National Governor’s Association, 1979; Neal, 1997; Phillips, 2009).

Response: Involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property (National Governor’s Association, 1979; Neal, 1997; Phillips, 2009).

Resilience: “The ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events” (Committee on Increasing Resilience to Hazards and Disasters, 2012, p. 1).

Risk assessment: “A product or process that collects information and assigns a value to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision making” (U.S. Department of Homeland Security, 2011c, p. A-2).

Rural Area: “...any area other than (i) a city or town that has a population of greater than 50,000 inhabitants; And (ii) any urbanized area contiguous and adjacent to a city or town..” (U.S. Department of Agriculture, 2013, p. 4).

Stabilization: “The process by which the immediate impacts of an incident on community systems are managed and contained” (U.S. Department of Homeland Security, 2011c, p. A-2).

Whole community: “A focus on enabling the participation in national preparedness activities of a wider range of players from the private and nonprofit sectors, including nongovernmental organizations and the general public, in conjunction with the participation of Federal, state, and local governmental partners in order to foster better coordination and working relationships” (U.S. Department of Homeland Security, 2011c, p. A-2).

CHAPTER II

LITERATURE REVIEW

The ever-changing infrastructure of the agricultural industry, coupled with the rising frequency and intensity of disasters, create the need for a research focus on increasing the level of resilience in agriculture. Due to the infancy of this research area, however, the purpose of this study was to identify the organizations and corresponding roles of those organizations in mitigation, preparedness, response and recovery for rural areas and agricultural businesses. Prior planning and collaboration may decrease total death loss, lessen the spread of disease, and decrease total economic loss, all of which will allow the industry to rebound more rapidly from disasters.

Importance of the Agricultural Industry

Damage to the world food and fiber supply could be the most crippling disaster of all, and yet, in the recent past, agriculture's importance has been overlooked. In 1998, a presidential directive on protecting critical infrastructure did not even include agriculture, and the industry was not added to the list until 2003 (Monke, 2007). Moats (2007) explained the oversight when he wrote, "because the agriculture industry is so robust, many of us recognize agriculture only by what we see in the grocery store" (p. 5).

Agriculture is a multi-layered, complex industry that includes both animal agriculture and crop production, with individual commodities ranging from cattle and hogs to emus and tilapia, along with grains, vegetables, tobaccos, and grasses (Moats, 2007). However, numerous other industries, such as textiles, manufacturing, retail, and petrochemicals rely upon agriculture products as a major component of their industries (Moats, 2007; Monke, 2007).

With the broad commodities produced, the agricultural industry poses significant impacts on the global economy. While less than 2% of the country's labor force is involved directly in farming, processors, suppliers, shippers, grocers, and others impacted by agriculture make up an additional 16% of the workforce (Monke, 2007; U. S. Department of Agriculture, 2007a). In 2002, gross farm sales surpassed \$200 billion, and the food and fiber sector contributed \$1.2 trillion of the nation's gross domestic product (Monke, 2007). In addition, more than \$39 billion in taxes to federal, state, and local governments is generated by agricultural production (Moats, 2007).

To create this type of economic impact, in 2002, the United States had 95 million cattle, 60 million hogs, and more than 8.5 billion birds in inventory. In 2003, the nation accounted for 65% of corn and 32% of wheat exported globally (Monke, 2007). Additionally, agricultural products contributed to 8% of exports and 4% of imports for the country in 2003 (Monke, 2007).

While the agricultural industry creates a global financial impact through imports and exports, individuals also feel financial effects of agriculture (Monke, 2007). In 1929, 23% of American's disposable income was spent on food. However through advancements in technology and efficiency, this burden had dropped to only 10% in 2003 (Monke, 2007).

Attributes of the Agricultural Infrastructure

Geographically, U.S. agricultural production is concentrated throughout the Midwest, part of the East Coast, and California, and is found on a subset of large farms (Monke, 2007). With 75% of the value of all agricultural production occurring on 6.7% of farms, a compelling concentration of farms exists (Monke, 2007). According to the 2002 Census of Agriculture, the top five cattle-producing states contributed 35% of all cattle inventory, three states contributed 53% of hog production, and four states produced 54% of the nation's corn supply (Monke, 2007). In 2007, the United States Department of Agriculture revealed 60% of all farms report less than \$10,000 in sales from agricultural products (United States Department of Agriculture, 2007a). Considering this significant geographical concentration of agricultural inventory, producers must stay cognizant of factors such as large numbers of animals in confinement operations, inadequate training for veterinarians, industry regulations, and international trade dependency upon disease-free status (Moats, 2007; Monke, 2007).

Agriculture is experiencing an increase in diversity with American Indian, Asian, Black, Hispanic, and multiracial populations showing an increase in number of operators (U. S. Department of Agriculture, 2007a). The largest change in demographics, however, was the number of women operators, increasing almost 30% from 2002 to 2007 (U.S. Department of Agriculture, 2007a).

Another changing demographic in agriculture is age. In 2002, the average age of a U.S. farm operator was 55.3 years. However by 2007, this had increased to 57.1 years (U.S. Department of Agriculture, 2007a). In this five-year timeframe, agriculture experienced a 20% increase in operators over 75 years of age and a 30% decrease in

operators under 25 years of age, creating a rapidly aging population of farm operators (U.S. Department of Agriculture, 2007a).

Beyond the changing demographics, agriculture as a primary source of income has been declining. In 2007, 1 million farms showed a positive net income; however, the remaining 1.2 million farms reported using non-farm income to pay for farming activities, (U.S. Department of Agriculture, 2007a). Principal farm operators working more than 200 days off the farm rose from 55% in 2002 to 65% in 2007 (U.S. Department of Agriculture, 2007a).

Defining Disasters

While Prince's study of a Canadian explosion in 1917 is recognized as the pioneer study of disaster (Scanlon, 1988), since that time, researchers have offered numerous definitions for disaster. An early, classical definition that was widely accepted was offered by Fritz (1961): a disaster is an event in which society experiences danger and suffers losses of members and physical structures that disrupt the fulfillment of essential functions. More recently, Gilbert (1998) categorized the approaches to disaster into three areas: a duplication of war (p. 12), a social vulnerability (p. 14), and an uncertainty (p. 16).

Approaching disaster in a similar manner to war was based upon the simplistic belief that disasters are harmful attacks on human groups (Gilbert, 1998). Quarantelli, however, questioned this concept and emerged with further methods of approaching disaster based upon social factors and community analysis, taking the idea of disasters beyond just the impacts of destructive agents (Gilbert, 1998, p. 13). Gilbert (1998) expanded on the social vulnerability concept, describing disaster as a result of upsetting

human relations. Disaster as an uncertainty comes from the absence of communication within the community, not from external factors (Gilbert, 1998). While each paradigm draws both support and disagreement, Gilbert purports that each approach to disaster has credible distinctions.

A more applied approach to defining disaster was reported by Cutter (2005), as she identified her perception of the question as not a disaster focus, but stated “the question is not what is a disaster, but what is our vulnerability (and resiliency) to environmental threats and extreme events” (p.39). Cutter explained this approach as examining human systems and their interconnectivity with both natural and technological disasters and creating a research environment based more upon fundamental concerns rather than intellectual capital.

While each outlook on how to define a disaster may differ, Quarantelli has been recognized as investing years of research effort toward establishing a working definition (Perry, 2007). In response to his efforts, Quarantelli (2000) defines disaster as sudden-onset occasions causing disruption and the necessity for flexibility across courses of action, while adding that disasters pose danger and have created unexpected places in history.

Differentiating Emergency, Disaster, and Catastrophe

Another consideration discussed among disaster researchers is the difference between emergency, disaster, and catastrophe. Quarantelli (2006) explained catastrophes are qualitatively and quantitatively different from disasters, in the same respect as disasters are to emergencies. During a disaster, organizations must relate to additional and unfamiliar outcomes, adjustments to freedom of actions must be taken, and

performance standards must be different. During disasters, greater public and private interaction must occur (Quarantelli, 2006).

When attempting to distinguish between disasters and catastrophes, however, much distinction comes from level of severity. Quarantelli (2006) identified six factors for a catastrophe: most community structures are impacted, local officials are unable to perform typical roles, nearby communities cannot assist due to impact, nearly all community functions are interrupted, a greater presence of mass media appears, and political powers become even more important. Disasters, while still a debated topic in the research field, include sudden, social disruption (Quarantelli, 2006).

Disaster Life Cycle

An additional taxonomy of disasters is the categorization of disaster activities into disaster phases. Researchers have used these phases to organize findings and make recommendations (Neal, 1997), while practitioners have used these categories to improve the efficiency of their disaster capabilities (National Governors Association, 1979; Neal, 1997). Researchers such as Carr, Powell, Stoddard, Barton, Dynes, and Drabek studied their own classifications for disaster phases from the 1930s to 1980s, and created their own phases relative to temporal or functional categories, or a combination of both (Neal, 1997). However, in 1979, the National Governors Association presented what is commonly used in today's disaster disciplines: the disaster "life cycle," which includes mitigation, preparedness, response, and recovery (p. 106). While each phase focuses on certain parameters of disaster management, each also serves as a continuum in the disaster life cycle and involves concurrent activities with the other phases (Neal, 1997; U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c).

Mitigation, the initial phase occurring before a disaster, includes activities focused on distributing the costs of a disaster, reducing the impacts of a disaster or eliminating the probability of a disaster (National Governors Association, 1979; Neal, 1997; Phillips, 2009). Additionally, through the Department of Homeland Security as part of the Presidential Policy Directive-8 (PPD-8), the National Mitigation Framework supports a focus for mitigation capabilities to be developed to strengthen personal security and promotes resiliency and sustainability for both the individual and communities (U.S. Department of Homeland Security, 2013). Previous research by Rose, Porter, Dash, Bouabid, Huyck, Whitehead, Shaw & West (2007) reported that emphasis placed on pre-mitigation planning has resulted in \$4 dollars in post-disaster savings for each dollar spent.

Preparedness, as defined by the National Governors Association (1979), occurs closest to the onset of a disaster and includes actions such as forecasting, warnings, and resource stockpiling to increase efficiency of response operations (p. 106). Also, as part of the PPD-8, the Department of Homeland Security released the National Preparedness Goal (U.S. Department of Homeland Security, 2011c). Through this goal, core capabilities for preparedness are defined as prevention, protection, mitigation, response, and recovery (U.S. Department of Homeland Security, 2011c).

According to the initial definition set out by the National Governors Association (1979), the response phase of a disaster occurs directly after disaster impact (p. 106). Included in response activities are search and rescue missions, emergency shelter, emergency assistance, cessation of damaged utilities, development of secure perimeters, and damage assessment (National Governors Association, 1979). In 2008, the

Department of Homeland Security released the National Response Framework to provide a “scalable, flexible, and adaptable coordinating structure” for all-hazards response (U.S. Department of Homeland Security, 2008c, p. 1). As a function in this framework, response focuses on actions similar to the National Governors Association (1979) definitions by including immediate action to save lives, protection of property and the environment, and provision of basic human needs (U.S. Department of Homeland Security, 2008c). Response results in the execution of emergency plans developed during the preparedness phase (U.S. Department of Homeland Security, 2008c).

The recovery phase begins immediately after the response to a disaster but may extend from months to years after the disaster, as systems return to normal operating levels (National Governors Association, 1979). Recovery includes short-term activities within approximately two weeks after the event that involve clean-up and temporary shelter (National Governors Association, 1979). Long-term recovery may last for years and include redevelopment, loans, and legal assistance (National Governors Association, 1979). The National Disaster Recovery Framework (2011b) identified nine core principles of recovery: individual and family empowerment, leadership and local primacy, pre-disaster recovery planning, partnerships and inclusiveness, public information, unity of effort, timeliness and flexibility, resilience and sustainability, and psychological and emotional recovery (U.S. Department of Homeland Security, 2011b).

Frameworks and Federal Directives for Disaster Management

In the 1970s, a fire destroyed 700 structures, took 16 lives, and cost an estimated \$18 million dollars per day (Davies, Deric, & Davies, 2005). Blame was placed across the Bureau of Land Management, the U.S Forest Service, and the National Park Service

for not being properly prepared, which resulted in a Congressional request for a standardized disaster response (Buck et al., 2006). The initial result of this request was the incident command system (ICS), which evolved into a series of rational bureaucratic principles that can be extended to the chaos of disaster (Buck et al., 2006).

ICS provides a standardized approach to enable coordination among agencies, to solidify common processes for planning and resource management, and to provide an organizational structure for facilities, equipment, personnel, procedures, and communications (U.S. Department of Homeland Security, 2008a, 2010). This system allows for a structured method of addressing challenges for both natural and human-induced disasters (Moats, 2007). Although different versions have emerged, ICS trainings have several common elements, such as common terms, standardized job descriptions, and assignment of authority figures (Buck et al., 2006; U.S. Department of Homeland Security, 2008a).

After September 11, 2001, all new organizational offices and procedures were put in place by the Department of Homeland Security. As part of these changes, the president issued Homeland Security Presidential Directives (HSPDs) that impacted the structures for and approaches to disaster management (Monke, 2007; U.S. Department of Homeland Security, 2010; White House 2004, 2003a, 2003b).

Related to this study, HSPD-5 Management of Domestic Incidents, created the structure for a single, comprehensive national incident management system (NIMS) (White House, 2003a). The directive tasked government officials with creating the NIMS to provide a consistent approach for federal, state, and local governments to coordinate together regardless of the size, type, or complexity of the disaster (U.S. Department of

Homeland Security, 2010, 2008a; White House, 2003a). NIMS, a comprehensive plan that includes ICS, is a framework for preparedness, communication and information management, resource management, and the ongoing management and maintenance of disasters (U.S. Department of Homeland Security, 2008a, 2010). Because NIMS extends military organization to civilian life, the president of the United States mandated all federal agencies that receive preparedness funding to utilize NIMS (Buck et al., 2006). Figure 1 depicts the structured approach of NIMS.

Additionally, HSPD-5 called for the development of a National Response Plan, revised in 2008 to be the National Response Framework (NRF) (U.S. Department of Homeland Security, 2008c). This portion of the directive created an all-hazards, all-discipline plan, including structures for prevention, preparedness, response, and recovery (Buck et al., 2006; U.S. Department of Homeland Security, 2008c; White House, 2003a).

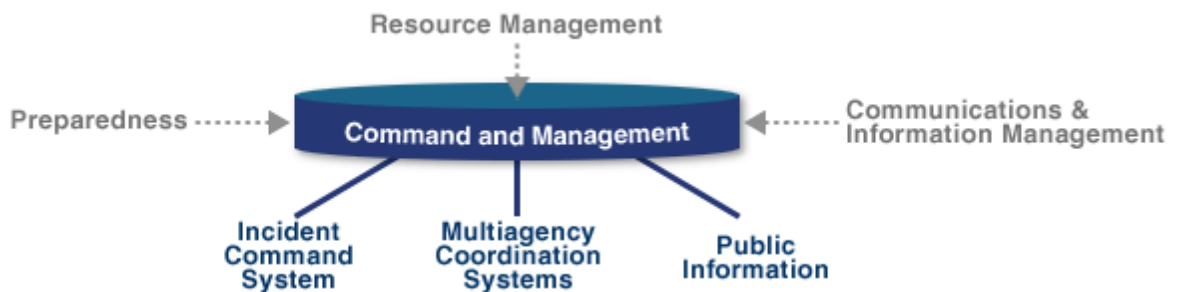


Figure 1. Command and management elements of NIMS (U.S. Department of Homeland Security, 2010).

Relative to agriculture, the NRF established emergency support functions (ESFs). ESF-11, Agriculture and Natural Resources, established the United States Department of Agriculture as the ESF coordinator for nutrition assistance; animal and plant disease, and pest response; food safety and security, natural and cultural resources and historic properties protection and safety and well-being of household pets (Monke, 2007; U.S.

Department of Homeland Security, 2008c). In 2008, the Food and Agriculture Incident Annex was written as an addendum to the NRF (Monke, 2007; U.S. Department of Homeland Security, 2008b). This annex further established roles of agencies involved in agriculture and public health with a focus on supporting coordination between government and non-government organizations (NGOs), minimizing economic and public health impacts from an agricultural disaster, and providing guidance for transitioning from response to recovery following an incident (Monke, 2007; U.S. Department of Homeland Security, 2008b).

Beyond the NIMS and the NRF mandated through HSPD-5, HSPD-8 for national preparedness established policies to increase and strengthen preparedness for terrorist attacks, major disasters, and emergencies from an all-hazards approach (U.S. Department of Homeland Security, 2010; White House, 2003b). Additionally, this directive established federal assistance to state and local governments for the development of preparedness programs (White House, 2003b).

While HSPD-5 and HSPD-8 are focused on disaster management policies and frameworks, other directives focused on certain sectors and industries. HSPD-7 was written to protect infrastructure, while HSPD-9 considered our nation's food supply. HSPD-7, Critical Infrastructure, Identification, Prioritization, and Protection, established policies to identify and prioritize critical infrastructures and key resources in protection from terrorist attacks (Department of Homeland Security, 2003). HSPD-7 designated sector-specific agencies for the areas identified as critical infrastructures (U.S. Department of Homeland Security, 2003). These agencies were tasked with identifying and collaborating with all key people and entities within their infrastructures, conducting

vulnerability assessments, and encouraging risk management strategies (U.S. Department of Homeland Security, 2003). Included within the designations was the United States Department of Agriculture and protection of agriculture and the nation's food supply (Monke, 2007; U.S. Department of Homeland Security, 2003).

Finally, HSPD-9, Defense of United States Agriculture and Food, developed policies to protect agriculture from terrorist attacks, major disasters, and emergencies (Monke, 2007; U.S. Department of Homeland Security, 2004). This directive developed a collaboration of agencies including DHS, USDA, Health and Human Services (HHS), and the Environmental Protection Agency (EPA). Additionally, the policy included key ideas for protection by identification and prioritization of critical infrastructure and key resources, development of awareness and early warning capabilities, mitigation of vulnerabilities, enhanced screening for imported products, and enhanced response and recovery procedures (Monke, 2007; U.S. Department of Homeland Security, 2004).

At the state level, emergency response commissions were tasked with establishing local emergency planning committees (LEPCs) to provide an avenue for first responders, state and local elected officials, emergency managers, industry, hospitals, media, and members of the community to collaborate and plan for and achieve solutions to the impacts of disaster (United States Environmental Protection Agency, 2012, 2008). However, agricultural organizations were only reported as being involved in a portion of 14% of these LEPCs (United States Environmental Protection Agency, 2008).

Disaster Impacts in Recent History

Natural disasters have shown a steady increase over the past century and resulted in loss of human life, destruction of infrastructure, and vast economic and environmental damages (Mileti, 1999; Seneviratne, Baldry, & Pathirage, 2010).

The United Nations Office of Disaster Risk Reduction (2012b) reported that over a 20-year span from 1992 to 2012, the United States led the world in financial loss from natural disasters, topping \$560 billion in damages, with Japan and China experiencing \$402 billion and \$331 billion in losses, respectively. Additionally, the United Nations Office of Disaster Risk Reduction (2012a) reported more than 4.4 billion people have been impacted globally and more than 1.3 million humans have been killed from natural disasters alone. Figure 2 exhibits the increasing trend of natural disasters around the world over the past 31 years.

Within the United States, from 1975 to 1994, average dollar loss to property and crops from disaster equated to \$0.5 billion per week (Mileti, 1999). However, since 1989, with increasing disaster frequency and severity, this total began to average closer to \$1 billion each week. Additionally, beyond the economic losses, human capital losses reached levels of 24 deaths per week, with injuries quadrupling that amount from natural disasters and hazards (Mileti, 1999).

In the state of Oklahoma, over a four-year span from 2006 to 2010, 28 of the state's 77 counties had 11 or more federally declared disasters (Oklahoma Department of Emergency Management, 2010a). In 2010 alone, after enduring two major winter storms resulting in multiple fatalities, a May wind storm and tornado cost \$7.4 million in

Number of Climate-related Disasters Around the World (1980-2011)

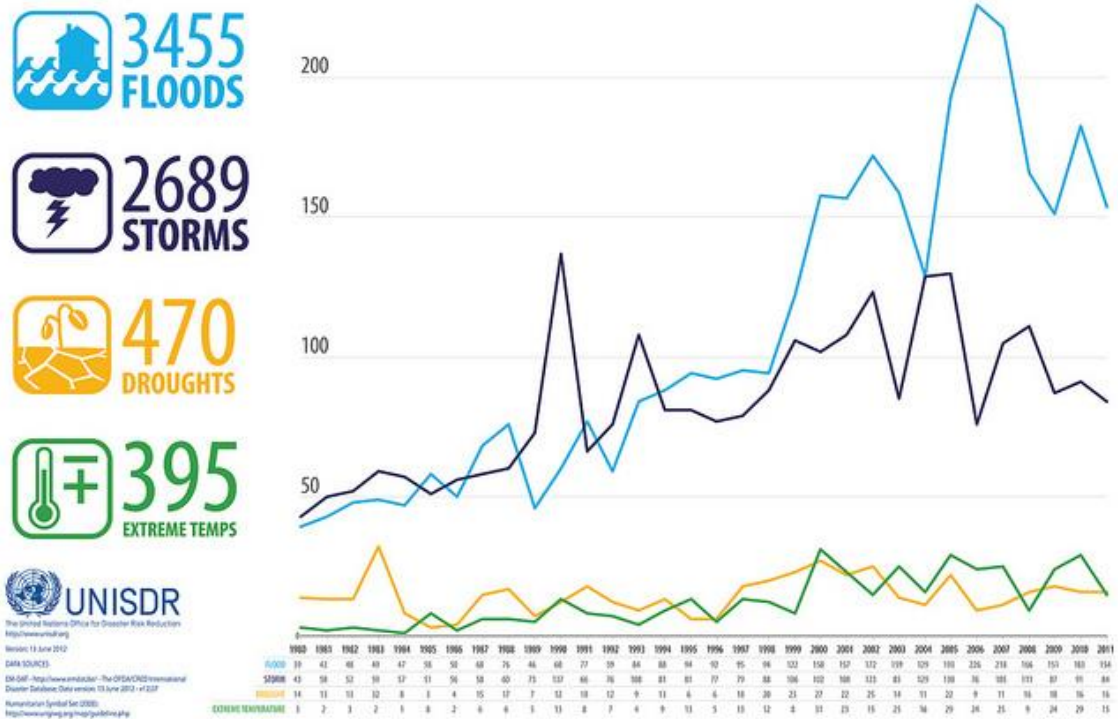


Figure 2. Number of climate-related disasters around the world (1980-2011) (United Nations Office of Disaster Risk Reduction, 2012b).

infrastructure damage, debris removal, and response, with 1,485 homes either destroyed or damaged (Oklahoma Department of Emergency Management, 2010a). Just over a month later, a flash flood resulted in an additional \$5 million in infrastructure damage (Oklahoma Department of Emergency Management, 2010a). The frequency and severity of disasters for the State of Oklahoma resulted in significant reliance on federal funding to assist in the numerous disasters (Oklahoma Department of Emergency Management, 2010a).

Resilience to Disasters

Increased efforts have been focused on each phase of the disaster life cycle due to the increasing frequency and severity of disasters (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c). These changing efforts were noticed in the early

1990s, when public perceptions transformed and emergency managers were expected to be involved in mitigation, preparedness, and recovery, not just the response to a disaster (Patton, 2007). Not only was this evident at the local level with increased community support and responsibility, but also it was represented at the federal level by Federal Emergency Management Agency director James Lee Witt (Patton, 2007). In his book, *Stronger in the Broken Places*, he recognized recovery as: a "...chance to lay new foundations and support beams that can weather the next disaster better. It's a chance to decide if there's a way to get out of the way of that disaster altogether" (p. 223, as cited in Phillips, 2009, p. 334). In accordance with this thought, Witt began Project Impact, an experimental community-based program focused on building public-private collaborations with the goal of building disaster-resistant communities (Patton, 2007). Even though the program was cancelled under a subsequent presidential administration, the program had provided a foundation for building community partnerships to increase disaster resilience (Patton, 2007).

More recently, Craig Fugate, administrator for the Federal Emergency Management Agency, recognized that a government-centered approach to disaster management is not sufficient and to meet the challenges of disaster, the entire society must be fully engaged (U.S. Department of Homeland Security, 2011d). The Federal Emergency Management Agency then initiated a national dialogue focused on a whole community approach to develop a "more informed, shared understanding of community risks, needs, and capabilities; an increase in resources through the empowerment of community members; and in the end, more resilient communities" (U.S. Department of Homeland Security, 2011d, p. 4).

Success toward resilience has been identified through the development and application of each phase of disaster and was defined in the National Preparedness Goal “as a secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk” (U.S. Department of Homeland Security, 2011, p.1). To reach this goal for a resilient nation, researchers have increased their focus on resilience through the past decade on national and international levels (Mayunga, 2007). In 2005, the *Hyogo framework for action 2005-2015: Building the resilience of nations and communities to disasters* was developed by the International Strategy for Disaster Reduction and has shifted research toward building community resilience rather than focusing on reducing vulnerability (International Strategy for Disaster Reduction, 2007; Mayunga, 2007). Within the United States, the National Academies of Science released *Disaster resilience: A national imperative* in 2012 to define the nation’s agenda for disaster resilience and to depict the characteristics of a resilient nation by 2030:

In 2030, the nation, from individuals to the highest levels of government, has embraced a “culture of resilience.” Information on risks and vulnerability to individuals and communities is transparent and easily accessible to all. Proactive investments and policy decisions including those for preparedness, mitigation, response, and recovery have reduced the loss of lives, costs, and socioeconomic impacts of disasters.

Community coalitions are widely organized, recognized, and supported to provide essential services before and after disasters occur. Recovery after disasters is rapid and includes funding from private capital. The per capita federal

cost of responding to disasters has been declining for a decade. (Committee on Increasing National Resilience to Hazards and Disasters, 2012, p. 14)

To reach these characteristics of a resilient nation, the Committee on Increasing National Resilience to Hazards and Disasters (2012) proposed the following recommendations:

- Recommendation 1: Federal government agencies should incorporate national resilience as a guiding principle to inform the mission and actions of the federal government and the programs it supports at all levels.
- Recommendation 2: The public and private sectors in a community should work cooperatively to encourage commitment to and investment in a risk management strategy that includes complementary structural and non-structural risk-reduction and risk-spreading measures or tools. Such tools might include an essential framework (codes, standards, and guidelines) that drives the critical structural functions of resilience and investment in risk-based pricing of insurance.
- Recommendation 3: A national resource of disaster-related data should be established that documents injuries, loss of life, property loss, and impacts on economic activity. Such a database will support efforts to develop more quantitative risk models and better understand structural and social vulnerability to disasters.
- Recommendation 4: The Department of Homeland Security in conjunction with other federal agencies, state and local partners, and professional groups should develop a National Resilience Scorecard.

- Recommendation 5: Federal, state, and local governments should support the creation and maintenance of broad-based community resilience coalitions at local and regional levels.
- Recommendation 6: All federal agencies should ensure that they are promoting and coordinating national resilience in their programs and policies. A resilience policy review and self-assessment within agencies and strong communication among agencies are keys to achieving this kind of coordination.

Resilience versus Vulnerability

Resilience is a term that emerged from the Latin root “*resiliere*,” meaning to “jump back” or bounce back (Mayunga, 2007). In 2012, the Committee on Increasing National Resilience to Hazards and Disasters defined resilience as “the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events” (Committee on Increasing National Resilience to Hazards and Disasters, 2012, p. 1). Vulnerability, however, is defined by the Committee on Increasing National Resilience to Hazards and Disasters (2012) as:

the potential for harm to the community and relates to physical assets (building design and strength), social capital (community structure, trust, and family networks), and political access (ability to get government help and affect policies and decisions). Vulnerability also refers to how sensitive a population may be to a hazard or to disruptions caused by the hazard. (p. 27)

Vulnerabilities that may lead to increased or decreased levels of resilience include physical location, lack of access to resources (Cutter, Boruff, & Shirley, 2003), and social

vulnerabilities such as class, race/ethnicity, gender, age, disability, health, literacy, and families (Fordham, Lovekamp, Thomas, & Phillips, n.d.).

While researchers may identify resilience as a component of vulnerability, the other face of vulnerability, or as separate concepts (Fordham et al., n.d.), discussions about resilience and vulnerability tend to appear concurrently across research (Buckle, 2006; Committee on Increasing National Resilience to Hazards and Disasters, 2012; Cutter, Burton, & Emrich, 2010; Cutter, Barnes, Berry, Burton, Evans, Tate, & Webb, 2008; Fordham et al., n.d.; Mayunga, 2007). Fordham et al. (n.d) and Buckle (2006) agree both resilience and vulnerability must be understood, explicitly applied, measured within various populations, and have solutions identified to reduce disaster impacts.

Types of Resilience

In an effort to quantify resilience, numerous researchers have focused on a combination of built and social vulnerability types (Buckle, 2006; Cutter, et al., 2008; Cutter, et al., 2010; Flora & Flora, 1993; Mayunga, 2007; Ritchie & Gill, 2011). Cutter, et al., (2010) reported a consensus within the research community that identified social, economic (financial), institutional, ecological (natural), and community elements as those used to measure resilience. Figure 3, however, depicts a slightly different conceptual framework proposed by Mayunga (2007).

An additional option for communities to prepare and structure themselves, the community capitals framework, was introduced by Flora and Flora (2008) and closely follows the consensus of other researchers but also breaks out the community elements into cultural, human, and political capitals. Prior to identifying this framework, Flora and

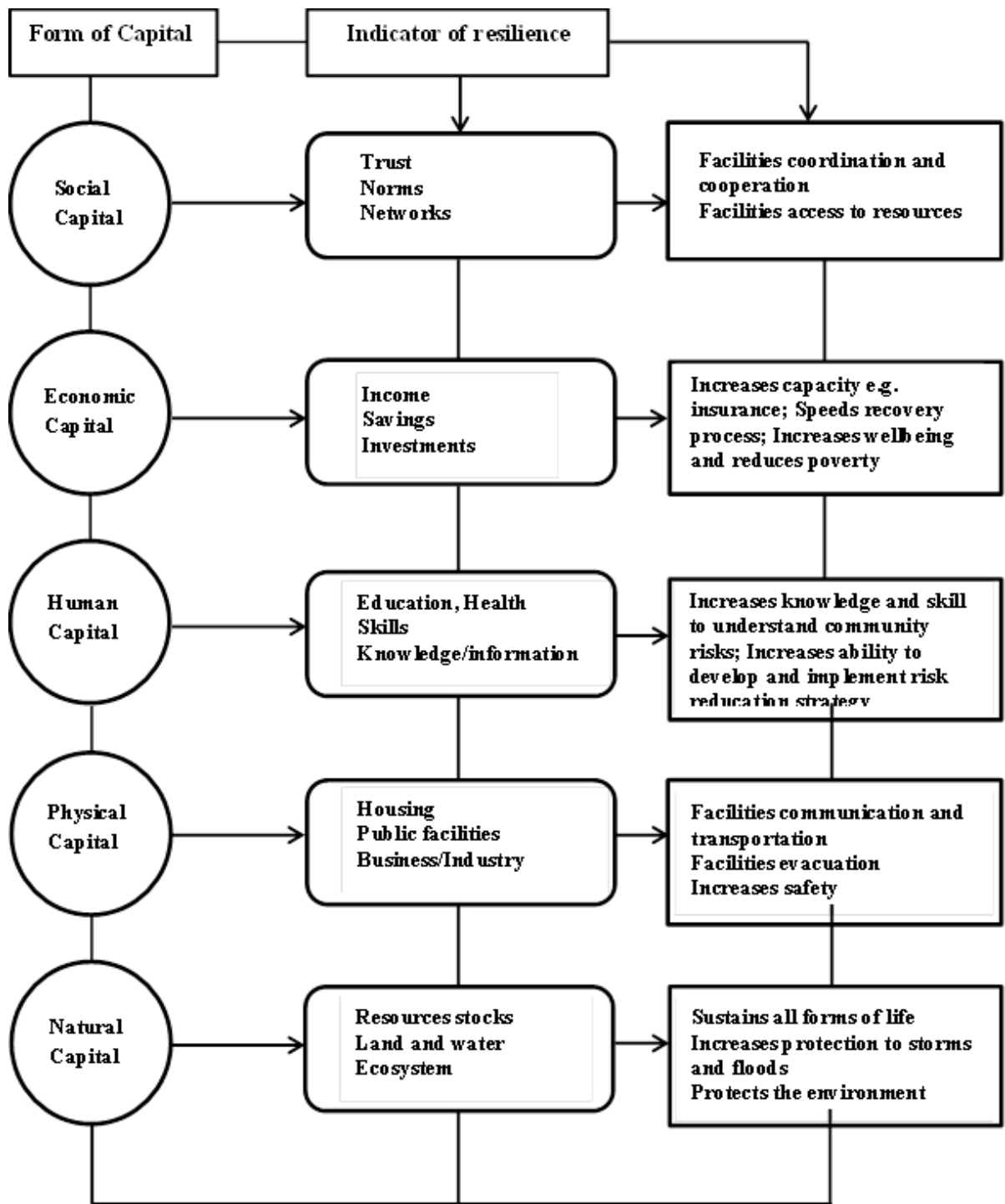


Figure 3. Conceptual framework on the relationship between capital domains and community disaster resilience (Mayunga, 2007).

Flora in 1993 presented the entrepreneurial social infrastructure (ESI) as a necessary ingredient for linking physical resources and leadership for community development. This ESI concept was further developed and utilized to build the CCF with the goal of offering a structured framework for researchers, practitioners, and local stakeholders to engage on how to build community resilience and prepare for recovery efforts (Ritchie & Gill, 2011). Each capital and its role in disaster are described in Table 1 (Ritchie & Gill, 2011).

Table 1	
<i>The role of community capitals in disaster recovery (Ritchie & Gill, 2011).</i>	
Form of Capital	Role in Disaster Recovery
Natural – resources such as air, land, water, minerals, oil, and the overall stability of ecosystems	Natural capital is vital to human survival and fundamental to society. In the aftermath of a disaster, natural capital represents basic necessities that support human life, ranging from uncontaminated air to potable water to renewable resources. A community’s relationship with its natural environment also influences ways in which it responds to disaster-related environmental degradation.
Built (Physical) – physical infrastructure and lifelines in a community, as well as critical facilities and services	In the event of a disaster, built capital (e.g., roads, bridges, waterways, sewer and water systems, pipelines, telecommunications systems, power plants, public transportation) may be rendered inaccessible or it may be damaged or destroyed, necessitating repair or reconstruction. Disruption of critical services (e.g., medical, public safety and protection) is also likely following a disaster; resumption of these is vital to recovery and the manner in which this is accomplished influences the extent to which recovery will increase resilience.
Financial (Economic) – financial savings, income, investments, and available credit	Financial capital has significant implications for post-disaster recovery and resilience. In contemporary society, of all the capitals, financial capital it is the most easily converted to other forms of capital. For example, post-disaster investment of financial capital may result in reconstruction of roads and bridges, or construction of new facilities (built capital); it may also support enhancement of human capital by funding education and training.

	Financial capital also provides a basis for political capital, which in turn affects emergency management and disaster-related policies.
Human – knowledge, skills, education, health, and physical ability	Human capital is central to advancing recovery efforts. It is also fundamental to resiliency in that economic development and capacity building require a skilled, trained workforce. Human capital facilitates a resilient recovery by enabling individuals and communities to address physiological, safety, belonging, esteem, and self-actualization needs.
Social – social networks, associations, and the reciprocity and trust generated by them among groups and individuals	Social capital generally enhances a community’s ability to work toward collective goals, which is necessary for disaster recovery. It contributes to resilient recovery by enhancing sense of belonging and by strengthening bonds between individuals and groups. Bridging social capital affords connections needed to solicit and leverage external support. Social capital also facilitates access to other forms of capital essential to recovery, such as human capital, financial capital, political capital and cultural capital.
Political – the ability to access to resources, the power to influence their distribution, and the ability to engage external entities in efforts to achieve local goals	Following a disaster, the power, authority, and connections (both within and external to a community) that are associated with political capital are essential to ensuring the timely advancement of recovery efforts. Sometimes considered a type of social capital, political capital tends to be somewhat more formal in nature although it exists informally, as well. Effective and responsible use of political capital can foster a resilient recovery by actively involving vulnerable populations in pre- and post-disaster planning and by ensuring that traditionally underrepresented groups have a voice in recovery processes.
Cultural – language, symbols, mannerisms, competencies, preferences, attitudes, and orientations	Cultural capital influences a community’s capacity to draw on its collective experiences and shared values in times of need, such as during long-term post-disaster recovery. Cultural capital helps to cultivate other forms of capital including but not limited to social capital, political capital, and financial capital. It also reflects values associated with natural and built capital.

Researchers have recognized that a major challenge of trying to quantify resilience is adequately measuring each of these capitals (Mayunga, 2007). With recognized limitations, Mayunga (2007) offered a calculated community disaster resilience index

(CDRi), and Cutter et al., (2010) presented a baseline resilience indicator for communities (BRIC) in an attempt to measure and monitor resilience of specific places. Each researcher agreed these initial steps toward quantifying the types of resilience offers opportunities for future research, community discussions, and data to increase public and community interest in increasing resiliency (Cutter et al., 2010; Mayunga, 2007).

Roles and Responsibilities

In the Committee on Increasing National Resilience to Hazards and Disasters (2012) resilience report, the authors stated “identifying resilience policy areas, identifying those in community and government responsible for coordinating activities in those areas, and identifying the recipients of the information or services resulting from those activities reveal strengths and gaps in the nation’s resilience ‘system’” (p. 7). These strengths and gaps include top-down, government policies and bottom-up, community led actions (Committee on Increasing National Resilience to Hazards and Disasters, 2012).

Government policies establish structures for each phase of the disaster lifecycle through presidential directives, which focus on framework creation toward increasing resilience (Committee on Increasing National Resilience to Hazards and Disasters, 2012). However, much responsibility lies within the community to plan and prepare for, absorb, respond, and recover from disasters (Committee on Increasing National Resilience to Hazards and Disasters, 2012, p. 117). Due to the uniqueness of communities across the nation through geography, demography, culture, and infrastructure, engagement of communities is essential (Committee on Increasing National Resilience to Hazards and Disasters, 2012).

Buckle (2006) took an approach toward those involved in resilience by listing levels of social resilience, identified as individuals, family, tribe or clan, locality or

neighborhood, community, social associations, organizations of bureaucracy or private sectors, and environmental and economic systems (p. 93). More recently, the National Disaster Recovery Framework (2011b), offered suggestions about whom should be involved in the phases of the disaster life cycle leading to resiliency:

- **Individual and family** responsibilities were identified as securing items within the home such as anchoring bookshelves and creating a firebreak, developing a preparedness plan and participating in community planning. Additionally, individuals and families should maintain supplies of food, water, batteries and communication devices. After a disaster, their roles fall into plan implantation, assisting others and participating in community recovery, and rebuilding stronger and safer (U.S. Department of Homeland Security, 2011b).
- Recommended **private sector** roles include creating relationships with community emergency managers, developing business continuity and restoration plans, educating and training employees, carrying adequate insurance, and assuming a leadership role in local pre-disaster planning. Post-disaster, private sector members should support impacted employees, provide volunteers, form business recovery groups, and assist the community in securing available funding for assistance programs (U.S. Department of Homeland Security, 2011b).
- The **nonprofit** sector should be involved in community disaster planning, co-host disaster workshops, educate clients on mitigation techniques, and implement lessons learned for the state Voluntary Organizations Active in

Disaster (VOAD). Post-disaster, the non-profit sector is recommended to deliver resources to vulnerable and underserved individuals and groups, provide trainings for caregivers, promote partnerships, serve as subject matter experts based upon agency experience and coordinate recovery programs with other entities (U.S. Department of Homeland Security, 2011b).

- **Local governments** are recommended to lead all local preparedness and planning, engage in community mapping, encourage citizens to plan, identify a recovery structure, establish agreements with other communities and entities, ensure compliances with all local, State, and Federal laws, and develop building and land use codes. Post-disaster, local government should appoint a local disaster recovery manager, lead efforts to revitalize sectors in the community, manage rebuilding, communicate with all other levels of government, and establish metrics to evaluate progress and achievement (U.S. Department of Homeland Security, 2011b).
- **State governments** should implement plans for *Continuity of Government* and *Continuity of Operations*, ensure FEMA approved plans are maintained for the State, establish responsibilities, ensure adequate staffing, develop building and land use codes, form a state-led disaster housing task force, develop state recovery support functions. After a disaster, the State should implement plans, coordinate with all other levels of government and the nonprofit and private sectors, manage federal grant resources, provide timely information, ensure employee safety, and establish metrics for success (U.S. Department of Homeland Security, 2011b).

- **Tribal governments'** recommended responsibilities are similar to that of the state government, except they must inform other levels of government of cultural differences, prepare disaster plans for the tribe, and preserve and protect cultural resources, sacred sites, and traditional lands. Post-disaster, tribal governments should partner with local, state, and federal agencies; implement systems to receive grant money; manage rebuilding to comply with standards; and participate in long-term recovery planning and efforts (U.S. Department of Homeland Security, 2011b).
- The **federal government** should develop federal recovery support functions, encourage use of steady-state grant programs for planning purposes, provide leadership for national catastrophes, conduct training and education programs, and research effective methodology for use at all levels. After a disaster, the federal government is recommended to identify how federal programs can support needs, provide timely information, monitor and adjust federal assistance, ensure transparency and accountability, coordinate with state agencies, and develop metrics to evaluate progress and achievement (U.S. Department of Homeland Security, 2011b).

Theoretical Framework

Social capital theory conceptualizes the trust, associations, and norms of reciprocity among both groups and individuals (Ritchie & Gill, 2007). Paxton (1999), after a review of past research, defined social capital as:

1) *Objective associations between individuals*. There must be an objective network structure linking individuals. This component indicates that individuals are tied to each other in social space.

2) *A subjective type of tie*. The ties between individuals must be of a particular type – reciprocal, trusting, and involving positive emotion” (p. 93).

Paxton (1999) added the informal view of social capital is the idea that individuals can gain resources from their connections among one another (p. 89).

The social capital theory breaks down into two main components: trust and associations (Paxton, 1999; Ritchie & Gill, 2007). When analyzing trust, Paxton (1999) referred to the definition offered in 1983 by Barber, as trust is “socially learned and socially confirmed expectations that people have of each other, of the organizations and institutions in which they live, and of the natural and moral social orders, that set the fundamental understanding for their lives” (p. 98). This trust can be between two people, between individuals and a third party, or between individuals and a group or organization (Paxton, 1999).

Associations, as identified by Paxton (1999), involve the objective ties between individuals and can be either informal or formal. Informal associations can involve friendships, office mates, neighbors, or someone with whom an individual exchanges resources (Paxton, 1999; Ritchie & Gill, 2007). These informal associations become avenues for increased communication, information diffusion, and social support, thus increasing social capital (Paxton, 1999).

Formal associations involve an individual joining a voluntary association or group, creating the benefits of network ties, member access, and group-level benefits

(Paxton, 1999). Formal associations can grow exponentially as social networks with individuals having numerous memberships develop connections across groups (Paxton, 1999). Continual communication and activity within an association can aid in developing reputations of individuals and for the group, which also may build and maintain levels of trust (Ritchie & Gill, 2007).

In another approach to the social capital theory, Aldrich (2012) proposed social capital is traced across three dimensions: bonding, bridging, and linking. After the depiction of a story of neighbors acting as family, Aldrich (2012) explained bonding social capital as those bonds among community members in which social niceties are bypassed and individuals may act as family members rather than neighbors. Post-disaster, however, bonding social capital has been observed to result in polarization, isolation, or violence toward individuals outside of their group (Aldrich, 2012; Putnam, 2000).

The second dimension of social capital connects group members to external assets, including crossing ethnic, racial, and religious gaps to gain a broader identity (Aldrich, 2012; Putnam, 2000; Ritchie & Gill, 2007). Bridging social capital has been observed through actions such as Muslim and Hindu communities creating business councils or through the Singapore government mandating public housing for specific ethnicities (Aldrich, 2012). While bridging capital may involve groups intersecting, the primary interaction remains among individuals (Aldrich, 2012; Putnam, 2000).

The final form of social capital is linking social capital (Aldrich, 2012). Linking social capital focuses on the networks created among formal, institutionalized power or authority for a society (Aldrich, 2012). These linked networks involve the decision-

makers for a community, and interaction with other authority groups results in economic development and shared resources (Aldrich, 2012).

Social capital has been credited with numerous positive impacts for individuals and communities (Ritchie & Gill, 2007). Social capital creates a positive impact for both individuals and communities. Social norms and effective sanctions have resulted in social support, status, and honor, and networks of social capital facilitate and increase the flow of information (Ritchie & Gill, 2007). Additionally, social capital has been credited with increasing business transactions and allowing communities to advance. It creates a shared sense of responsibility and widens awareness. Finally, communities and individuals living in areas high in social capital have been shown to cope with traumas more effectively (Ritchie & Gill, 2007).

Research has stated the social capital theory, when applied to disasters, provides a comprehensive theoretical framework for creating the social networks necessary to reach the common goal of disaster resilience (Ritchie & Gill, 2007). Social capital in a community resulted in “trust, fellowship, associations, connections, networks, social intercourse, good will, sympathy, and norms of reciprocity,” resulting in a healthier community (Ritchie & Gill, 2007, p. 111). Aldrich (2012) stated “that social resources, at least as much as material ones, prove to be the foundation for resilience and recovery” (p. viii).

History and Uses of the Delphi Method

Developed in the 1950s by Helmer, Dalkey, and Gordon, the Delphi method initially was used by the United States Air Force as a series of questionnaires to obtain controlled opinion feedback regarding military priorities (Bolger & Wright, 2011; De

Villiers, De Villiers, & Kent, 2005; Gupta & Clarke, 1996; Linstone & Turoff, 2011; Martin & Frick, 1998; Nowack, Endrikat, & Guenther, 2011). A method known for its use of pooled intelligence and enhanced for creative thinking, the Delphi is a mixture of both quantitative and qualitative methods, with numerous types, benefits, and limitations (De Villiers et al., 2005; Gupta & Clarke, 1996; Martin & Frick, 1998; Nowack et al., 2011).

Three common types of the Delphi technique include the conventional Delphi, the policy Delphi, and the modified Delphi (De Villiers et al., 2005). The conventional Delphi is used primarily for prioritization of facts and is administered as a questionnaire presented in rounds based on results from the previous rounds (De Villiers et al., 2005). The policy Delphi is more focused toward a forum of ideas with supporting evidence (De Villiers et al., 2005) and is driven by a decision-maker in an effort to gain new ideas and seeks different policy options with pro and con evidence to support the ideas (De Villiers et al., 2005; Gupta & Clarke, 1996; Linstone & Turoff, 2011).

The modified Delphi illustrates the method's flexibility and adds to its attractiveness as a research method (Skulmoski, Hartman, & Krahn, 2007). Modifications can include the breadth of the initial question, the criteria defined to establish expertise, the number of participants, the number of rounds, and the mode of interaction (Skulmoski et al., 2007). A key to the modified Delphi, however, is providing an audit trail of theoretical, methodological, and analytical decisions made to demonstrate the rigor and trustworthiness of the research (Skulmoski et al., 2007).

Regardless of the type of Delphi used in research, key characteristics that are considered benefits of the method are anonymity, iterations, controlled feedback, and the

use of subject matter experts to participate in the study (De Villiers et al., 2005; Gupta & Clarke, 1996; Linstone & Turoff, 2011; Nowack et al., 2011). Using experts allows for idea-generation, judgment, and consolidation (Nowack et al., 2011). Additionally, a key benefit of the Delphi method is removing the normative social influence that has been identified as a limitation of group or forum research (Bolger & Wright, 2011; Nowack et al., 2011). By providing the questionnaire and subsequent rounds of research via electronic communication, a cheaper, more rapid data collection is available while removing the bias of group communication (Bolger & Wright, 2011; Gupta & Clarke, 1996; Nowack et al., 2011). Ultimately, this allows for independent thoughts and ideas to gradually form into group solutions (Gupta & Clarke, 1996).

As with any research method the Delphi method has been criticized for its limitations (Gupta & Clarke, 1996; Martin & Frick, 1998; Nowack et al., 2011). First, conflict exists related to the true outcome of the method. While numerous studies report on the use of the Delphi method to reach a group consensus (De Villiers et al., 2005; Gupta & Clark, 1996), Linstone and Turoff (2011) argue the Delphi method should be used to structure group communication and is not to be utilized to reach consensus.

Another limitation commonly discussed for the Delphi model is the lack of defined parameters to qualify an expert to be used in the sample (De Villiers et al., 2005; Gupta & Clarke, 1996). Determining what attributes equate to an expert is considered critical for a Delphi's validity (De Villiers et al., 2005), and the challenge of identifying an expert from a layman is key to ensure the answers are knowledgeable and based upon experience (De Villiers et al., 2005; Gupta & Clarke, 1996). Other identified limitations include methodological inadequacies, limited feedback, instability of responses, poor

execution of the research tool, and the subjectivity of the panelists (Gupta & Clarke, 1996).

Even with the recognized limitations, the Delphi model has been widely accepted across the education, business, and health care disciplines (Gupta & Clarke, 1996). With its uses for planning, long-range forecasting, and policy analysis, numerous industries have used the Delphi method to improve decision making and gain collective opinions (De Villiers et al., 2005; Gupta & Clarke, 1996; Linstone & Turoff, 2011; Nowack et al., 2011). Martin & Frick (1998) recognized that within the field of agricultural education, some lack confidence in the general technique and its numerous variations; however, they also noted that it has been received with a “reasonable degree of acceptance” (p. 76).

Within the discipline of disaster research, numerous studies have used the Delphi method to look at topics such as post-disaster psychosocial care guidelines (Bisson et al., 2010), disaster mental health guidelines (Suzuki, Fukasawa, Nakajima, Narisawa, & Kim, 2012), and best practices for child care during crisis settings (Ager, Stark, Akesson, & Boothby, 2010).

In a requested response to discuss the evolution of the Delphi method since their 1975 book, Linstone & Turoff (2011) pinpointed the need for further research in the emergency preparedness and management sector and recommended the Delphi as an optional method. “There are fundamental changes needed to allow approaches like multiple perspective theory, creative risk assessment, future planning, emergency preparedness, and resilient emergency response to take place” (Linstone & Turoff, 2011, p. 1717). Linstone and Turoff stated that due to the increasing frequency in emergency management situations and organizational behaviors not being up to current threats, the

various derivatives of the Delphi method may benefit research toward structural modeling by allowing researchers to reach consensus, produce outputs from individuals as group models, and consider disagreements about the model. Using the Delphi method for this study allowed for the collection of broad ideas for the organizations and roles perceived to be involved in disasters impacting rural areas and agricultural businesses. The structure and flexibility of the Delphi method allowed the researcher to reach a level of consensus and offer comparisons across disaster-focused and agriculture-focused panels.

CHAPTER III

METHODOLOGY

The agricultural industry is facing an increasing number of challenges, ranging from an aging demographic (United States Department of Agriculture, 2007a) to greater concentrations of production (United States Department of Agriculture, 2007c), resulting in increased vulnerability. Meanwhile, as disaster severity and frequency increases, the nation is seeing an increasing governmental focus on building resilience (Committee on Increasing National Resilience to Hazards and Disasters, 2012). In support of this resilience initiative, this study was designed to describe the perceptions of two groups of professionals, one agriculture-focused and the other disaster-focused, regarding organizations that should be involved in mitigation, preparedness, response, and recovery after a disaster impacting rural areas and agricultural businesses.

Institutional Review Board

According to federal regulations and Oklahoma State University policy, all human-subjects research must be approved prior to the initiation of a research project. The Institutional Review Board, through the Office of University Research Compliance at Oklahoma State University, conducts these reviews to protect the rights and welfare of human subjects involved in behavioral and biomedical research. In compliance with this

policy, each revision of the study was reviewed and approved to proceed under the number AG1334 (see Appendix A).

Research Design

This study was designed to be descriptive and interpretive, and was conducted through a mixed-method research design using the Delphi method (Gupta & Clarke, 1996) due to its capability of providing a more effective way to gain initial opinions, individual thoughts, and freedom of expression without the bias of an open group or forum (Bolger & Wright, 2011, De Villiers et al., 2005; Gupta & Clarke, 1996).

Additionally, the Delphi method is often used due to its flexibility, as a definitive format does not exist (Martin & Frick, 1998, Skulmoski et al., 2007).

Within agricultural education, the method has “been accorded a reasonable degree of acceptance” (Martin & Frick, 1998, p. 76). Linstone & Turoff (2011) noted emergency preparedness and management as a key area of concern in which the Delphi method could assist in “perspective theory, creative risk assessment, future planning, emergency preparedness, and resilient emergency response” (p. 1717).

Population and Sample

The population of this study included all local emergency planning committees (LEPCs) and all Oklahoma Agricultural Leadership Program (OALP) alumni from each of the 77 counties in Oklahoma. Gay, Mills, and Airasian (2012) defined qualitative sampling as a “process of selecting a small number of individuals for a study in such a way that the individuals chosen will be good key informants who will contribute to the researcher’s understanding of a given phenomenon” (p. 142). Further, it is explained that due to the length of time required for participation in a study including a qualitative

component, sampling is almost always purposive and provides a sample believed to be representative of the population (Gay et al., 2012).

A Delphi study is focused on the knowledge, judgments, or opinions of a group of experts or decision makers (Delbecq et al., 1975; Gupta & Clarke, 1996; Moore, 1986), and therefore, purposive sampling was utilized for this study to select a group of experts. Delbecq et al. (1975) advised the Delphi can be an effective process if the decision makers are actively involved throughout the process.

As the LEPCs are charged with developing local emergency management plans such as evacuation routes, notification procedures, training programs for emergency responders, and methods and schedules for exercising emergency response plans (U.S. Department of Homeland Security, 2007), the members of Oklahoma LEPCs were identified as the disaster-related experts for this study. Likewise, for the agriculture-related panel, alumni of the Oklahoma Agricultural Leadership Program (OALP) were chosen to serve as the experts. OALP alumni must have been engaged in production agriculture or a related agriculture business and have completed a 20-month leadership program aimed to develop leadership, communication, and knowledge of government operations and institutions, along with economics, resource allocation, and finance problems in agriculture (OSU, 2013). Program objectives for alumni include helping “program participants increase and utilize their own knowledge and skills in order to solve problems and to explore opportunities for Oklahoma agriculture” (OSU, 2013).

To determine a purposive sample, all counties for which a state of emergency was declared by the governor from 2010 through 2012 for natural disasters were identified and included all weather-related incidents. The LEPC members and OALP alumni from

these counties would have recent disaster experience. Therefore, after removing all statewide declarations, the LEPC members and OALP alumni from the 40 counties that have been declared in a state of emergency four or more times in the selected years (Oklahoma Department of Emergency Management, 2010, 2011, 2012) were chosen to participate in this study.

Forty LEPC members were asked to participate in this study or recommend others for participation. Initially, 17 LEPC members either agreed to participate or were recommended by LEPC chairs for participation. Two recommended panelists chose to unsubscribe to the email requests in the first round.

Additionally, 151 OALP alumni from the respective counties were asked to participate. Similarly, 34 OALP alumni initially agreed to participate. However, upon receipt of the first instrument, one panelist emailed asking to be removed from the study. Therefore, the LEPC panel began with 15 members and the OALP panel began with 33 members.

Delbecq et al. (1975) noted a key component of the Delphi study is high participant motivation and an interest and commitment of the respondents. To engage the respondents, the researcher provided an overview and invitation to participate in the study prior to round one and also contacted each LEPC member via telephone to describe the study and request participation after the initial and reminder participation emails were sent. Response from the participation email request from OALP alumni was great enough from the initial email and reminder that phone call follow-ups were not necessary.

Instrumentation

A three-round, mixed-method survey was presented to determine the perceptions of disaster-related and agriculture-related panelists regarding organizations that should be involved and what their roles should be in disasters that impact a rural area or agricultural business. The introduction to each round provided definitions for mitigation, preparedness, response, and recovery to properly identify the problem criteria for the respondents (Moore, 1986).

The open-ended questions included in round one drew upon the Delphi method's ability to increase creative thinking (Nowack et al., 2011). Round two included a compilation of all thoughts and ideas returned in round one and asked participants to respond to each item using a six-point, Likert-type scale that included strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree (Ramsey, 2010; Shinn, Wingenbach, Briers, Lindner, & Baker, 2009). Round three provided respondents a further review of items still in question and explored the disagreement of these issues. Participants, again, were asked to rank their levels of agreement to the items identified in round one for which consensus was not reached in round two (Delbecq et al., 1975). The researcher developed and implemented all instruments using Qualtrics®.

Validity

Validity for mixed-method research that includes both quantitative and qualitative methods gauges how accurately the data collected answers what is being measured (Gay et al., 2012). A primary consideration for validity in a Delphi study is determining the panel of experts (Gupta & Clarke, 1996). Delbecq et al. (1975) listed that the participants in a Delphi study should be top management decision makers, professional staff

members, or people whose judgments are being sought. Using the LEPC members supports the validity of this study, as they are decision makers for disaster planning on a local level. OALP alumni, similarly, are leaders at the local level for rural areas and are often owners of agricultural businesses in the area.

Additional concerns include face and content validity. Face validity, according to Gay et al. (2012) ensures that a test appears to measure what it claims to, while content validity involves ensuring a study measures the intended content (Gay et al., 2012). This study, prior to initiation, was reviewed by four individuals who have experience in agriculture and/or disasters to ensure face and content validity (see Appendix B).

Reliability

Reliability is the confidence that a study consistently measures that which it is supposed to measure (Gay et al., 2012). Within studies involving qualitative data, reliability can be focused on the techniques used to gather data and whether data would be collected consistently if the same techniques were used over time (Gay et al., 2012). Gay et al. (2012) noted evaluation of reliability can be determined through a review of items, such as whether the relationship with the group and setting is fully described; whether key informants are fully described, including the groups they represent; and whether sampling techniques are fully documented and sufficient. Skulmoski et al. (2007) described this as methodological rigor and emphasized the importance of leaving an audit trail of all theoretical, methodological, and analytical decisions made from the beginning to the end of the study.

Modifications for this Delphi study included the mode of interaction by using an Internet-based survey, completing three rounds of the study to reach consensus, and

modifying the number of participants within each round. In an effort to increase response rate, an alternative Delphi method of deploying the instrument to the entire panel was used (Niederman, Brancheau, & Wetherbe, 1991; Skulmoski et al., 2007). Upon completion of this study, this modification resulted in 21, 17, and 21 respondents that participated for the OALP panel across the three rounds, respectively. The LEPC panel, while having initial consent from 15 panel members, included responses from 7, 8, and 7 respondents across the Delphi rounds, respectively. Skulmoski et al. (2007) reported one of the flexibilities of using the modified Delphi method is the sample size, with examples ranging from 4 to 171 respondents for published research studies.

Data Collection

Using the Delphi method, a series of questionnaires asked the individuals to formulate a response to a broad question in round one, with each subsequent round building upon these responses until consensus was reached or sufficient information was collected (Delbecq et al., 1975). Rounds two and three also included opportunities for further comments or clarifications. Participation request emails, reminder emails, and the phone script can be found in Appendix C.

Round One

In round one (Appendix D and Appendix F), professional characteristics and opinions about organizations were gathered. Information requested was based upon the respondents' involvement in an LEPC, including years of service and involvement with agricultural groups. Regarding the OALP alumni, the professional characteristics of interest included the number of years involved in agriculture and roles in agriculture,

participation in community disaster planning, and experience in planning for or responding to disasters.

Respondents were asked to list all organizations that should be involved in the phases of a disaster impacting a rural area or agricultural business, followed by roles the organizations should fulfill.

Electronic follow-up messages (see Appendix D) were sent to respondents each week for two weeks after the initial email. From round one of the LEPC panel, after all similar or duplicate organizations were accounted for, 53 organizations were identified for mitigation, 55 for preparedness, 53 for response, and 50 for recovery. Analysis of the roles included combining or eliminating similar or duplicate roles and separating compound statements. From this, 32 roles were identified for corresponding organizations for mitigation, 32 for preparedness, 55 for response, and 32 for recovery. From the OALP panel, round one resulted in the identification of 52 organizations for mitigation, 46 for preparedness, 46 for response, and 46 for recovery. After analysis of the roles, 72 for mitigation emerged, 57 for preparedness, 67 for response, and 53 for recovery.

Round Two

The round two instruments (see Appendix F and Appendix G) asked participants to identify their levels of agreement or disagreement (Delbecq et al., 1975) with what organizations should be involved and their corresponding roles in each phase of a disaster. Both panels rated items to respond via a 6-point, Likert-type scale ranging from strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree (Buriak & Shinn, 1989; Ramsey, 2010; Shinn et al., 2009). Electronic follow-up

messages were sent to respondents each week for two weeks after the initial email. Additionally in round two, for each statement, respondents were given space to add any additional comments (Ager et al., 2010; Delbecq et al., 1975; Linstone & Turoff, 2002; Ramsey, 2010).

Items receiving a rating of “agree” or “strongly agree” from 75% of the respondents were considered items reaching consensus (Ramsey, 2010; Shinn et al., 2009) and were not included again in round three. Items for which 50% or fewer of the panelists rated “agree” or “strongly agree” were considered not able to reach agreement and were removed for round three (Ramsey, 2010; Shinn et al., 2009). After analysis, items that reached at least 51% agreement but less than 75% agreement progressed to round three, including seven organizations for mitigation, eight for preparedness, five for response and 10 for recovery from the LEPC panel, with one role for mitigation and two roles from response. For the OALP panel, 15 organizations involved in mitigation, 12 for preparedness, 11 for response, and 20 for recovery moved to round three. After role analysis, round three for the OALP panel included 18 roles for mitigation, 18 for preparedness, 21 for response, and 13 for recovery.

Round Three

By round three, Delbecq et al. (1975) states “issues have been identified (Questionnaire #1), clarifications, supportive statements, and criticisms made (Questionnaire #2), and a preliminary indication of priorities obtained through rankings” (p. 103). Round three instruments (Appendix H and Appendix I) provided participants the opportunity to reach further consensus (Ager et al., 2010; De Villiers et al., 2005). Again,

this instrument was provided to all initial panel members in an effort to increase response rate (Niederman et al., 1991; Skulmoski et al., 2007).

In round three, participants were provided statements from round two that had reached at least 51% but less than 75% agreement level. Panelists were asked to use the same 6-point response scale used in the previous round (Ramsey, 2010; Shinn et al., 2009). Similar to round two, space was provided for further comments to be made (Ager et al., 2010; Delbecq et al., 1975; Linstone & Turoff, 2002; Ramsey, 2010).

An electronic follow-up message was sent to respondents one week after the initial email, and a participation thank you was sent at the end of data collection (see Appendix J).

Data Analysis

Data were downloaded from Qualtrics[®] into Microsoft Office Excel 2010[®] software. Each organization and corresponding role were analyzed, and duplicate statements were removed while compound statements were split into individual organizations and roles. Microsoft Office Excel[®] was used to determine the frequency and percentage of each item. The resulting percentage was used to determine if the item reached consensus (above 75%) or was unstable (below 50%) and should be removed from the study (Buriak & Shinn, 1989). An inventory of each organization and each role identified with corresponding percent agreements is provided in Appendix K.

CHAPTER IV

FINDINGS

The agricultural industry has become increasingly vulnerable due to a changing infrastructure. An aging demographic and greater concentrations of production (United States Department of Agriculture, 2007a, 2007c), along with other changing features, have created an increasing number of challenges. At the same time, the frequency and severity of disasters also has increased, resulting in a governmental focus on increasing resilience (Committee on Increasing National Resilience to Hazards and Disasters, 2012). National frameworks have identified a key factor in resilience is identifying who should be involved and in what roles (United States Department of Homeland Security, 2013, 2011c, 2008c). Therefore, this study was designed as a three-round Delphi study that included two panels of experts. Both panels were asked to identify and develop consensus, on their perceptions regarding the organizations and their corresponding roles that should be involved in mitigation, preparedness, response, and recovery after a disaster impacting rural areas and agricultural businesses.

Sources of Data: Delphi Panelists

Respondents for this included members of two distinct groups: a disaster-focused panel of Local Emergency Planning Committees (LEPCs) members and an agriculture-focused panel of alumni from the Oklahoma Agricultural Leadership Program (OALP). Both panels were selected based upon their expertise and involvement in disaster planning and/or agriculture at a local level.

Professional Characteristics of the Delphi Panelists

Local Emergency Planning Committee (LEPC) members and Oklahoma Agricultural Leadership (OALP) alumni were asked to respond to questions regarding their professional experience. Professional characteristic questions are summarized and reported to develop a profile of the panelists that participated.

LEPC respondents were queried regarding their years of service serving on an LEPC committee. Of the seven respondents, years of service ranged from two to 20 years, with one panelist not responding (see Table 2). Further, panelists identified their roles on their respective LEPCs, with responsibilities including coordinator of information, member, chairman, co-chairman, secretary, and emergency management point of contact serving as the liaison to the public for Tier II information.

Table 2
Local Emergency Planning Committee Respondents Years of Service and Committee Roles (n = 7)

Characteristic	%
Years of Service	
0-5	43%
6-10	14%
10-15	14%
15-20	14%
No response	14%

When OALP respondents were asked how many years they had been involved in agriculture, answers ranged from 24 to 55 years, with 20 of the 21 reporting more than 25 years of experience in agriculture (see Table 3). Each respondent also provided written statements regarding their roles in agriculture. Roles varied across education ($n = 2$), production ($n = 7$), agribusiness ($n = 6$), or a combination ($n = 6$), and included executive directors of state agricultural associations, livestock and crop producers, agricultural financiers, and agricultural insurance professionals.

Table 3
Oklahoma Agricultural Leadership Program Respondents' Years of Service and Roles in Agriculture (n = 21)

Characteristic	%
Years of Service	
20-25	5%
26-30	19%
31-35	24%
36-40	19%
41-45	19%
46-50	9%
51-55	5%

Further, when the LEPC committee was asked if they, or any member within their committees, had specific responsibilities in response to disasters that impact agricultural businesses in their respective communities, 100% of respondents answered “yes.” Table 4 shows the respective responsibilities identified within the LEPC committees.

Regarding OALP panelists' involvement in disaster planning within their communities, nine of the 21 respondents reported they have been actively involved within their communities, while the remaining 12 respondents had not been involved. The respondents that had been involved were asked to describe their disaster activities (see Table 5).

Table 4

Local Emergency Planning Committee Member Responsibilities in Response to Disasters that Impact Agricultural Businesses in the Respective Communities

Comments

One member is the Animal Response Team Coordinator. Several members deal with human health, and some members are directly involved in agriculture.

Working with the USDA, state ag department, and county extension office.

Mitigation, preparedness, response, recovery.

Technical assistance, hazmat response, and chemical expertise.

Most members are volunteer firemen. Most of their calls are in the countryside protecting property.

Table 5

Oklahoma Agricultural Leadership Program Respondents' Personal Involvement with Disasters within Their Respective Communities

Comments

I've been actively involved in planning for a dairy crisis in Oklahoma, Texas and New Mexico. I continually update our crisis manual, and host annual training sessions with staff and our board of directors. We also participate annually in a regional crisis drill hosted by Dairy Management Incorporated, and we train dairy farmers and third parties to be spokespeople for the industry.

The college farm at NEO A&M College, which I oversee, was designated as a relocation center for several livestock shows. Prior to this flood in 2007, I assisted in disaster planning for livestock relocation plans and disaster planning for our college campus.

Through private organizations; getting plans in place for assisting the immediate needs of those affected by disasters.

Our agency is responsible for watersheds and flooding is a huge part of that process. We maintain control of the structures through the district offices, local governing bodies. We prepare emergency action plans yearly for every site. If this plan is ever enacted, the plan is specific with its detailed actions and response time is limited to a few short minutes in some cases.

On a very limited basis. I am a local volunteer fireman and we do some planning for events like tornado and wildfire.

Working with state veterinarian and swine producers to develop an emergency response

Table 5

Oklahoma Agricultural Leadership Program Respondents' Personal Involvement with Disasters within Their Respective Communities

Comments

plan for swine producers. This is primarily a plan to address disease concerns but it can also be helpful in times of other disasters.

I serve as a FSA committee member to help identify where federal disaster funds should be spent. I also serve on the steering committee of local OSU Extension to identify education topics and am involved with the local church board supporting food and clothing banks.

I have worked with local Civil Defense, local workgroups on land use planning, County Commissioners, Conservation Districts, Dept of Commerce, DEQ, and ODA.

Completed table-top exercises with the Tulsa State Fair, and approving disaster plans for Indian Electric.

When LEPC members were asked if they, or other members of their LEPCs, assisted with disaster response or recovery efforts impacting the agricultural industry in or beyond their communities, 57% of respondents indicated “yes” they were involved, while 43% of respondents answered “no” they were not involved. Respondents who answered “yes” were asked to explain their roles. Responses included being a hospital employee administering treatment to patients; disposing of cattle and horse carcasses after a tornado in cooperation with the state agriculture department and USDA; serving as a planning section chief for an incident management team; and aiding animal response teams in collecting, identifying, triaging, transporting, and housing pets and livestock. One respondent indicated he had created the first county animal response team (CART) in the state.

When the agriculture-related panelists were queried regarding their personal experiences with assisting in local disasters in their communities, 14 of the 21 reported they have been involved, while the remaining seven respondents had not. Respondents

who answered “yes” were asked to provide additional details about what responsibilities they had during these disasters. Multiple responses included debris clean-up, gathering livestock, and repairing fences, while other responses included fighting wildfires, providing equipment for response and recovery efforts, repairing watershed structures, and providing information to the public about farming practices.

Both panels were asked to identify what organizations within their communities currently are tasked with planning for and/or responding to disasters that impact the rural areas and agricultural businesses within their local community. Responses from both panels included emergency management; Oklahoma Department of Agriculture, Food, and Forestry; and fire departments. A complete list of organizations is presented in Table 6.

Table 6
Organizations Tasked with Planning for and/or Responding to Disasters that Impact Rural Areas and Agricultural Businesses in Respondents' Communities

Organization	LEPC	OALP
American Farmers and Ranchers		X
Animal response teams	X	
Churches		X
City departments	X	
Community members		X
Conservation district		X
County commissioners		X
County extension office	X	
Educational liaisons	X	
Emergency management	X	X
Federal Emergency Management Agency (FEMA)		X
Fire departments	X	X
Insurance companies		X
Law enforcement		X
Livestock organizations		X
Local businesses		X
Local Emergency Planning Committees	X	

Table 6
Organizations Tasked with Planning for and/or Responding to Disasters that Impact Rural Areas and Agricultural Businesses in Respondents' Communities

Organization	LEPC	OALP
Oklahoma Department of Agriculture	X	X
Oklahoma Department of Health		X
Oklahoma Farm Bureau		X
Police service/sheriff department	X	
Professional service groups	X	
Public works	X	
Red Cross		X
State and local government		X
USDA	X	

Organizations in the Disaster Life Cycle, Round One

The initial round of this Delphi study was to identify the organizations and their corresponding roles that should be involved in each of the disaster phases of mitigation, preparedness, response, and recovery of disasters impacting rural areas and agricultural businesses. After organizing responses to account for similar or duplicate statements, and separating compound statements, the disaster-focused panel identified 210 organizations across the four phases, while the agriculture-focused panel recognized 190 organizations.

Structured into the National Governor's Association's (1979) framework of a disaster lifecycle, the LEPC panelists identified 52 organizations for mitigation, 55 for preparedness, 53 for response, and 50 for recovery, with 41 organizations listed for all four phases. Of the OALP panelists identified, 52 organizations were for mitigation, 46 for preparedness, 46 for response, and 46 for recovery, with 25 organizations recognized across all four phases.

Across both panels, four organizations were listed for all phases, including county law enforcement; Oklahoma Department of Agriculture, Food and Forestry; OSU Extension; and veterinarians (see Table 7).

Roles of Organizations in the Disaster Life Cycle, Round One

Beyond organizations, each panel was asked to identify the roles these organizations should fulfill during the phases of a disaster. After the researcher organized responses to account for similar or duplicate statements and separated compound statements, the LEPC panel identified 151 roles across mitigation ($n = 32$), preparedness ($n = 32$), response ($n = 55$), and recovery ($n = 32$). Nine organizations were identified to have roles across each phase of disaster (see Table 8).

The OALP alumni panel also was asked to identify the roles that should be fulfilled by the identified organizations. After the researcher organized responses to account for similar or duplicate statements and separated compound statements, the OALP panel identified 249 roles across mitigation ($n = 72$), preparedness ($n = 57$), response ($n = 67$), and recovery ($n = 53$). Ten organizations were identified to have roles across each phase of a disaster (see Table 9).

Organizations and Roles in the Disaster Life Cycle, Round Two

In round two, panelists were asked to rate their levels of agreement with all organizations and roles identified during round one. These organizations and roles were identified for all phases of disasters that impact rural areas and agricultural businesses.

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
Local emergency managers	X		X		X		X	
County emergency managers	X		X		X		X	
State emergency managers	X		X		X		X	
Regional emergency managers	X		X		X		X	
Federal emergency managers	X		X		X		X	
County emergency management		X		X		X		
State emergency management		X		X		X		X
Office of Emergency Management						X		
Local law enforcement		X				X		
City law enforcement	X		X		X		X	
County law enforcement	X	X	X	X	X	X	X	X
Regional law enforcement	X		X		X		X	
State law enforcement		X		X		X		X
Federal law enforcement	X	X	X		X	X	X	
City firefighters	X		X		X		X	
County firefighters	X		X		X		X	
Regional firefighters	X		X		X		X	
Federal firefighters	X		X		X		X	
Local USDA	X		X		X		X	
County USDA	X		X		X		X	
State USDA	X		X		X		X	
United States Department of Agriculture								X
City public works	X		X		X		X	

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
County public works	X		X		X		X	
Regional public works	X		X		X		X	
Federal public works	X		X		X		X	
Secondary education	X		X		X		X	
Universities	X	X	X	X	X		X	X
City volunteers	X		X		X		X	
Community volunteers						X		
County volunteers	X		X		X		X	
Regional volunteers	X		X		X		X	
Federal volunteers	X		X		X		X	
City professional programs	X		X		X		X	
County professional programs	X		X		X		X	
Regional professional programs	X		X		X		X	
Federal professional programs	X		X		X		X	
City youth programs	X		X		X		X	
County youth programs	X		X		X		X	
Regional youth programs	X		X		X		X	
Federal youth programs	X		X		X		X	
Local government		X		X				X
County government		X		X				X
State government		X		X				
4-H	X		X				X	
Agricultural environmental management		X		X		X		X
Agricultural media/social media experts						X		X

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
AMBUCS								X
American Farmers & Ranchers		X						
Animal control					X			
Animal shelters					X			
Bank/loan agencies							X	
Baptist General Convention Disaster Team		X		X		X		
Building supply companies								X
Business owners		X		X		X		X
Chamber of Commerce		X						
Church groups		X		X		X		X
City departments	X		X		X		X	
Civic organizations								X
Commercial insurance companies						X		X
Community members		X		X		X		
Community organizations								X
Conservation districts	X	X	X	X		X	X	X
Construction boards		X						
Contractors								X
Co-ops	X		X		X		X	
Corps of Engineers	X		X		X		X	
County animal response teams			X		X			
County commissioners	X	X		X		X		X
County elected officials			X		X			
Crop insurance agents								X

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
Department of Environmental Quality	X							
Development authority	X		X		X		X	
Emergency grants and loans (state and federal)								X
Emergency Medical Services Authority (EMSA)					X	X		
Epidemiologist		X		X		X		X
Farm Bureau		X	X	X				
Farm Service Agency		X				X		X
Farmers	X		X				X	
Farmers and ranchers		X		X		X		X
Federal Emergency Management Agency		X		X		X		X
Fire departments (paid)		X		X		X		X
First responders	X		X				X	
Governor's office						X		
Health department	X		X		X		X	
Hospitals					X			
Human resource departments of local companies				X				
Individual counties				X				
Insurance companies		X		X		X	X	
Insurance department		X						
Landowners	X							
Lenders	X		X				X	

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
Livestock associations		X		X		X		X
Local banks		X		X				X
Local citizens	X		X		X			
Local emergency planning committees	X		X					
Local environmental organizations				X				
Local schools		X		X				X
Local weather services				X				
Mesonet				X				
National Guard				X		X		x
National Weather Service				X				
Natural Resources Conservation Service		X		X		X		X
Neighbors					X			
News teams				X				
Noble Foundation		X						
Oklahoma Cattlemen's Association		X		X		X		X
Oklahoma Department of Agriculture, Food and Forestry	X	X	X	X	X	X	X	X
Oklahoma Department of Health		X		X		X		X
Oklahoma Pork Council		X		X		X		X
Oklahoma Veterinary Medical Association		X		X		X		X
OSU Extension	X	X	X	X	X	X	X	X
Poultry Federation		X		X		X		X

Table 7

Organizations Identified during Round One that Should Be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organizations	Mitigation		Preparedness		Response		Recovery	
	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b	LEPC ^a	OALP ^b
Private emergency agencies		X		X		X		
Red Cross		X	X	X	X	X		X
Risk Management Agency		X						
Rotary clubs								X
Rural electric cooperatives		X		X		X		
Rural fire departments				X		X		X
Rural mail carriers						X		
Rural water districts		X		X		X		X
Salvation Army		X			X	X		X
Small Business Administration							X	X
Special disaster programs		X						
State building codes		X						
State veterinarian		X						
Trade organizations		X						
USDA Rural Development		X		X		X		X
Veterinarians	X	X	X	X	X	X	X	X
Voluntary Organizations Active in Disaster (VOADs)			X		X		X	

Note: ^aLocal Emergency Planning Committee panel ($n = 7$). ^bOklahoma Agricultural Leadership Program alumni panel ($n = 21$).

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Animal control			Collect animals Deliver animals to triage Deliver triaged animals to proper facility	
Animal shelters			Provide animal shelter	
Bank/loan agencies				Provide funding to rebuild
City departments	Basic services	Basic services	Basic services Hazmat response	Basic services
Conservation department	Preservation of land and water by design and engineering	Education Funding assistance Design assistance		
Co-ops	Chemical guidance	Chemical guidance	Chemical guidance Technical assistance	Chemical guidance
Corps of Engineers	Flood control	Flood control	Flood control	Flood control
County animal response teams			Recover animals Triage animals	

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
			Treat animals House animals	
County commissioners	Funding Permits			
County official			Provide equipment Provide equipment operators	
Department of Environmental Quality	Water quality Air quality			
Development authority	Financial guidance	Financial guidance	Financial guidance	Financial guidance
Emergency management	Organization Planning Media Safety Organize trainings using exercises Coordination	Organization Planning Media Safety Organize trainings using exercises	Organization using National Incident Management System Respond using emergency operations plans Coordination	Obtain assistance as needed, using outside aid if needed Keep documentation as needed Get technical assistance from county commissioners and city officials for finances

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
				Get technical assistance from county commissioners and city officials for loans
				Get technical assistance from county commissioners and city officials for grants
				Get technical assistance from county commissioners and city officials for manpower
				Get technical assistance from county commissioners and city officials for equipment
				Serve as liaison for state agencies providing services to landowners
				Serve as liaison for federal agencies

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
				providing services to landowners Coordination
Emergency Medical Services Authority (EMSA)			Transportation Emergency first aid	
Farm Bureau		Assess property damage		
Firefighters	Citizen protection	Citizen protection	Activate communications Manage fire when needed Rescue citizens Assist only when directed by command staff Search and rescue Immediate preservation of life Immediate incident stabilization Immediate preservation of property	Work with emergency manager to respond where needed Review what is done right or wrong Review if different actions could make mitigation, preparedness, and response go more smoothly Update emergency response plans with what changes are needed

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
First responders			First response	
Health department	Animal care and diseases Education Immunizations	Animal care Animal diseases Monitor human shelters Immunizations	Animal care Animal diseases	Animal care Animal diseases
Hospital			Provide medical treatment	
Insurance companies				Provide funding within the limits of policy to affect recovery
Landowners			Need to provide as much self-care as possible	
Law enforcement	Organization Planning	Organization Planning	Keep the law Traffic Assistance as needed Secure perimeters Control access to affected areas	Work with emergency managers to respond where needed Review what was done right or wrong Review if different actions could make mitigation, preparedness, and

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
				response go more smoothly Update emergency response plans with what changes are needed
Local Emergency Planning Committee	Chemical risks	Chemical risks	Chemical risks Hazmat response	Chemical risks
Neighbors			Collect neighbors livestock Ensure safety and well-being of livestock until owner can retrieve them	
Oklahoma Department of Agriculture, Food, & Forestry	Education Immunization of animals	Education Monitoring of animal disease		
OSU Extension	Agricultural guidance Education	Agricultural guidance	Agricultural guidance Technical assistance	Agricultural guidance
Red Cross			Provide shelters Provide personal needs	

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Salvation Army			Provide food	
Small Business Administration				Provide low-interest loans for recovery
Veterinarians	Animal care and diseases	Animal care Animal diseases Vaccinations	Animal care Animal diseases Vaccinations Animal shelters	Animal care Animal diseases
Voluntary Organizations Active in Disaster (VOADs)			Provide temporary housing Provide personal needs	Provide assistance through long-term recovery committees to meet unique needs of victims
Organizations should:	Identify the potential hazards Educate landowners about disasters Educate landowners about disaster preparation Educate landowners about how to mitigate	Participate in unified planning Deliver the preparedness message to potential victims Educate the public on the importance of preparing themselves and their families,	Participate in unified planning	

Table 8

Roles Identified during Round One by Local Emergency Planning Committee Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	loss Participate in unified planning	livestock, and equipment for incidents Deliver the message that outside assistance will not be immediate Deliver the message about what to expect and from whom during response		

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Business owners	Organization Planning Media Safety Organize trainings using exercises	Visit with bankers to cover their disaster plan and determine how the bank can help during these times	Supply needed items for immediate use Assist with clean up Assist with shelter Assist with food Assist with fuel Should be nearby to help firefighters know the best way in and out of a property	Should have all insurance and loan documentation accessible so arrangement can be made quickly Supply needed items for immediate use Assist with clean up Assist with shelter Assist with food Assist with fuel
Commercial insurance			Must have monies available for immediate needs Assess damage Provide recover funds for policy holders Allow for repayment of personal property damaged in a disaster	Place money back into community to rebuild
Community members	Provide community	Prepare an action plan	Should respond to the	Should meet the needs

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	awareness		situation and offer their services Understand the local needs	based on the disaster
County commissioners	Work in partnership with all agencies and organizations Give immediate attention to a new problem before it grows Prepare and plan	Prepare a plan of action for all resources in their jurisdiction for all events Work in partnership with all agencies and organizations	Work in partnership with all agencies and organizations	Work in partnership with all agencies and organizations
Disaster programs	Provide financial assistance for recovery Communicate with local groups about plans Coordinate readiness plans Advance planning for shelter set-up and changes in building design			
Emergency management	Rely on their training			

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	<p>and knowledge to be in charge of disaster</p> <p>Utilize their knowledge of resources available</p> <p>Initial response</p> <p>Evaluation of needs for each area of destruction</p>			
Emergency Medical Services Authority (EMSA)			Take lead role in search and rescue mission	
Farm Service Agency	Mobilize resources			
Farmers and ranchers	Should be involved in agricultural organizations to have a network to rely on	Should be involved in agricultural organizations to have a network to rely on	Should be involved in agricultural organizations to have a network to rely on	Should be involved in agricultural organizations to have a network to rely on
Emergency grants and loans (state and federal)				Place money back into community to rebuild
Federal Emergency	Long-term planning			

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Management Agency	Short-term support of other agencies			
Firefighters		Practice what and when to take action Practice a chain of command	Trained to be first responders Communicate needs to other stakeholders Assist with responding to the needs of the community Keep knowledge of where people in rural areas are located	
Government	Need to enforce building codes		Should supply private agencies with the needed supplies	Lead the cleanup efforts Should take on efforts of a long-term recovery plan
Governor's office			Take lead role in developing rescue missions Take lead role in shelter set-up Take lead role in ascertaining	

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
			emergency assistance, if available Take lead role in securing perimeters	
Human resource departments of local companies		Disseminate information to employees Assist in local involvement activities		
Individuals	Must have knowledge of how they could be impacted by a disaster Must have knowledge of their own options in a disaster Develop relationships with potential responders	Have knowledge of how they could be impacted by a disaster Have knowledge of their own options in a disaster	Have knowledge of how they could be impacted by a disaster Have knowledge of their options in a disaster	Have knowledge of how they could be impacted by a disaster Have knowledge of their own options in a disaster
Insurance companies	Offer discounts to help pay for the improvements if	Review disaster plans for businesses to determine how much		Assess damages in a timely manner Process claims in a

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	<p>mitigation steps have been taken, such as hurricane strips in high wind areas or shatter-proof windows</p> <p>Review disaster plans for businesses to determine how much and what type of insurance is needed</p> <p>Distribute cost of the disaster over a larger pool</p> <p>Allow for repayment of personal property damaged in a disaster</p>	<p>and what type of insurance is needed</p> <p>Distribute cost of the disaster over a larger pool</p> <p>Allow for repayment of personal property damaged in a disaster</p>		<p>timely manner</p> <p>Distribute cost of the disaster over a larger pool</p> <p>Allow for repayment of personal property damaged in a disaster</p>
Law enforcement	<p>Understand what expectations will be on law enforcement</p> <p>Understand what resources will be available</p> <p>Emergency response</p> <p>Securing the disaster</p>	<p>Assist with response times</p> <p>Determine what needs to be done in the state of a disaster</p> <p>Provide information to the public</p> <p>Assist with the action</p>	<p>Provide animal quarantine</p> <p>Serve as escort for disease samples</p> <p>Assist with responding to the needs of the community</p>	

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	area from any onlookers or theft	plan that was identified in the mitigation process Use the past history of occurrences to prepare		
Livestock associations	Provide knowledge of industries Provide knowledge of how a potential disaster would impact specific industries Serve as direct conduit to producers	Exercises and drills that reinforce to livestock owners and all others on this list what will likely happen in a disaster scenario Help livestock owners develop plans for dealing with disaster	Disseminate information to members	
Local and county government	Educate public on what to do to prevent or mitigate disasters	Identify needs Educate state and national efforts on those needs		
Local churches		Food Clothing Shelter	Assist with responding to the needs of the community	Assist with supplies Organize volunteer groups Organize donations

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Local weather services		Provide information services		
National Guard			Assist in cleaning up the area Providing manual labor for the disaster area "Boots on the ground help" providing supplies, food, etc. Organizing groups to get things done Provide resources and bodies to get started for recovery	
Natural Resources Conservation Service	Flood control Erosion control Manage structures and features that convey water Provides design and engineering of water structures to conservation districts			

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
News teams		Provide information services		
Noble Foundation	Educate public on what to do to prevent or mitigate disasters			
Office of Emergency Management			Lead the emergency operations center	
Oklahoma Department of Agriculture, Food and Forestry	Provide understanding of what services are available to plan for a disaster Provide understanding of what resources are available to plan for a disaster Provide understanding of what authorities are available to plan for a disaster Prepare mitigation plans for potential disasters	Providing general guidelines for preparedness Take lead role in forecasting	Have statutory authority to respond to certain disasters Assist in shelter set-up Assist in establishing secure perimeters	Provide information about recovery services available

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Oklahoma Department of Health	Understanding of any potential animal disease impacts on human health Understanding of any potential animal disaster impacts (other than disease on human health)			
Oklahoma Veterinary Medical Association	Knowledge of animal health needs Knowledge of animal health responses	Stockpile vaccines	Provide animal care	
OSU Extension	Education of public on what to do to prevent or mitigate disasters Knowledge of resources available Contact local farmers and ranchers to provide information	Assist in planning for stockpiling Assist in providing general guidelines for preparedness Take lead role in helping communities to prepare for disaster Contact local farmers and ranchers to provide information	Assist in shelter set-up Assist in emergency assistance Assist in damage assessment Contact local farmers and ranchers to provide information	Contact local farmers and ranchers to provide information Provide information about recovery services available

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Private emergency agencies	Initiate immediate assistance with support from FEMA and direction from local emergency agencies		Distribute needed materials to the affected areas	
Red Cross		Provide temporary housing Provide food Provide supplies Assess resources and determine needs Provide public shelters		Assist with supplies Organize volunteer groups Organize donations
Risk Management Agency	Provide risk protection from weather Provide risk protection from markets			

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Rural electric cooperatives	Remain equipped to handle disaster situations	Keep an understanding of what is needed to restore electricity Sponsor meetings for individuals to have an understanding of what actions to take during a disaster	Assist in knowledge of where people are located	
Rural fire departments	Complete drills in firefighting Stay proficient in emergency medical procedures			Keep a knowledge of the community and where people are located for times during disaster
Rural water districts	Provide familiarity with critical water resources Provide familiarity with critical water locations Provide familiarity with critical water sensitivities	Provide familiarity with critical water resources Provide familiarity with critical water locations Provide familiarity with critical water sensitivities	Provide familiarity with critical water resources Provide familiarity with critical water locations Provide familiarity with critical water sensitivities	Provide familiarity with critical water resources Provide familiarity with critical water locations Provide familiarity with critical water sensitivities

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
Salvation Army				Assist with supplies Organize volunteer groups Organize donations
Soil conservation district	Maintain the system of flood control dams throughout the state Operate the system of flood control dams throughout the state Care for the system of flood control dams throughout the state Work with terraces, waterways, streams, and other structures and features where water flows			
State building codes	Enforce building codes			
State veterinarian		Assist in planning for stockpiling Assist in providing general guidelines for preparedness	Assist in emergency assistance Assist in damage assessment	

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
United States Department of Agriculture		Stockpile vaccines	Have statutory authority to respond to certain disasters	
Universities	Provide research information to assist	Provide research information to assist	Provide research information to assist	Provide research information to assist
USDA Agencies	Prepare mitigation plans for potential disasters	Take lead role in planning for agency utilization to increase efficiency of response operations	Assist in rescue missions Assist in shelter set-up Assist in damage assessment	Take lead role in providing loans Take lead role in providing legal assistance Take lead role in rebuilding of inventories and property
Organizations should:	Be able to organize a preparedness plan, organize the roles each would take, the level of involvement given a disaster, and the sequence each would take	Coordinate group efforts Work together to formulate a plan of action identified for each type of disaster Organizations should have a crisis plan and continually update	Know what their role is before response Work together to formulate a plan of action identified for each type of disaster Coordinate appropriate responses with all of	Assist with rebuilding Prepare future plans Raise financial assistance needed Assist with clean-up to get lives back to normal Assist with paperwork to

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
	<p>Have a crisis plan and continually update and morph that plan</p> <p>Inform their stakeholders of its crisis plan</p>	<p>and morph that plan</p> <p>Inform stakeholders of its crisis plan</p> <p>Local and private emergency agencies should work together</p> <p>Government agencies should be available for additional support</p> <p>All groups should help schools build large public shelters for everyone's use</p>	<p>the agencies involved</p> <p>Have a central command to plan and provide safe, effective support</p> <p>Coordinate assistance for shelters</p> <p>Distribute goods and services</p> <p>Assess damage</p> <p>Coordinate damage repair</p> <p>Have a crisis plan and continually update and morph that plan</p> <p>Inform stakeholders of its crisis plan</p>	<p>get lives back to normal</p> <p>Report where fundraising funds are used</p> <p>Provide information to the affected parties so that everyone is accorded effective services</p> <p>Coordinate appropriate responses for the affected parties so that everyone is accorded effective services</p> <p>Pay claims</p> <p>Make loans for rebuilding</p> <p>Encourage stronger building codes</p> <p>Have a long-term effective policy to deliver all resources and assets over the</p>

Table 9

Roles Identified during Round One by Oklahoma Agricultural Leadership Program Alumni Panelists for Organizations that Should be Involved in Disasters Impacting Rural Areas and Agricultural Businesses

Organization	Mitigation	Preparedness	Response	Recovery
				length of the recovery process Have a crisis plan and continually update and morph that plan Inform stakeholders of its crisis plan

To determine consensus on these organizations and roles, panelists were asked to use a 6-point, Likert-type scale ranging from strongly disagree, disagree, slightly disagree, slightly agree, agree, to strongly agree. Organizations and roles that received a rating of “agree” or “strongly agree” by 75% or more of the respondents were considered as having reached “consensus of agreement” (Jenkins, 2008; Ramsey, 2010).

The LEPC panel reached consensus on 107 organizations during this round. Distributions across phases are as follows: mitigation, 22; preparedness, 24; response, 36; and recovery, 25. Additionally, 146 of the initial 151 roles reached consensus for round two, with 31 for mitigation, 32 for preparedness, 53 for response, and 30 for recovery.

During round two, the OALP alumni panel reached consensus on 61 organizations and 164 roles, with 14 organizations and 49 roles included for mitigation, 13 organizations and 34 roles for preparedness, 22 organizations and 43 roles for response, and 12 organizations and 38 roles for recovery.

All organizations and roles that reached consensus in round two are included in Table 10. A listing of all organizations and roles with the corresponding percentages of agreement is provided in Appendix K.

Of the 210 total organizations identified by the disaster-focused panel, round two resulted in 30 organizations that were rated “agree” or a “strongly agree” by less than 75% but by more than 51% of the respondents (Jenkins, 2008; Ramsey, 2010). Distributed across phases, this resulted in seven organizations for mitigation, eight for preparedness, five for response and 10 for recovery (see Table 11).

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Animal control ^a			Collect animals ^a Deliver animals to triage ^a Deliver triaged animals to proper facility ^a	
Animal shelters ^a			Provide animal shelter ^a	
Bank/loan agencies ^a				Provide funding to rebuild ^a
Baptist General Convention Disaster Team ^b			Consensus reached for phase but not for roles. ^b	
Building supply companies ^{b,d}				Consensus reached for phase but not for roles. ^b
Business owners ^{b,d}			Should be nearby to help firefighters know the best way in and out of a property ^b	Should have all insurance and loan documentation accessible so arrangement can be made quickly ^b
City departments ^a	Basic services ^{a,c}	Basic services ^a	Basic services ^a Hazmat response ^a	Basic services ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Civic organizations ^{b,d}				Consensus reached for phase but not for roles. ^b
Community members ^b	Provide community awareness ^b	Prepare an action plan ^{b,c}	Understand the local needs ^b Should respond to the situation and offer their services ^b	Should meet the needs based on the disaster ^{b,c}
Community organizations ^b				Consensus reached for phase but not for roles. ^b
Community volunteers ^b			Consensus reached for phase but not for roles. ^b	
Contractors ^b				Consensus reached for phase but not for roles. ^b
Co-ops ^a	Chemical guidance ^{a,c}	Chemical guidance ^a	Chemical guidance ^a Technical assistance ^a	Chemical guidance ^{a,c}
County animal response teams ^a		Consensus reached for phase but not for roles. ^a	Recover animals ^a Triage animals ^a House animals ^a Treat animals ^a	
County	Work in partnership	Work in partnership with	Work in partnership with	Work in partnership with all

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
commissioners ^a , ^b	with all agencies and organizations ^b Prepare and plan ^b Give immediate attention to a new problem before it grows ^b Funding ^a Permits ^a	all agencies and organizations ^b Prepare a plan of action for all resources in their jurisdiction for all events ^b	all agencies and organizations ^b	agencies and organizations ^b
County elected officials ^a		Consensus reached for phase but not for roles ^a	Provide equipment ^a Provide equipment operators ^a	
Conservation department ^a	Preservation of land and water by design and engineering ^a	Education ^a Funding assistance ^a Design assistance ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
Corps of engineers ^a	Flood control ^{a,c}	Flood control ^{a,c}	Flood control ^{a,c}	Flood control ^a
Crop insurance agencies ^b				Consensus reached for phase but not for roles ^b
Department of Environmental Quality ^a	Water quality ^a Air quality ^a			

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Development authority ^a	Financial guidance ^{a,c,d}	Financial guidance ^{a,c}	Financial guidance ^{a,c}	Financial guidance ^a
Disaster programs ^{b,c}	<p>Communicate with local groups about plans^{b,c}</p> <p>Provide financial assistance for recovery^{b,c}</p> <p>Coordinate readiness plans^{b,c}</p> <p>Advance planning for shelter set-up and changes in building design^{b,c}</p>			
Emergency management ^{a,b,c}	<p>Organization^a</p> <p>Planning^a</p> <p>Media^a</p> <p>Safety^a</p> <p>Organize trainings using exercises^a</p> <p>Coordination^a</p> <p>Rely on their training and knowledge to be in charge of</p>	Organization ^a	Organization using National Incident Management System ^a	Obtain assistance as needed, using outside aid if needed ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	disaster ^{b,c} Utilize their knowledge of resources available ^{b,c} Evaluation of needs for each area of destruction ^{b,c} Initial response ^{b,c}			
County emergency management ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b	
State emergency management ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b	
Local emergency managers ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
County emergency managers ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a
Regional	Consensus reached for	Consensus reached for	Consensus reached for	Consensus reached for phase

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
emergency managers ^a	phase but not for roles ^a	phase but not for roles ^a	phase but not for roles ^a	but not for roles ^a
State emergency managers ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
Federal emergency managers ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
Emergency Medical Services Authority (EMSA) ^{a,b}			Take lead role in search and rescue mission ^{b,d} Transportation ^a Emergency first aid ^a	
Farmers and ranchers ^{b,d}	Should be involved in agricultural organizations to have a network to rely on ^b	Should be involved in agricultural organizations to have a network to rely on ^b	Should be involved in agricultural organizations to have a network to rely on ^b	Should be involved in agricultural organizations to have a network to rely on ^b
Farmers ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Farm Bureau ^a		Assess property damage ^a		
Federal Emergency Management Agency ^b	Long-term planning ^b Short-term support of other agencies ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b
Federal and state emergency grants and loans ^b				Place money back into community to rebuild ^b
Firefighters ^a	Citizen protection ^a	Citizen protection ^a	Manage fire when needed ^a Rescue citizens ^a Search and rescue ^a Immediate preservation of life ^a Immediate incident stabilization ^a Immediate preservation of property ^a Activate communications ^a Assist only when directed by command staff ^a	Work with emergency manager to respond where needed ^a Review what is done right or wrong ^a Review if different actions could make mitigation, preparedness, and response go more smoothly ^a Update emergency response plans with what changes are needed ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
City firefighters ^a	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles. ^a	
County firefighters ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	
Regional firefighters ^a			Consensus reached for phase but not for roles ^a	
Rural fire departments ^b	Stay proficient in emergency medical procedures ^{b,c} Complete drills in firefighting ^{b,c}	Practice what and when to take action ^b Practice a chain of command ^b	Trained to be first responders ^b Assist with responding to the needs of the community ^b Communicate needs to other stakeholders ^b Keep knowledge of where people in rural areas are located ^b	Keep a knowledge of the community and where people are located for times during disaster ^{b,c}
First responders ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	First response ^{a,c}	Consensus reached for phase but not for roles ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Government agencies ^{b,c}	Need to enforce building codes ^{b,c}			Should take on efforts of a long-term recovery plan ^{b,c,d}
Local government ^{b,d}	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b		Consensus reached for phase but not for roles ^b
County government ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b		Consensus reached for phase but not for roles ^b
State government ^b	Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b		
Governor's office ^b			Consensus reached for phase but not for roles ^b	
Hospitals ^a			Provide medical treatment ^a	
Human resource departments of local companies ^{b,c,d}		Disseminate information to employees ^{b,c,d} Assist in local involvement activities ^{b,c,d}		

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Individuals ^{b,c}	<p>Must have knowledge of how they could be impacted by a disaster^{b,c}</p> <p>Must have knowledge of their own options in a disaster^{b,c}</p> <p>Develop relationships with potential responders^{b,c}</p>	<p>Have knowledge of their own options in a disaster^{b,c}</p> <p>Have knowledge of how they could be impacted by a disaster^{b,c}</p>	<p>Have knowledge of how they could be impacted by a disaster^{b,c}</p> <p>Have knowledge of their options in a disaster^{b,c}</p>	<p>Have knowledge of how they could be impacted by a disaster^{b,c}</p> <p>Have knowledge of their own options in a disaster^{b,c}</p>
Individual counties ^{b,d}		Consensus reached for phase but not for roles ^b		
Commercial insurance companies ^{b,d}			Consensus reached for phase but not for roles ^b	Consensus reached for phase but not for roles ^b
Insurance companies ^{a,b}	Offer discounts to help pay for the improvements if mitigation steps have been taken,	<p>Allow for repayment of personal property damaged in a disaster^{b,c}</p> <p>Review disaster plans</p>	<p>Must have monies available for immediate needs^b</p> <p>Assess damage^b</p> <p>Provide recover funds for policy holders^b</p>	<p>Assess damages in a timely manner^{b,c}</p> <p>Process claims in a timely manner^{b,c}</p> <p>Allow for repayment of</p>

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	<p>such as hurricane strips in high wind areas or shatter-proof windows^{b,c}</p> <p>Review disaster plans for businesses to determine how much and what type of insurance is needed^{b,c}</p> <p>Allow for repayment of personal property damaged in a disaster^{b,c}</p>	<p>for businesses to determine how much and what type of insurance is needed^{b,c}</p>	<p>Allow for repayment of personal property damaged in a disaster^b</p>	<p>personal property damaged in a disaster^{b,c,d}</p> <p>Distribute cost of the disaster over a larger pool^{b,c}</p> <p>Provide funding within the limits of policy to affect recovery^a</p>
Landowners ^a	<p>Consensus reached for phase but not for roles^a</p>	<p>Consensus reached for phase but not for roles^a</p>	<p>Need to provide as much self-care as possible^{a,c}</p>	
Law enforcement ^{a,b,c}	<p>Planning^a</p> <p>Organization^a</p> <p>Understand what expectations will be on law enforcement^{b,c}</p> <p>Understand what</p>	<p>Planning^a</p> <p>Organization^a</p> <p>Provide information to the public^{b,c}</p> <p>Assist with the action plan that was identified in the</p>	<p>Keep the law^a</p> <p>Assistance as needed^a</p> <p>Secure perimeters^a</p> <p>Control access to affected areas^a</p> <p>Traffic^a</p> <p>Assist with responding to</p>	<p>Work with emergency managers to respond where needed^a</p> <p>Review what was done right or wrong^a</p> <p>Review if different actions could make mitigation,</p>

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	resources will be available ^{b,c} Emergency response ^{b,c} Securing the disaster area from any onlookers or theft ^{b,c}	mitigation process ^{b,c} Assist with response times ^{b,c} Determine what needs to be done in the state of a disaster ^{b,c} Use the past history of occurrences to prepare ^{b,c}	the needs of the community ^{b,c} Serve as escort for disease samples ^{b,c}	preparedness, and response go more smoothly ^a Update emergency response plans with what changes are needed ^a
Local law enforcement ^b	Consensus reached for phase but not for roles ^b		Consensus reached for phase but not for roles ^b	
City law enforcement ^a			Consensus reached for phase but not for roles. ^a	
County law enforcement ^{a,b,d}	Consensus reached for phase but not for roles ^{a,b}	Consensus reached for phase but not for roles ^{a,b}	Consensus reached for phase but not for roles ^{a,b}	Consensus reached for phase but not for roles ^{a,b,d}
Regional law enforcement ^{a,d}	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a	
State law	Consensus reached for	Consensus reached for	Consensus reached for	Consensus reached for phase

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
enforcement ^{b,d}	phase but not for roles ^b	phase but not for roles ^{b,d}	phase but not for roles ^b	but not for roles ^{b,d}
Federal law enforcement ^b			Consensus reached for phase but not for roles ^b	
Lenders ^a		Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a
Livestock organizations ^{b,c}	Provide knowledge of how a potential disaster would impact specific industries ^{b,c} Provide knowledge of industries ^{b,c} Serve as direct conduit to producers ^{b,c}	Help livestock owners develop plans for dealing with disaster ^{b,c,d}	Disseminate information to members ^{b,c}	
Local banks ^b				Consensus reached for phase but not for roles ^b
Local churches ^{b,d}		Shelter ^{b,c} Food ^{b,c} Clothing ^{b,c}	Assist with responding to the needs of the community ^{b,c}	Organize volunteer groups ^b Organize donations ^b Assist with supplies ^b

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Local citizens ^{a,d}	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a	
Local and county government ^b	Educate public on what to do to prevent or mitigate disasters ^b	Identify needs ^b Educate state and national efforts on those needs ^b		
Local Emergency Planning Committee ^a	Chemical risks ^a	Chemical risks ^a	Chemical risks ^{a,c} Hazmat response ^a	Chemical risks ^{a,c}
Local weather services ^{b,c}		Provide information services ^{b,c}		
National Guard ^b		Consensus reached for phase but not for roles ^b	Provide resources and bodies to get started for recovery ^b "Boots on the ground help" providing supplies, food, etc. ^b Assist in cleaning up the area ^b Providing manual labor for	

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
			the disaster area ^b Organizing groups to get things done ^{b,d}	
Natural Resources Conservation Service ^{b,c}	Flood control ^{b,c,d} Provides design and engineering of water structures to conservation districts ^{b,c,d}			
Neighbors ^a			Collect neighbors livestock ^a Ensure safety and well-being of livestock until owner can retrieve them ^a	
News teams ^{b,c}		Provide information services ^{b,c}		
Office of Emergency Management ^b			Lead the emergency operations center ^b	
Oklahoma Department of	Understanding of any potential animal		Consensus reached for phase but not for roles ^b	

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Health ^b	disease impacts on human health ^{b,c} Understanding of any potential animal disaster impacts (other than disease on human health) ^{b,c}			
Health department ^{a,d}	Education ^a Immunizations ^a Animal care and diseases ^a	Immunizations ^a Animal care ^a Animal diseases ^a Monitor human shelters ^a	Animal diseases ^a	Animal diseases ^a
Oklahoma Department of Agriculture, Food and Forestry ^{a,b,c}	Provide understanding of what services are available to plan for a disaster ^{b,c} Provide understanding of what resources are available to plan for a disaster ^{b,c} Provide understanding of what authorities are available to plan for a disaster ^{b,c} Prepare mitigation	Providing general guidelines for preparedness ^{b,c} Education ^a Monitoring of animal disease ^a	Have statutory authority to respond to certain disasters ^{b,c} Consensus reached for phase but not for role ^a	Provide information about recovery services available ^{b,c} Consensus reached for phase but not for role ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	plans for potential disasters ^{b,c} Education ^a Immunization of animals ^a			
Oklahoma Veterinary Medical Association ^{b,c}	Knowledge of animal health needs ^{b,c} Knowledge of animal health responses ^{b,c}		Provide animal care ^{b,c}	
OSU Extension ^{a,b,c}	Knowledge of resources available ^{b,c} Education of public on what to do to prevent or mitigate disasters ^{b,c} Contact local farmers and ranchers to provide information ^{b,c,d} Agricultural guidance ^a Education ^a	Assist in providing general guidelines for preparedness ^{b,c,d} Contact local farmers and ranchers to provide information ^{b,c,d} Agricultural guidance ^a	Agricultural guidance ^a Technical assistance ^a	Contact local farmers and ranchers to provide information ^{b,c,d} Provide information about recovery services available ^{b,c} Agricultural guidance ^a
Private emergency agencies ^{b,d}	Initiate immediate assistance with support from FEMA	Consensus reached for phase but not for roles ^b	Distribute needed materials to the affected areas ^b	

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	and direction from local emergency agencies ^{b,d}			
City public works ^{a,d}		Consensus reached for phase but not for role ^a	Consensus reached for phase but not for role ^a	
County public works ^{a,d}	Consensus reached for phase but not for role ^{a,d}	Consensus reached for phase but not for role ^{a,d}	Consensus reached for phase but not for role ^a	
Red Cross ^{a,d,b,d}	Consensus reached for phase but not for roles ^b	Assess resources and determine needs ^{b,c} Provide food ^{b,c,d} Provide supplies ^{b,c,d} Provide public shelters ^{b,c,d} Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^{b,d} Provide shelters ^a Provide personal needs ^a	Assist with supplies ^{b,c} Organize volunteer groups ^{b,c} Organize donations ^{b,c}
Risk Management Agency ^b	Provide risk protection from weather ^{b,d}			
Rural electric	Remain equipped to	Keep an understanding	Assist in knowledge of	

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
cooperatives ^{b,d}	handle disaster situations ^{b,c}	of what is needed to restore electricity ^b	where people are located ^{b,c}	
Rural water districts ^{b,d}	Provide familiarity with critical water resources ^{b,c}	Provide familiarity with critical water resources ^{b,c}	Provide familiarity with critical water resources ^{b,c}	Provide familiarity with critical water resources ^b
	Provide familiarity with critical water locations ^{b,c}	Provide familiarity with critical water locations ^{b,c}	Provide familiarity with critical water locations ^{b,c}	Provide familiarity with critical water locations ^b
	Provide familiarity with critical water sensitivities ^{b,c}	Provide familiarity with critical water sensitivities ^{b,c}	Provide familiarity with critical water sensitivities ^{b,c}	Provide familiarity with critical water sensitivities ^b
Salvation Army ^{a,b}			Consensus reached for phase but not for roles ^b Provide food ^a	Assist with supplies ^{b,c} Organize donations ^{b,c} Organize volunteer groups ^{b,c}
Small Business Administration ^{a,b}				Consensus reached for phase but not for roles ^b Provide low-interest loans for recovery ^a
State building codes ^{b,c}	Enforce building codes ^{b,c}			

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Universities ^{b,c,d}	Provide research information to assist ^{b,c,d}	Provide research information to assist ^{b,c,d}	Provide research information to assist ^{b,c}	
USDA agencies ^{b,c,d}	Prepare mitigation plans for potential disasters ^{b,c,d}		Have statutory authority to respond to certain disasters ^{b,c}	
Local USDA ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
County USDA ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
State USDA ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
Veterinarians ^{a,d}	Animal care and diseases ^a	Animal care ^a Animal diseases ^a Vaccinations ^a	Animal diseases ^a Vaccinations ^a Animal care ^a Animal shelters ^a	Animal diseases ^a Animal care ^a

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
State veterinarian ^{b,c}		Assist in planning for stockpiling ^{b,c,d} Assist in providing general guidelines for preparedness ^{b,c,d}		
Voluntary Organizations Active in Disaster (VOADs) ^a		Consensus reached for phase but not for roles ^a	Provide personal needs ^a	Provide assistance through long-term recovery committees to meet unique needs of victims ^a
City volunteers ^a			Consensus reached for phase but not for roles ^a	Consensus reached for phase but not for roles ^a
County volunteers ^a	Consensus reached for phase but not for roles ^a		Consensus reached for phase but not for roles ^a	
Regional volunteers ^a			Consensus reached for phase but not for roles ^a	
Federal volunteers ^a			Consensus reached for phase but not for roles ^a	

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
Organizations should: ^{a,b}	<p>Be able to organize a preparedness plan, organize the roles each would take, the level of involvement given a disaster, and the sequence each would take^b</p> <p>Have a crisis plan and continually update and morph that plan^b</p> <p>Inform their stakeholders of its crisis plan^{b,d}</p> <p>Identify the potential hazards^a</p> <p>Educate landowners about disasters^a</p> <p>Educate landowners about disaster preparation^a</p> <p>Educate landowners about how to</p>	<p>Organizations should have a crisis plan and continually update and morph that plan^b</p> <p>Local and private emergency agencies should work together^b</p> <p>Coordinate group efforts^b</p> <p>Work together to formulate a plan of action identified for each type of disaster^b</p> <p>Government agencies should be available for additional support^b</p> <p>Inform stakeholders of its crisis plan^b</p> <p>Participate in unified planning^a</p> <p>Deliver the preparedness message to potential victims^a</p>	<p>Know what their role is before response^b</p> <p>Work together to formulate a plan of action identified for each type of disaster^b</p> <p>Coordinate appropriate responses with all of the agencies involved^b</p> <p>Have a central command to plan and provide safe, effective support^b</p> <p>Distribute goods and services^b</p> <p>Coordinate assistance for shelters^b</p> <p>Have a crisis plan and continually update and morph that plan^b</p> <p>Assess damage^b</p> <p>Coordinate damage repair^b</p> <p>Inform stakeholders of its crisis plan^b</p> <p>Participate in unified planning^a</p>	<p>Assist with rebuilding^b</p> <p>Prepare future plans^b</p> <p>Assist with paperwork to get lives back to normal^b</p> <p>Raise financial assistance needed^b</p> <p>Assist with clean-up to get lives back to normal^b</p> <p>Encourage stronger building codes^b</p> <p>Have a crisis plan and continually update and morph that plan^b</p> <p>Have a long-term effective policy to deliver all resources and assets over the length of the recovery process^b</p> <p>Report where fundraising funds are used^b</p> <p>Provide information to the affected parties so that everyone is accorded effective services^b</p> <p>Coordinate appropriate</p>

Table 10

Organizations and Roles that Reached Consensus by Local Emergency Planning Committee and Oklahoma Agricultural Leadership Program Alumni Panelists

Organization	Mitigation	Preparedness	Response	Recovery
	mitigate loss ^a Participate in unified planning ^a	Educate the public on the importance of preparing themselves and their families, livestock, and equipment for incidents ^a Deliver the message that outside assistance will not be immediate ^a Deliver the message about what to expect and from whom during response ^a		responses for the affected parties so that everyone is accorded effective services ^b Inform stakeholders of its crisis plan ^b

Note. Consensus of agreement was reached if 75% or more of the respondents rated the organization and/or role “agree” or “strongly agree” (Jenkins, 2008; Ramsey, 2010).

^aOrganizations and/or roles reaching consensus of agreement after three rounds of this Delphi study as identified by the Local Emergency Planning Committee.

^bOrganizations and/or roles reaching consensus of agreement after three rounds of this Delphi study as identified by the Oklahoma Agricultural Leadership Program alumni.

^cRole reached consensus of agreement, however the individual organization did not reach consensus.

^dConsensus reached in the third round.

The remaining 73 organizations originally identified in round one were rated “agree” or a “strongly agree” by 51% or fewer of the panelists and were not included in round three. Separated across disaster phases, this resulted in 23 organizations for mitigation, 23 for preparedness, 12 for response, and 15 for recovery (see Table 12).

Of the 190 total organizations identified by the agriculture-related panel, round two resulted in 58 organizations that were rated “agree” or a “strongly agree” by fewer than 75% but by more than 51% of the respondents (Jenkins, 2008; Ramsey, 2010). Distributed across phases, this resulted in 15 organizations for mitigation, 12 for preparedness, 11 for response, and 20 for recovery (see Table 13).

The remaining 71 organizations originally identified in round one by the OALP alumni panel were rated “agree” or a “strongly agree” by 51% or fewer of the panelists and were not included in round three. Separated across disaster phases, this resulted in 23 organizations for mitigation, 21 for preparedness, 13 for response, and 14 for recovery (see Table 14).

Organizations in the Disaster Life Cycle, Round Two Qualitative Data

Round two of this study provided respondents the opportunity to add additional comments they perceived would provide further information, add any additional organizations, or clarify any particular item (Ramsey, 2010). After each disaster phase, space was provided for these comments. One LEPC panelist listed general comments, including “all response and recovery groups should be involved in mitigation from day one,” and although friction may occur, developing task groups can achieve hitting the target earlier. OALP panelists did not provide additional comments. Neither panel identified additional organizations to be included in round three.

Table 11

Organizations Identified by Local Emergency Planning Committee Panelists (n = 8) that Did not Reach Consensus during Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
City departments				X
City firefighters				X
City law enforcement				X
County law enforcement				X
Regional law enforcement	X			
Federal law enforcement			X	
City professional programs		X		X
County professional programs	X			X
City public works		X		X
County public works	X	X		
Federal public works			X	
Co-ops		X	X	
Corps of engineers			X	
County youth programs				X
Regional youth programs				X
Federal firefighters			X	
Health department	X	X		
Local citizens	X	X		
County volunteers		X		
Regional volunteers				X
Universities	X	X		
Veterinarians	X			

Note. Items that did not reach consensus by 75% of the panelists but were rated “agree” or “strongly agree” by at least 51% of respondents (Jenkins, 2008; Ramsey, 2010). These items were provided to panelists to rate again in round three.

Table 12

Organizations Identified by Local Emergency Planning Committee Panelists (n = 8) that Did not Reach 51% Consensus during Round Two

Organizations	Mitigation	Preparedness	Response	Recovery
4-H	X	X		
City departments	X	X		
City firefighters		X		
City law enforcement	X	X		
City professional programs	X		X	
City public works	X			
City volunteers	X	X		
City youth programs	X	X	X	X
Corp of engineers	X	X		
County firefighters				X
County professional programs		X	X	
County public works				X
County youth programs	X	X	X	
Development authority	X	X	X	
Federal firefighters	X	X		X
Federal law enforcement	X	X		X
Federal professional programs	X	X	X	X
Federal public works	X	X		X
Federal volunteers	X	X		X
Federal youth programs	X	X	X	X
Lenders	X			
Regional firefighters	X	X		X
Regional law enforcement		X		X
Regional professional programs	X	X	X	X
Regional public works	X	X	X	X
Regional volunteers	X	X		

Table 12

Organizations Identified by Local Emergency Planning Committee Panelists (n = 8) that Did not Reach 51% Consensus during Round Two

Organizations	Mitigation	Preparedness	Response	Recovery
Regional youth programs	X	X	X	
Secondary education	X	X	X	X
Universities			X	X

Note: Items were rated “agree” or “strongly agree” by 51% or fewer of the respondents and were not included in the third round of this study.

Table 13

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus during Round Two but Did Achieve 51% Agreement or Higher

Organizations	Mitigation	Preparedness	Response	Recovery
Agricultural environmental management	X	X	X	X
Agricultural media				X
Baptist General Convention Disaster Team		X		
Building supply companies				X
Business owners			X	X
Civic organizations				X
Commercial insurance companies			X	
Conservation district	X		X	X
County law enforcement				X
Crop insurance agencies			X	
Epidemiologist	X			
Farm Service Agency	X			X
Farmers and ranchers	X	X	X	
Federal law enforcement	X			
Fire departments (paid)				X
Individual counties		X		
Insurance companies	X	X		
Insurance department	X			
Livestock associations				X
Local churches			X	X
Local government				X
Local schools				X
Local weather services		X		
Mesonet		X		
National Weather Service		X		
Natural Resources Conservation Service	X			X

Table 13

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus during Round Two but Did Achieve 51% Agreement or Higher

Organizations	Mitigation	Preparedness	Response	Recovery
News teams		X		
Oklahoma Department of Agriculture, Food and Forestry	X		X	
Oklahoma Department of Health	X			
OSU Extension service				X
Private emergency agencies	X			
Red Cross				X
Rural electric cooperatives	X	X	X	
Rural water districts	X	X	X	X
Special disaster programs	X			
State law enforcement		X		X
United States Department of Agriculture				X
USDA Rural Development				X
Veterinarians			X	

Note. Items that did not reach consensus by 75% of the panelists but were rated “agree” or “strongly agree” by at least 51% of respondents (Jenkins, 2008; Ramsey, 2010). These items were provided to panelists to rate again in round three.

Table 14

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach 51% Consensus During Round Two

Organization	Mitigation	Preparedness	Response	Recovery
Agricultural media/social media experts			X	
AMBUCS				X
American Farmers & Ranchers	X			
Baptist General Convention Disaster Team	X			
Business owners	X	X		
Chamber of Commerce	X			
Church groups	X			
Churches		X		
Community members		X		
Conservation district		X		
Construction boards	X			
Epidemiologist		X	X	X
Farm Bureau	X	X		
Farm Service Agency			X	
Human resource departments of local companies		X		
Livestock associations	X	X	X	
Local banks	X	X		
Local environmental organizations		X		
Local schools	X	X		
National Guard				X
Natural Resources Conservation Service		X	X	
Noble Foundation	X			
Oklahoma Cattlemen's Association	X	X	X	X
Oklahoma Department of Agriculture, Food, and Forestry		X		X
Oklahoma Department of Health		X		X
Oklahoma Pork Council	X	X	X	X

Table 14

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach 51% Consensus During Round Two

Organization	Mitigation	Preparedness	Response	Recovery
Oklahoma Veterinary Medical Association	X	X	X	X
OSU Extension	X	X	X	
Poultry Federation	X	X	X	X
Rotary clubs				X
Rural fire departments				X
Rural mail carriers			X	
Salvation Army	X			X
State building codes	X			
State veterinarian	X			
Trade organizations	X			
Universities	X		X	X
USDA Rural Development	X	X	X	
Veterinarians	X	X		X

Note: Items were rated “agree” or “strongly agree” by 51% or fewer of the respondents and were not included in the third round of this study.

Roles of Organizations in the Disaster Life Cycle, Round Two

Additionally in round two, the LEPC panelists were asked to rate their level of agreement on all 151 roles identified during round one. As mentioned, 146 of these reached consensus, with at least 75% or more respondents rating the items “agree” or “strongly agree” and were included in Table 10. Of the remaining five items, three items did not reach consensus but did achieve more than 51% agreement: financial guidance from the development authority during mitigation, animal care from the health department, and temporary housing by Voluntary Organizations Active in Disaster (VOADs) during response. These items were returned in round three for further rating.

Of the 249 total roles identified by the agriculture-related panel, round two resulted in 70 roles that were rated “agree” or “strongly agree” by fewer than 75% but by more than 51% of the respondents (Jenkins, 2008; Ramsey, 2010). Distributed across phases, this resulted in 18 roles for mitigation, 18 for preparedness, 21 for response, and 13 for recovery (see Table 15).

The remaining 15 roles, originally identified in round one by the OALP panelists, were rated “agree” or “strongly agree” by 51% or fewer of the panelists and were not included in round three. Separated across disaster phases, this resulted in five organizations for mitigation, five for preparedness, three for response, and two for recovery (see Table 16).

Roles of Organizations in the Disaster Life Cycle, Round Two Qualitative Data

Round two of this study provided respondents the opportunity to add additional comments they perceived would provide further information, add any additional roles, or clarify any particular item (Ramsey, 2010). One LEPC panelist included comments

regarding the roles of organizations, including mitigation should not be tried alone or by a few and that all groups must work for the greater good of all involved. OALP panelists did not provide additional comments. Neither panel identified additional roles for round three.

Organizations in the Disaster Life Cycle, Round Three

In round three, the disaster-related panel participants were asked to rate their levels of agreement with the 30 organizations identified during round one that reached at least 51% but not more than 75% agreement during round two (Jenkins, 2008; Ramsey, 2010). To determine consensus on these organizations, panelists were asked to use a 6-point response scale: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree. Organizations that received a rating of “agree” or “strongly agree” by 75% or more of the respondents were considered as having reached “consensus of agreement” (Jenkins, 2008; Ramsey, 2010).

After round three, the LEPC panel reached consensus on nine additional organizations across three of the four disaster phases: mitigation, 5; preparedness, 3; and recovery, 1. Combining these organizations with those that reached consensus in round two, 116 total organizations reached a level of agreement of 75% or higher. The organizations reaching consensus in round three are listed in Table 10.

During round three, 21 organizations identified by the local emergency planning committee panel did not reach “consensus of agreement.” Across the disaster phases, these organizations included two for mitigation, five for preparedness, five for response, and nine for recovery (see Table 17).

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
Business owners			Supply needed items for immediate use Assist with clean up Assist with shelter Assist with food Assist with fuel	Supply needed items for immediate use Assist with clean up Assist with shelter Assist with food Assist with fuel
Emergency Medical Services Authority (EMSA)			Take lead role in search and rescue mission	
Farm Service Agency	Mobilize resources			
Government agencies			Should supply private agencies with the needed supplies	Should take on efforts of a long-term recovery plan Lead the cleanup efforts
Governor's office			Take lead role in ascertaining emergency assistance, if available	

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
			Take lead role in developing rescue missions Take lead role in securing perimeters	
Human resource departments of local companies		Disseminate information to employees Assist in local involvement activities		
Insurance companies	Distribute cost of the disaster over a larger pool	Distribute cost of the disaster over a larger pool		Allow for repayment of personal property damaged in a disaster
Livestock associations		Help livestock owners develop plans for dealing with disaster		
National Guard			Organizing groups to get things done	
Natural Resources Conservation Service	Flood control Provides design and			

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
	engineering of water structures to conservation districts Erosion control Manage structures and features that convey water			
Noble Foundation	Educate public on what to do to prevent or mitigate disasters			
Oklahoma Department of Agriculture, Food, and Forestry			Assist in shelter set-up	
Oklahoma Veterinary Medical Association		Stockpile vaccines		
OSU Extension	Contact local farmers and ranchers to provide information	Assist in providing general guidelines for preparedness Assist in planning for stockpiling	Contact local farmers and ranchers to provide information Assist in shelter set-up Assist in emergency	Contact local farmers and ranchers to provide information

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
		Contact local farmers and ranchers to provide information	assistance Assist in damage assessment	
Private emergency agencies	Initiate immediate assistance with support from FEMA and direction from local emergency agencies			
Red Cross		Provide food Provide supplies Provide temporary housing Provide public shelters		
Risk Management Agency	Provide risk protection from weather Provide risk protection from markets			
Soil conservation district	Maintain the system of flood control dams throughout the state			

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
	Care for the system of flood control dams throughout the state			
	Operate the system of flood control dams throughout the state			
	Work with terraces, waterways, streams, and other structures and features where water flows			
State veterinarian		Assist in planning for stockpiling Assist in providing general guidelines for preparedness	Assist in emergency assistance Assist in damage assessment	
United States Department of Agriculture		Stockpile vaccines		
Universities	Provide research information to assist	Provide research information to assist		Provide research information to assist

Table 15

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two but Did Achieve 51% Agreement or Higher

Organization	Mitigation	Preparedness	Response	Recovery
USDA agencies	Prepare mitigation plans for potential disasters	Take lead role in planning for agency utilization to increase efficiency of response operations	Assist in damage assessment Assist in shelter set-up Assist in rescue missions	Take lead role in providing loans
Organizations should:	Inform their stakeholders of its crisis plan	All groups should help schools build large public shelters for everyone's use		Make loans for rebuilding Pay claims

Note. Items that did not reach consensus by 75% of the panelists but were rated “agree” or “strongly agree” by at least 51% of respondents (Jenkins, 2008; Ramsey, 2010). These items were provided to panelists to rate again in round three.

Table 16

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two

Organization	Mitigation	Preparedness	Response	Recovery
Business owners	Organization Planning Safety Organize trainings using exercises Media	Visit with bankers to cover their disaster plan and determine how the bank can help during these times		
Livestock associations		Exercises and drills that reinforce to livestock owners and all others on this list what will likely happen in a disaster scenario		
Oklahoma Department of Agriculture, Food, and Forestry		Take lead role in forecasting	Assist in establishing secure perimeters	
OSU Extension		Take lead role in helping communities to prepare for disaster		
Rural electric cooperatives		Sponsor meetings for individuals to have an understanding of what actions to take during a disaster		

Table 16

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus During Round Two

Organization	Mitigation	Preparedness	Response	Recovery
Governor’s office			Take lead role in shelter set-up	
Law enforcement			Provide animal quarantine	
USDA Agencies				Take lead role in providing legal assistance Take lead role in rebuilding of inventories and property

Note: Items were rated “agree” or “strongly agree” by 51% or fewer of the respondents and were not included in the third round of this study.

Table 17

Organizations Identified by Local Emergency Planning Committee Panelists (n = 7) that Did not Reach Consensus during Round Three of the Study

Organization	Mitigation	Preparedness	Response	Recovery
City departments				X
City firefighters				X
City law enforcement				X
City professional programs		X		X
City public works				X
Co-ops		X	X	
Corps of engineers			X	
County professional programs	X			X
County volunteers		X		
County youth programs				X
Federal firefighters			X	
Federal law enforcement			X	
Federal public works			X	
Local citizens		X		
Regional volunteers				X
Regional youth programs				X
Universities	X	X		

Note: Items rated “agree” or “strongly agree” by fewer than 75% of the respondents.

In round three, the OALP panelists rated their levels of agreement with the 58 organizations identified during round one that reached at least 51% agreement but not more than 75% during round two (Ramsey, 2010). After round three, 18 of the organizations received a score of “agree” or “strongly agree” by 75% or more of the respondents and were considered as having reached “consensus of agreement” (Jenkins, 2008; Ramsey, 2010). The organizations that reached consensus in round three are listed in Table 10.

Forty organizations did not reach “consensus of agreement” during the third round of this study. Across the disaster phases, these organizations included 13 organizations for mitigation, eight for preparedness, eight for response, and 11 for recovery (see Table 18).

Organizations in the Disaster Life Cycle, Round Three Qualitative Data

Round three of this study provided respondents the opportunity to add additional comments they perceived would provide further information, add any additional organizations, or clarify any particular item (Ramsey, 2010). At the end of the organizations to be rated, space was provided for these comments. No further comments were made regarding organizations by either panel.

Roles of Organizations in the Disaster Life Cycle, Round Three

In round three, the disaster-related panel participants were asked to rate their levels of agreement on roles identified during round one that did not reach 75% or more agreement during round two but did achieve more than 51% agreement.

Table 18

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus during Round Three

Organization	Mitigation	Preparedness	Response	Recovery
Agricultural environmental management	X	X	X	X
Agricultural media				X
Baptist General Convention Disaster Team		X		
Conservation district	X		X	X
Crop insurance agencies			X	
Epidemiologist	X			
Farm Service Agency	X			X
Federal law enforcement	X			
Fire departments (paid)				X
Insurance companies	X	X		
Insurance department	X			
Livestock associations				X
Local churches			X	
Local schools				X
Local weather services		X		
Mesonet		X		
National Weather Service		X		
Natural Resources Conservation Service	X			X
News teams		X		
Oklahoma Department of Agriculture, Food, and Forestry	X		X	
Oklahoma Department of Health	X			
OSU Extension service				X
Rural electric cooperatives	X		X	
Rural water districts	X	X	X	
Special disaster programs	X			
United States Department of Agriculture				X

Table 18

Organizations Identified by Oklahoma Agricultural Leadership Program Panelists (n = 17) that Did not Reach Consensus during Round Three

Organization	Mitigation	Preparedness	Response	Recovery
USDA Rural Development Veterinarians			X	X

Note: Items rated “agree” or “strongly agree” by fewer than 75% of the respondents.

To determine consensus on these roles, panelists were asked to utilize a six-point response scale: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree. Three items were returned in round three, with financial guidance from the development authority during mitigation being the only role to reach consensus. This role is included in Table 10. The two roles from round two and two additional roles that did not reach consensus during rounds two or three are listed in Table 19.

The OALP panelists were asked to rate their levels of agreement with the 70 roles identified during round one that reached at least 51% but not more than 75% agreement during round two (Ramsey, 2010). After round three, 24 of the roles received a rating of “agree” or “strongly agree” by 75% or more of the respondents and were considered as having reached consensus (Jenkins, 2008; Ramsey, 2010). Reported by disaster phase, roles reaching consensus in round three are as follows: mitigation, 8; preparedness, 11; response, 2; and recovery, 3. These items are included in Table 10. After three rounds of this Delphi study, a total of 188 roles reached consensus.

Forty-six roles did not reach “consensus of agreement” during the third round of this study. Per disaster phase, these roles included 10 for mitigation, seven for preparedness, 19 for response, and 10 for recovery (see Table 20).

Roles of Organizations in the Disaster Life Cycle, Round Three Qualitative Data

Round three of this study provided respondents the opportunity to add additional comments they perceived would provide further information, add any additional roles, or clarify any particular item (Ramsey, 2010). At the end of the section for roles, space was provided for these comments.

Table 19

Roles Identified by Local Emergency Planning Committee Panelists (n = 7) that Did not Reach Consensus after Three Rounds

Organization	Mitigation	Preparedness	Response	Recovery
Health departments			Animal care	Animal care
Voluntary Organizations Active in Disaster (VOADs)			Provide temporary housing	
Emergency management				Get technical assistance from county commissioners and city officials for loans

Note: Items rated “agree” or “strongly agree” by fewer than 75% of the respondents.

Table 20

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 21) that Did not Reach Consensus During Round Three

Organization	Mitigation	Preparedness	Response	Recovery
Business owners			Supply needed items for immediate use Assist with clean up Assist with food Assist with shelter Assist with fuel	Supply needed items for immediate use Assist with clean up Assist with food Assist with fuel Assist with shelter
Farm Service Agency	Mobilize resources			
Government agencies			Should supply private agencies with the needed supplies	Lead the cleanup efforts
Governor's office			Take lead role in developing rescue missions Take lead role in ascertaining emergency assistance, if available Take lead role in securing perimeters	
Insurance companies	Distribute cost of the disaster over a larger	Distribute cost of the disaster over a larger		

Table 20

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 21) that Did not Reach Consensus During Round Three

Organization	Mitigation	Preparedness	Response	Recovery
	pool	pool		
Natural Resources Conservation Service	Erosion control Manage structures and features that convey water			
Noble Foundation	Educate public on what to do to prevent or mitigate disasters			
Oklahoma Department of Agriculture, Food, and Forestry			Assist in shelter set-up	
Oklahoma Veterinary Medical Association		Stockpile vaccines		
OSU Extension		Assist in planning for stockpiling	Contact local farmers and ranchers to provide information Assist in damage assessment Assist in emergency assistance Assist in shelter set-up	

Table 20

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 21) that Did not Reach Consensus During Round Three

Organization	Mitigation	Preparedness	Response	Recovery
Red Cross		Provide temporary housing		
Risk Management Agency	Provide risk protection from markets			
Soil conservation district	Work with terraces, waterways, streams, and other structures and features where water flows Maintain the system of flood control dams throughout the state Operate the system of flood control dams throughout the state Care for the system of flood control dams throughout the state			
State veterinarian			Assist in emergency assistance Assist in damage assessment	

Table 20

Roles Identified by Oklahoma Agricultural Leadership Program Panelists (n = 21) that Did not Reach Consensus During Round Three

Organization	Mitigation	Preparedness	Response	Recovery
United States Department of Agriculture		Stockpile vaccines		
Universities				Provide research information to assist
USDA Agencies		Take lead role in planning for agency utilization to increase efficiency of response operations	Assist in damage assessment Assist in rescue missions Assist in shelter set-up	Take lead role in providing loans
Organizations should:		All groups should help schools build large public shelters for everyone's use		Make loans for rebuilding Pay claims

Note: Items rated “agree” or “strongly agree” by fewer than 75% of the respondents.

Two LEPC panelists provide additional comments. These included a clarification that the health department should be “kept in the loop but not responsible for animal care.” Another respondent commented that his respective county has an animal response team that uses volunteers and uses law enforcement to secure perimeters. OALP panelists did not provide additional comments.

CHAPTER V

CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Characteristics related to farm size, production concentration, and an aging rural population have created a changing environment for the agricultural industry and have resulted in an increased level of vulnerability (United States Department of Agriculture, 2007a, 2007c). Meanwhile, disasters on a global scale have been increasing in both frequency and severity, generating a need to focus on increasing resilience (Committee on Increasing National Resilience to Hazards and Disasters, 2012). National frameworks for mitigation, preparedness, response, and recovery have been developed by the Federal Emergency Management Agency and note the need for all levels of a community to be involved in disasters (United States Department of Homeland Security, 2013, 2011b, 2011c, 2008c). In an effort to identify who within communities should fulfill these roles, a three-round modified Delphi study was conducted. Two panels, one disaster-focused and one agriculture-focused, were asked to identify and reach consensus on the organizations and roles that should be involved in all phases of disasters that impact rural areas and agricultural businesses.

Summary of Findings

Selected Professional Characteristics of Panelists

The disaster-focused panel included respondents with years of experience ranging from two to 20 years. Each respondent was a member of a Local Emergency Planning Committee, with six of the seven respondents serving in leadership roles ranging from secretary to chairman. One respondent provides guidance for emergency operations plans, while another reported he had started the first county animal response team in Oklahoma. All seven panelists reported they, or a fellow committee member, have direct responsibilities in response to disasters that impact agricultural businesses in their respective communities. Additionally, 53% of the respondents, or a fellow committee member, had been directly involved in response and recovery efforts for a disaster that impacted agriculture, including carcass disposal and collecting, identifying, triaging, transporting, and housing livestock and pets.

The agriculture-focused panel, composed of Oklahoma Agricultural Leadership Program alumni, also responded to questions regarding their professional experiences. Of the 21 respondents, 20 reported between 25 and 55 years of service to agriculture, serving in a combination of production, agribusiness, and education. Nine of the respondents reported direct involvement in disaster planning for their communities, with duties ranging from conducting table-top exercises for the Tulsa State Fair, developing and approving disaster plans for Indian Electric or for swine producers, or hosting regional crisis drills for the dairy industry. Additionally, 14 panelists reported they have been involved in disaster response and recovery for their communities through gathering livestock, providing heavy equipment, fighting wildfires, or repairing watersheds.

Organizations in the Disaster Life Cycle

Round one included seven respondents from the LEPC panel. During this round, 210 organizations were identified. Forty-one organizations were identified across all four phases of disaster, accounting for 164 of the organizations. The remaining 126 organizations were distributed as follows: mitigation, 11; preparedness, 14; response, 12; and recovery, 9.

After rounds two and three, 116 organizations were rated “agree” or “strongly agree” by 75% or more of the respondents and were considered to have reached consensus. From the initial list of organizations, 55% reached consensus by the panel. Within this group, 27 organizations were agreed upon for their involvement in mitigation, 27 for preparedness, 36 for response, and 26 for recovery.

Organizations identified by the OALP panel ranged from the Baptist General Convention Disaster Team to law enforcement and farmers and ranchers. In total, 190 organizations were identified, with 52 for mitigation, and 46 each for preparedness, response, and recovery. Twenty-five organizations were identified for involvement across all four phases, accounting for 100 of the 190 organizations identified.

After rounds two and three, 79 organizations were rated “agree” or “strongly agree” by 75% or more of the respondents. This listing included 16 for mitigation, 17 for preparedness, 25 for response, and 21 for recovery. Consensus was reached for 42% of the total organizations identified.

Role of Organizations in the Disaster Life Cycle

For the identified organizations, LEPC panelists listed 32 roles for these organizations during the mitigation phase, 32 for preparedness, 55 for response, and 32

for recovery, for a total of 151 roles. After the third round, all but four of these roles had been rated “agree” or “strongly agree” by 75% or more of the respondents. This resulted in a 97% agreement for the roles of organizations involved in disasters that impact rural areas and agricultural businesses.

Roles identified by the OALP panel included 72 for mitigation, 57 for preparedness, 67 for response, and 53 for recovery, for a total of 249 roles. After rounds two and three, 76% of the roles reached consensus among the panel. The roles reaching consensus were distributed across the four disaster phases, with 57 for mitigation, 45 for preparedness, 45 for response 45, and 41 for recovery.

Comparison of Panels

Upon completion of this study, 101 different organizations were identified by either the LEPC panel or the OALP panel. Each of these organizations reached 75% or more agreement by at least one of the panels for at least one phase as either an organization or due to an identified role.

This study found 335 roles across 101 organizations that were rated “agree” or “strongly agree” by 75% or more of the respondents from either the LEPC or the OALP panel. While each role differed to some degree between panels, 11 organizations had roles reaching consensus by both panels.

Conclusions

Selected Professional Characteristics of Panelists

Determining what attributes equate to an expert is considered critical for a Delphi study’s validity (De Villiers et al., 2005), and the challenge of identifying an expert from a layman is key to ensure the answers are both knowledgeable and based upon experience

(De Villiers et al., 2005; Gupta & Clarke, 1996). Therefore, the professional characteristics of each panel were examined to establish their expertise.

The professional characteristics of the panels disclosed the disaster-focused panelists ranged from two to 20 years of service and reported 100% of their committees were tasked with planning for agricultural disasters. The agriculture-focused panel's years of service within agriculture ranged from 24 to 55 years, with 43% being involved in disaster planning in their communities and 66% reporting they have been involved in response and recovery for disasters. These criteria developed the "knowledge and experience" within their respective focus areas and thus provided this study with experts for identifying the organizations and their corresponding roles that should be involved in disasters that impact rural areas and agricultural businesses.

As reported by Delbecq et al. (1975), a higher proportion of quality and acceptable solutions are produced when the group is more heterogeneous than homogeneous. The researcher structured this study for participants to include both an insider panel of agricultural experts and an outsider panel of disaster experts, with insider and outsider relative to the panelists' agricultural experience and expertise. After a review of the professional characteristics of the panels, the panels appeared to be heterogeneous in their expertise, although some panelists had experience within the opposite focus area.

To recruit participation for this study, the researcher initially sent e-mail requests to the chairpersons listed within the selected counties to gain participants for the LEPC panel. After the initial e-mail request and two reminders, phone calls were made to explain the importance of the study and request participation. Of the seven respondents

who participated in each round of the study, each responded to the initial e-mail request. Of the prospective panelists who agreed to participate via phone conversation, none followed through on actual participation. Additionally, of the seven respondents, most were chairperson of their local emergency planning committees, but some also served as county emergency manager. Of the respondents who agreed to participate by phone, many were volunteers that served in unrelated career capacities, such as county extension educator and school principal. This level of volunteerism may have contributed to the low response rate.

The response rate from initial recruitment e-mails sent to the Oklahoma Agricultural Leadership Program alumni was high enough that phone call follow-ups were not necessary. The consistent response rate for this panel could have been due to the researcher's personal alumni connection to the program, as similar research requests made of OALP alumni typically are from fellow alumni.

Organizations in the Disaster Life Cycle

The disaster-focused panel agreed on 116 organizations that should be involved across the phases of disaster. Of this total, 27 organizations were identified for mitigation, 27 for preparedness, 36 for response, and 26 for recovery, with 16 organizations reaching consensus under each of these phases. The researcher concluded from this that the panel identified the need for the most organizations to be involved during the response phase of a disaster.

Sixteen organizations reached consensus across all phases of disaster and included city departments; emergency management; local emergency managers; regional emergency managers; state emergency managers; federal emergency managers; law

enforcement; county law enforcement; the Oklahoma Department of Agriculture, Food, and Forestry; conservation department; local USDA; county USDA; state USDA; OSU Extension; firefighters; and veterinarians. A review of these organizations showed the LEPC panel reached consensus on primarily governmental organizations, which is consistent with their structure under the guidance of the state emergency response commission.

Additionally, the LEPC panelists reached consensus on their own organization for mitigation, preparedness, and response, demonstrating that they perceive themselves as primarily involved in planning and response, but not recovery.

The agriculture-focused panel originally identified 190 organizations, and after three rounds of this study, reached consensus for 79 organizations. Distributed among phases of disaster, 16 organizations were agreed on for mitigation, 17 for preparedness, 25 for response, and 21 for recovery. The researcher concluded the agriculture-focused panel also recognized the need for the most social capital during the post-disaster phases of response and recovery.

Six organizations reached consensus across all phases of disaster and included county commissioners, county law enforcement, state law enforcement, farmers and ranchers, Red Cross, and the Federal Emergency Management Agency. Of these organizations, the agriculture-focused panel reached consensus on more local organizations or organizations that receive media attention, such as the Red Cross, after a disaster. These organizations fit into the national frameworks of organizations, including individuals; non-governmental organizations; and local, county, state, and federal governments (U.S. Department of Homeland Security, 2008c; 2011b; 2013).

Other organizations reaching consensus by this panel varied among type of organization. However, numerous organizations focused more on assistance for rural communities, such as the consensus for rural electric cooperatives and rural water districts.

Roles of Organizations in the Disaster Life Cycle

Of the 151 roles listed by the LEPC panel, 147 of these reached the predetermined level of agreement, demonstrating that the panel believes a majority of the organizations and roles identified should be involved in the phases of disaster. This conclusion is supported by a comment added by a respondent that “one group or a “few cannot or should not try to do this alone” and that “this has to be a group working as one for the greater good of all involved.” Additionally, one of the four roles that did not reach consensus was animal care by the health department. A clarification for this was mentioned by a respondent who stated that if “referring to state/county health department they shouldn’t have much to do with animal care but should be kept in the loop as to what is going on.”

Roles identified by the disaster-focused panel fit within the national frameworks for the phases of disaster as identified by the Federal Emergency Management Agency. For example, the LEPC panel reached consensus that emergency management should conduct “organization using the NIMS” during the response phase of a disaster. Similarly, the National Response Framework (U.S. Department of Homeland Security, 2008c) designates that emergency managers should “conduct response operations in accordance with NIMS.”

Nine organizations had roles reaching consensus across all phases of disaster. However, some of these roles were reached within phases for which the organization individually did not reach consensus. For example, “co-ops” reached consensus as an organization during preparedness and response; however, the role of chemical guidance from “co-ops” reached consensus across all four phases. This demonstrates that the panel does not perceive “co-ops” as an organization that should primarily be involved during mitigation or recovery. However, if “co-ops” are involved in mitigation or recovery, it should be to fulfill the role of chemical guidance.

Similarly, organizations such as first responder reached consensus for mitigation, preparedness, and recovery, but the only role reaching consensus was first response during the response phase of a disaster. Thus, the panel agreed first responders should be involved during all phases of a disaster but cannot agree on what roles they should fulfill.

Across the three rounds of this study, 188 of the 249 initially identified roles reached consensus from the OALP panel. Distributed across the four disaster phases, 57 of these were for mitigation, 45 for preparedness, 45 for response, and 41 for recovery. These roles demonstrate that the agriculture-focused panel placed a greater emphasis on roles that will lead to increased efficiency of mitigation practices.

Nine organizations reached consensus for roles across each phase of disaster. These organizations were individuals; farmers and ranchers; rural fire departments; community members; rural water districts; county commissioners; insurance; the Oklahoma Department of Agriculture, Food, and Forestry; and the Red Cross. All organizations except the state department of agriculture portray a local presence, leading to the conclusion that the agriculture-focused panelists would rely more heavily on local

resources than government support during the phases of a disaster. Their consensus on these roles matches with the Whole Community dialogue that recognized the need to “engage and empower all parts of the community” (U.S. Department of Homeland Security, 2011d, p. 4).

Similar to the roles identified by the LEPC panel, many roles were identified by OALP panel for organizations that did not reach consensus. OSU Extension, for example, did not reach a level of consensus for any phase of disaster as an organization, although it did reach a level of agreement for roles in three of the four phases. Among other roles, “contact local farmers and ranchers to provide information” was agreed on for mitigation, preparedness, and recovery. This demonstrates that the panel may not perceive the OSU Extension service as an organization that should be a primary organization in the disaster life cycle, but it will turn to it for information throughout the phases. This example also shows that the agriculture-focused panel does not view OSU Extension as performing any role in response after a disaster. For these organizations, the level of consensus may have been influenced by OSU Extension’s prevalence within the respective counties. For example, respondents may not have recognized OSU Extension as an organization, but when viewing the roles it could fulfill, the capability for that organization was agreed on.

Further, the roles reaching consensus by the agriculture-focused panel correspond with the national frameworks. For example, the National Recovery Framework (U.S. Department of Homeland Security, 2011b) noted that individuals need to be prepared and plan for disasters. The OALP panel reached consensus that “individuals must have knowledge of how they could be impacted by a disaster.”

Comparison of Panels

When comparing the two panels, 11 organizations reached a level of consensus from both panels either as an organization or from roles that should be fulfilled by the organizations. These included county commissioners; emergency management; Emergency Medical Services Authority; insurance; law enforcement; county law enforcement; the Oklahoma Department of Agriculture, Food, and Forestry; OSU Extension; the Red Cross; Salvation Army; and the Small Business Administration.

In total, 101 organizations were identified for this study as an organization, through a role, or both. With only 11 reaching consensus from both panels, this resulted in 90 different organizations that reached consensus for one but not both panels. Within the 101 organizations, 41 of these organizations reached consensus without defined roles, showing social capital is identified and available within communities. However, the roles of organizations that contribute to social capital are not clearly understood. Identification of these community capabilities was noted as one of the strategic themes of the Whole Community approach (U.S. Department of Homeland Security, 2011d).

One consideration for this study, however, is dual consensus was only counted on organizations listed exactly the same. Many organizations reaching consensus across both panels were given similar terms, such as “farmers and ranchers” for the agriculture-focused panel and “farmers” for the disaster-focused panel. Other similar examples were designations such as “health department” and “Oklahoma Department of Health.” Because a level was not listed, the researcher maintained these as separate organizational responses.

In many instances, organizations reached consensus across levels of an organization; however, roles only reached consensus for the broader organization. For example, “emergency management” had 13 roles reaching consensus. However, county and state emergency management, and local, county, regional, state, and federal emergency managers all reached consensus as organizations without roles identified. Similar instances occurred for law enforcement, government, and levels of the USDA. These examples demonstrate that the respondents would expect each level of the organization to fulfill the roles that reached consensus.

Additionally, both panels had numerous items listed as generic roles without a specified organization. Examples include “organizations should” assist with rebuilding; have a central command to plan and provide safe, effective support; and should participate in unified planning. Forty roles across the phases of disaster reached consensus with no specific organization identified to perform the role. The respondents recognized the need for specific capabilities, but they are unsure about who should fulfill those duties.

Overall, panel structures were evident from items reaching consensus. The local emergency planning committee panel is organized by the state emergency response commission with a mission of planning for response. Subsequently, the results showed the greatest number of organizations and roles identified for response and consensus was reached on more governmental organizations. Likewise, the Oklahoma Agricultural Leadership Program alumni panel was composed of agriculture-focused members who serve in various leadership roles within their communities and consequently reached consensus on more local organizations and roles, rather than government organizations.

Additionally, while the researcher requested identification of “organizations” that should be involved across disaster phases, respondents answered the questions with individuals, groups, agencies, organizations, and other types of entities. It appeared that once respondents recognized the purpose of the study, they recognized all levels of involvement rather than just “organizations” as initially requested, showing the respondents’ recognition of the need for broad involvement within the disaster life cycle.

Recommendations

Recommendations for Future Research

The results of organizations and roles identified and agreed upon within this study cannot be generalized beyond the counties participating in this study. Therefore, further research and replication of this study throughout other counties within Oklahoma or throughout other states would contribute to the resiliency of rural areas and agricultural businesses.

Policy and decision Delphi studies focus on organizations and individuals (Linstone & Turoff, 2011), and with the national frameworks focused on identifying roles and responsibilities through each phase of disasters (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c), replication of this study at the local and county levels within individual counties could better describe the perceptions of the decision makers and thus result in policy changes and an increase in the overall efficacy of disaster preparations in local areas.

Further, as many organizations reached consensus without roles and roles reached consensus without agreed upon organizations, a modified Delphi study could be conducted with similar populations but with a more narrow initial question. That question

could use the list of organizations from this study to provide a more structured set of roles.

To increase participation across all rounds, a real-time Delphi may be effective for the disaster-focused panel. Conducting a Delphi study in person at the state emergency management conference could provide a broader level of participation while ensuring an appropriate level of expertise by a panel of the decision makers for each county.

Within this study, differing roles and organizations were recognized and agreed up within each panel. A goal of this study was to gain the perceptions of an insider versus outsider panel comparison. Future research may take the results of this study and provide them to the opposite panel to determine if the organizations and roles identified by an agriculture-focused panel would be agreed on by a disaster-focused panel, and vice versa.

Further studies should include choosing an identified organization that reached consensus and completing a quick-response study to follow the organization through its actual roles for mitigation, preparedness, response, and recovery during a disaster. Actual roles versus those identified through this study would allow for a comparison study.

Slight modifications in wording to focus on “agricultural organizations” rather than organizations impacting rural areas and agricultural businesses also may be incorporated into a study to focus results solely on agricultural groups.

Linstone & Turoff (2011) noted that organizational behaviors are not up to current threats, while the frequency of disasters has shown a lack of adequate foresight and planning. They predict the future of the Delphi method will be in collaborative organizational and community planning systems that are continuous, dispersed, and

asynchronous (Linstone & Turoff; 2011). Therefore, the results of this study should be used as a basis for further studies in an area of research that can create and modify new policies and assist rural communities in identifying who to start with in planning for a disaster.

Recommendations for Future Practice

The National Response Framework (2008c) stated “the responsibility for responding to incidents, both natural and manmade, begins at the local level- with individuals and public officials in the county, city, or town affected by the incident” (p. 15). The mitigation and recovery frameworks deliver a similar perception of where disaster phases should start, with each framework identifying roles and responsibilities.

The results of this study can be applied by both populations that participated. Local emergency planning committees should take the results of this study and complete a review of missing organizations or roles unfulfilled within their respective communities. Likewise, the agriculture-focused panelists can review the findings of this study to provide leadership from the agriculture sector in working with local and county emergency management. The panelists that identified they were involved in disaster planning, response, and recovery within their communities should use the results of this study to increase participation and create a collaborative disaster planning environment within their communities.

Further, organizations may use the results of this study to provide feedback to stakeholders regarding the perceptions of their own participation and what roles they should be fulfilling. Individual organizations can use these findings to review their involvement within their respective communities.

Implications

Identifying organizations and their roles prior to a disaster is imperative to increase communities' level of resilience (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2011d, 2008c). Presidential directives have created a focus on protecting critical infrastructures, while national frameworks have been developed over the past five years for mitigation, preparedness, response, and recovery (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c). Additionally, a national goal has been established that by 2030, community resilience will be increasing per capita while federal spending on disasters will be decreasing (Committee on Increasing National Resilience to Hazards and Disasters, 2012).

“We have not overcome the fact that crises and emergencies do not recognize any organizational, governmental, or geographical boundaries. The response to any large scale situation must cut across all such boundaries...” (Linstone & Turoff, 2011, p. 1717). While other current research studies focus on the quantification of resilience, this study considered the outlook of Linstone and Turoff (2011), the national frameworks, and the Whole Community approach (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2011d, 2008c), and focused on the involvement that will be needed to reach resilience for rural areas and agricultural businesses.

By gaining a dual perspective about the organizations and roles that should be involved in disasters impacting rural communities, local emergency management groups can review the availabilities of these groups within their local areas. Broad-based community coalitions (U.S. Department of Homeland Security, 2011d) can be formed to

include organizations identified within this study that are not currently active in disaster planning within their communities

Additionally, this study can create awareness for stakeholders in recognition of their organizational participation. For example, the OSU Extension service was one of only a few organizations recognized by both panels for participation across all phases of disaster, either as an organization or through their roles. County educators can use the results of this study to provide information about their perceived involvement and roles to be fulfilled to their program advisory committees or decision-makers at the state level.

The Committee on Increasing National Resilience to Hazards and Disasters (2012) recommended the public and private sectors within a community should work together to create guidelines and standards for risk management strategies and resilience functions. This study identified who should be involved in this practice and the roles each organization can fulfill.

Finally, this study can increase the social capital of rural communities. Aldrich (2012) described that linking social capital focuses on the networks created among formal, institutionalized power or authority for a society (Aldrich, 2012). These linked networks involve the decision-makers for a community, and the interaction with other authority groups results in economic development and shared resources (Aldrich, 2012). By identifying the organizations recognized by both agriculture and disaster experts, associations can begin to form among the identified players, leading to an effective increase in social capital and resilience.

This study was aligned with the goals and objectives of identifying the roles and responsibilities for mitigation, preparedness, response, and recovery as defined by the

national frameworks (U.S. Department of Homeland Security, 2013, 2011b, 2011c, 2008c). The consensus matrix of organizations and roles resulting from this study has created a tool for rural communities to use during disaster planning, with the end result of increasing community resilience.

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APPENDICES

APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL

Oklahoma State University Institutional Review Board

Date: Thursday, June 13, 2013
IRB Application No AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles That May Increase Community Resilience to Disasters
Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 6/12/2014

Principal Investigator(s):

Amy Dronberger 505 S Main St Stillwater, OK 74074	Traci Naile 437 Ag Hall Stillwater, OK 74078
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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date: Friday, June 28, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles That May Increase Community Resilience to Disasters

Reviewed and Processed as: Exempt
Modification

Status Recommended by Reviewer(s) Approved

Principal Investigator(s):

Amy Dronberger
505 S Main St
Stillwater, OK 74074

Traci Naile
437 Ag Hall
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The modification making minor changes to the participation and contact request email and contact reminder email are approved.

Signature :



Shelia Kennison, Chair, Institutional Review Board

Friday, June 28, 2013
Date

Oklahoma State University Institutional Review Board

Date: Thursday, July 11, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles
That May Increase Community Resilience to Disasters

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**
Principal Investigator(s):

Amy Dronberger
505 S Main St
Stillwater, OK 74074

Traci Naile
437 Ag Hall
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Minor change to increase number of counties to 40 and to allow for follow up phone calls.

Signature :


Sheila Kennison, Chair, Institutional Review Board

Thursday, July 11, 2013
Date

Oklahoma State University Institutional Review Board

Date: Tuesday, July 30, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles
That May Increase Community Resilience to Disasters

Reviewed and Processed as: Exempt
Modification

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Amy Dronberger
505 S Main St
Stillwater, OK 74074

Traci Naile
437 Ag Hall
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to no longer recruit from PAC and to begin recruiting from OALP.

Signature :



Shelia Kennison, Chair, Institutional Review Board

Tuesday, July 30, 2013
Date

Oklahoma State University Institutional Review Board

Date: Tuesday, August 13, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles That May Increase Community Resilience to Disasters

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**
Principal Investigator(s):

Amy Dronberger Traci Naile
505 S Main St 437 Ag Hall
Stillwater, OK 74074 Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to update LEPC panel questionnaire and add questionnaire for OALP group

Signature :


Sheila Kennison, Chair, Institutional Review Board

Tuesday, August 13, 2013
Date

Oklahoma State University Institutional Review Board

Date: Wednesday, August 14, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles That May Increase Community Resilience to Disasters

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Amy Dronberger
505 S Main St
Stillwater, OK 74074

Traci Naile
437 Ag Hall
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to add recruitment emails

Signature :


Shelia Kermison, Chair, Institutional Review Board

Wednesday, August 14, 2013
Date

Oklahoma State University Institutional Review Board

Date: Tuesday, September 17, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles That May Increase Community Resilience to Disasters

Reviewed and Processed as: Exempt
Modification

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Amy Dronberger
505 S Main St
Stillwater, OK 74074

Traci Naile
437 Ag Hall
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Addition of round two of the Delphi study.

Signature :



Shelia Kennison, Chair, Institutional Review Board

Tuesday, September 17, 2013
Date

Oklahoma State University Institutional Review Board

Date: Monday, October 14, 2013 Protocol Expires: 6/12/2014
IRB Application No: AG1334
Proposal Title: Identifying the Agricultural Organizations and their Corresponding Roles
That May Increase Community Resilience to Disasters
Reviewed and Exempt
Processed as: **Modification**
Status Recommended by Reviewer(s) **Approved**
Principal Investigator(s):
Amy Dronberger Traci Naile
505 S Main St 437 Ag Hall
Stillwater, OK 74074 Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to add a third round to the study

Signature :



Shelia Kennison, Chair, Institutional Review Board

Monday, October 14, 2013
Date

APPENDIX B

FACE AND CONTENT VALIDITY PANEL OF EXPERTS

Virginia Morgan-White, Ed.D.

EDEN Immediate Past Chair
Auburn University
Alabama Cooperative Extension System
229 Duncan Hall Annex
Auburn, AL 36849
morgamv@auburn.edu
Phone: 334-844-5699

Steve Cain

Disaster Communication Specialist
EDEN Homeland Security Project Director
Purdue Extension
AGAD Building
615 W. State Street
West Lafayette, IN 47907
cain@purdue.edu
Phone: 765-494-8410

Jason Moats, CTT

Program Director, WMD Programs
Emergency Services Training Institute
Brayton Fire Field
Texas A&M Engineering Extension Service
200 Technology Way
College Station, TX 77847
Jason.Moats@teex.tamu.edu
Phone: 979-458-8551

Jon W. Ramsey, Ph.D.

Assistant Professor
Department of Agricultural Education,
Communications & Leadership
Oklahoma State University
455 Agricultural Hall
Stillwater, OK 74078-6032
Jon.ramsey@okstate.edu
Phone: 405-744-4260

APPENDIX C
PARTICIPATION REQUEST EMAILS

LEPC participation request email

Dear LEPC Chair:

As you are aware, disasters over the past few years have been increasing in both frequency and severity. Especially in Oklahoma, these disasters often include rural and agricultural areas, resulting in a plethora of challenges for producers, volunteers, and community.

As a chair for your Local Emergency Planning Committee (LEPC), your views are key to identifying agricultural agencies or organizations that should be involved in and what roles these groups should serve in the mitigation, preparedness, response and recovery from a natural disaster. Additionally, I am hoping that you can connect me with other members of your LEPC committee who might be willing to participate in the study.

The entire study will consist of three online questionnaires I will ask participants to complete over the next few weeks. The first questionnaire will take approximately 20 minutes and asks for demographic information along with participant views about what agricultural organizations should be involved in disaster management and what roles they should fulfill. The second and third questionnaires will require the participant to rate their level of agreement regarding the organizations and roles identified by all participants in the previous rounds. Participants will receive separate emails to notify them of the availability to complete the second and third questionnaires. All responses will be treated confidentially.

Please reply to this email to confirm that you are willing to participate in this study, and please include the names and email addresses of those from your LEPC committee who you think will be willing to participate as well.

If you have any questions about the study, please contact me at (405) 714-0137. If you have questions about your rights as a research volunteer, you can contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

OALP participation request email

Dear OALP alumni:

Disasters over the past few years have been increasing in both frequency and severity. Especially in Oklahoma, these disasters often include rural and agricultural areas, resulting in a plethora of challenges for producers, volunteers, and community.

Based upon your prior participation in the Oklahoma Agricultural Leadership Program, you are involved in agriculture as a producer or through some avenue of agribusiness. It is due to this expertise of the agriculture industry in your local area that I would like to request your opinions about agencies or organizations that should be involved in and what roles these groups should serve in the mitigation, preparedness, response, and recovery from a natural disaster impacting your local agricultural industry.

The entire study will consist of three online questionnaires I will ask participants to complete over the next few weeks. The first questionnaire will take approximately 20 minutes and asks for demographic information along with participant views about what agricultural organizations should be involved in disaster management and what roles they should fulfill. The second and third questionnaires will require the participant to rate their level of agreement regarding the organizations and roles identified by all participants in the previous rounds. Participants will receive separate emails to notify them of the availability to complete the second and third questionnaires. All responses will be treated confidentially.

Please reply to this email if you are willing to participate.

If you have any questions about the study, please contact me at (405) 714-0137. If you have questions about your rights as a research volunteer, you can contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

LEPC contact reminder email

Dear (Expert):

I just wanted to send a reminder that I need your help! A week ago, I emailed you requesting your participation in my study to identify agricultural organizations that should be involved in disaster management. By identifying these organizations, a greater level of preparation may lead to increased resilience for the agricultural industry and rural communities.

Please respond to this email with your consent to participate in this study, along with the names and emails of the fellow LEPC committee members you believe will be willing to participate.

The study will consist of three online questionnaires that I will ask participants to complete over the next few weeks. Each questionnaire should take no more than 20 minutes to complete and will be open for response for at least two weeks. All responses will be treated confidentially.

If you have any questions about the study, please contact me at (405) 714-0137. If you have questions about your rights as a research volunteer, you can contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

OALP contact reminder email

Dear OALP alumni:

I just wanted to send a reminder that I need your help! A week ago, I emailed you requesting your participation in my study to identify organizations that should be involved in disaster management for the agricultural industry. By identifying these organizations, a greater level of preparation may lead to increased resilience for the agricultural industry and rural communities.

Please respond to this email with your consent to participate in this study.

The study will consist of three online questionnaires that I will ask participants to complete over the next few weeks. Each questionnaire should take no more than 20 minutes to complete and will be open for response for at least two weeks. All responses will be treated confidentially.

If you have any questions about the study, please contact me at (405) 714-0137. If you have questions about your rights as a research volunteer, you can contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

Telephone Script

Dear (Expert):

Over the past two weeks you have received two emails from me regarding recruitment for participation in my dissertation study. I was hoping to follow-up with you on those emails and request any names and email addresses you would be willing to provide?

I greatly appreciate your time and assistance.

APPENDIX D
ROUND ONE EMAILS

LEPC introductory email

Dear (Expert):

Thank you for agreeing to participate in my study, “Agricultural organizations in resilience.” As disasters increase in frequency and severity, your opinions about organizations that should be involved in increasing resilience to local disasters that impact rural areas and agricultural businesses are vital.

This study includes three questionnaires that you will be asked to complete over the next few weeks. The first questionnaire will take approximately 20 minutes to complete; it asks for demographic information and your views about the roles of agricultural organizations in the phases of disasters. The second and third questionnaires will ask you to rate your level of agreement about organizations and roles that were identified by all participants in the previous rounds. You will receive separate emails to notify you of the availability of the second and third questionnaires.

Please respond to the questions in terms of your knowledge and perceptions. You will be able to access the questionnaires from your computer for a two-week period, and you may edit your responses within that period of time. If you are not able to access the online questionnaire, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Your immediate response is greatly appreciated.

Your responses are voluntary and will be treated confidentially. Responses to this questionnaire will be stored online in a password-protected account until the questionnaire is closed and then will be stored for approximately three years in a password-protected spreadsheet on the researcher’s computer.

You may choose at any time to withdraw from the study without penalty. The risks associated with this study are not greater than those ordinarily encountered in daily life.

Thank you for taking time to complete the questionnaire. If you have any questions about this study, please call me at 405-714-0137. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications and Leadership
Oklahoma State University

OALP introductory email

Dear (Expert):

Thank you for agreeing to participate in my study, “Agricultural organizations in resilience.” As disasters increase in frequency and severity, your opinions about organizations that should be involved in increasing resilience to local disasters that impact rural areas and agricultural businesses are vital.

This study includes three questionnaires that you will be asked to complete over the next few weeks. The first questionnaire will take approximately 20 minutes to complete; it asks for demographic information and your views about the roles of agricultural organizations in the phases of disasters. The second and third questionnaires will ask you to rate your level of agreement about organizations and roles that were identified by all participants in the previous rounds. You will receive separate emails to notify you of the availability of the second and third questionnaires.

Please respond to the questions in terms of your knowledge and perceptions. You will be able to access the questionnaires from your computer for a two-week period, and you may edit your responses within that period of time. If you are not able to access the online questionnaire, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Your immediate response is greatly appreciated.

Your responses are voluntary and will be treated confidentially. Responses to this questionnaire will be stored online in a password-protected account until the questionnaire is closed and then will be stored for approximately three years in a password-protected spreadsheet on the researcher’s computer.

You may choose at any time to withdraw from the study without penalty. The risks associated with this study are not greater than those ordinarily encountered in daily life.

Thank you for taking time to complete the questionnaire. If you have any questions about this study, please call me at 405-714-0137. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications and Leadership
Oklahoma State University

LEPC reminder email

Dear (Expert):

I just wanted to send a reminder that I need your help! Recently, I emailed you a link to an online questionnaire that will help us learn about your views of organizations that should be involved in increasing resilience to local disasters that impact rural areas and agricultural businesses.

This questionnaire will take approximately 20 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. You will be able to access the questionnaire from your computer for one more week, and you may edit your responses within that period of time. If you are not able to access the online survey, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click%20here](#).

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications and Leadership
Oklahoma State University

OALP reminder email

Dear (Expert):

I just wanted to send a reminder that I need your help! Recently, I emailed you a link to an online questionnaire that will help us learn about your views of organizations that should be involved in increasing resilience to local disasters that impact rural areas and agricultural businesses.

This questionnaire will take approximately 20 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. You will be able to access the questionnaire from your computer for one more week, and you may edit your responses within that period of time. If you are not able to access the online survey, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications and Leadership
Oklahoma State University

APPENDIX E
ROUND ONE INSTRUMENTS

LEPC round one instrument

Thank you for taking the time to participate in this study. The following questions ask you to identify the organizations that should be involved in mitigation, planning, response, and recovery for local disasters that impact rural areas and agricultural businesses.

Please read the information provided on the next page before responding to the questions. Your prompt response is appreciated, and receiving your response by August 27 will help facilitate the timely completion of this study. You may submit your responses via this questionnaire or by postal mail, fax, or email; however, completion of this questionnaire is preferred.

Amy Dronberger
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University
437 Agricultural Hall
Stillwater, OK 74078
405-714-0137
amy.dronberger@okstate.edu

Disasters have been categorized into four phases, including mitigation, preparedness, response and recovery. **Mitigation** is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster. **Preparedness** occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations. **Response** involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property. **Recovery** begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

Planning for each phase has shown to increase resilience to disasters. **Resilience** is the ability of a community to withstand an extreme natural event without suffering devastating losses, damage, diminished productivity, or quality of life and without large amounts of assistance from outside the community.

In context of the definitions above, please consider a natural disaster (winter storm, wildfire, tornado, wind, hail, flooding, or other major disaster) that resulted in the destruction of agricultural property, such as homes, equipment, production facilities, crops, or livestock, in your area.

What agencies or organizations should be involved in each of the disaster phases to maximize disaster resilience for agricultural businesses in your community?

Mitigation

Preparedness

Response

Recovery

For the agencies/organizations you identified above, please identify the roles each of these groups should fulfill in the disaster phases to maximize disaster resilience for agricultural businesses in your community.

Mitigation

Preparedness

Response

Recovery

How many years have you served on an LEPC?

What is your role on the LEPC?

Do any of your LEPC members have specific responsibilities in response to disasters that impact agricultural businesses in your community?

- Yes (1)
- No (2)
- I don't know (3)

If Yes Is Selected, Then Skip to Please describe those responsibilities. If No Is Selected, Then Skip to What agencies/organizations are tasked. If I don't know Is Selected, Then Skip to What agencies/organizations are tasked.

Please describe those responsibilities.

What agencies/organizations are tasked with planning for and/or responding to disasters that impact agricultural businesses in your community?

Have you or members of your LEPC assisted with disaster response and recovery efforts that impacted the agricultural industry, either in or beyond or community?

- Yes (1)
- No (2)
- I don't know (3)

If Yes Is Selected, Then Skip to How did you assist with response and ...If No Is Selected, Then Skip To End of Survey If I don't know Is Selected, Then Skip To End of Survey

How did you assist with response and recovery?

OALP round one instrument

Thank you for taking the time to participate in this study. The following questions ask you to identify the organizations that should be involved in mitigation, planning, response, and recovery for local disasters that impact rural areas and agricultural businesses.

Please read the information provided on the next page before responding to the questions. Your prompt response is appreciated, and receiving your response by August 27 will help facilitate the timely completion of this study. You may submit your responses via this questionnaire or by postal mail, fax, or email; however, completion of this questionnaire is preferred.

Amy Dronberger
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University
437 Agricultural Hall
Stillwater, OK 74078
405-714-0137
amy.dronberger@okstate.edu

Disasters have been categorized into four phases, including mitigation, preparedness, response and recovery. **Mitigation** is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster. **Preparedness** occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations. **Response** involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property. **Recovery** begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

Planning for each phase has shown to increase resilience to disasters. **Resilience** is the ability of a community to withstand an extreme natural event without suffering devastating losses, damage, diminished productivity, or quality of life and without large amounts of assistance from outside the community.

In context of the definitions above, please consider a natural disaster (winter storm, wildfire, tornado, wind, hail, flooding, or other major disaster) that resulted in the destruction of agricultural property, such as homes, equipment, production facilities, crops, or livestock, in your area.

What agencies or organizations should be involved in each of the disaster phases to maximize disaster resilience for agricultural businesses in your community?

Mitigation

Preparedness

Response

Recovery

For the agencies/organizations you identified above, please identify the roles each of these groups should fulfill in the disaster phases to maximize disaster resilience for agricultural businesses in your community.

Mitigation

Preparedness

Response

Recovery

How many years have you been involved in agriculture?

How would you describe your role or involvement in agriculture?

Have you been actively involved in disaster planning in your community?

- Yes (1)
- No (2)
- I don't know (3)

If Yes Is Selected, Then Skip to Please describe how you have been inv...If No Is Selected, Then Skip to What agencies/organizations are tasked...If I don't know Is Selected, Then Skip To What agencies/organizations are tasked...

Please describe how you have been involved in disaster planning.

What agencies/organizations are tasked with planning for and/or responding to disasters that impact agricultural businesses in your community?

Have you assisted with disaster response and recovery efforts that impacted the agricultural industry, either in or beyond your community?

- Yes (1)
- No (2)
- I don't know (3)

If Yes Is Selected, Then Skip To How did you assist with response and ...If No Is Selected, Then Skip To End of SurveyIf I don't know Is Selected, Then Skip To End of Survey

How did you assist with response and recovery?

APPENDIX F
ROUND TWO EMAILS

LEPC and OALP round two email

Dear (Subject):

Thank you for participating in round one of this research study, “Identifying the organizations and their corresponding roles that may increase community resilience to disasters.” Your feedback is greatly appreciated and has been used to develop a second questionnaire.

In this round of the study, you are asked to indicate your level of agreement about organizations and roles that were identified by all participants in the previous round. Now, your responses will help determine whether items should be included in or eliminated from this study. Depending on the level of agreement reached by all participants in this round, a third questionnaire may be required to include or eliminate items. You will be notified by a separate email if a third questionnaire is required.

This questionnaire will take approximately 15 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. If you are not able to access the online questionnaire, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Your immediate response is greatly appreciated.

Your responses are voluntary and will be treated confidentially. Responses to this questionnaire will be stored online in a password-protected account until the questionnaire is closed and then will be stored for approximately three years in a password-protected spreadsheet on the researcher's computer.

You may choose at any time to withdraw from the study without penalty. The risks associated with this study are not greater than those ordinarily encountered in daily life.

Thank you for taking time to complete the questionnaire. If you have any questions about this study, please call me at 405-744-2330 or email me at amy.dronberger@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

LEPC and OALP round two reminder email

Dear (Subject):

Just a reminder that I need your help! A week ago, I emailed you a link to an online questionnaire that will help us learn about your views regarding the organizations and their corresponding roles that should be involved in mitigation, preparedness, response, recovery for disasters impacting your local, agricultural community.

This questionnaire will take approximately 15 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. You will be able to access the questionnaire from your computer for one more week, and you may edit your responses within that period of time. If you are not able to access the online survey, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

APPENDIX G
ROUND TWO INSTRUMENT

LEPC round two instrument

In round one of this study, you were asked to identify the organizations that should be involved in mitigation, planning, response, and recovery and their corresponding roles during disasters that impact rural areas and agricultural businesses.

Disasters have been categorized into four phases, including mitigation, preparedness, response and recovery. **Mitigation** is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster. **Preparedness** occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations. **Response** involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property. **Recovery** begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

The organizations identified in round one and statements explaining the roles of these organizations in disaster mitigation, preparedness, response, and recovery are listed below. The organizations and statements are not listed in any particular order. **Please read each statement and mark your level of agreement with each organization and role.**

A scale is available for you to use to indicate your level of agreement with each statement. Please rate each item from 1 to 6 as follows: **1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree.** Space also is provided for you to offer additional comments if you believe that more information, detail, or clarification is needed regarding a particular organization or role within each disaster phase. In addition, at the end of the instrument, space is provided for you to share additional organizations or roles you believe may have been overlooked in round one.

If you have any questions regarding this study, please e-mail me at amy.dronberger@okstate.edu.

Please note: After the organization list for each phase, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

The following agencies and organizations should be involved in **mitigation** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Local emergency managers (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency managers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency managers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional emergency managers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal emergency managers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City law enforcement (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional law enforcement (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City firefighters (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(11) Regional firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(12) Federal firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(13) Local USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(14) County USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(15) State USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(16) City public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(17) County public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(18) Regional public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(19) Federal public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(20) Secondary education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(21) Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(22) City volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(23) County volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(24) Regional volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(25) Federal volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(26) City professional programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(27)						

County professional programs (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional professional programs (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal professional programs (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City youth programs (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County youth programs (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional youth programs (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal youth programs (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local emergency planning committees (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food and Forestry (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4-H (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landowners (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City departments (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health department (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corp of Engineers (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Development authority (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lenders (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First responders (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation department (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County commissioners (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Department of Environmental Quality (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local citizens (52)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

The following agencies and organizations should be involved in **preparedness** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Local emergency managers (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency managers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency managers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional emergency managers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal emergency managers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City law enforcement (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional law enforcement (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City firefighters (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County firefighters (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Regional firefighters (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal firefighters (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local USDA (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County USDA (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State USDA (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City public works (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County public works (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional public works (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal public works (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secondary education (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City volunteers (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County volunteers (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional volunteers (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal volunteers (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

professional programs (27)						
County professional programs (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional professional programs (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal professional programs (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City youth programs (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County youth programs (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional youth programs (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal youth programs (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landowners (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local emergency planning committees (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food and Forestry (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4-H (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community animal response teams (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County elected officials (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voluntary Organizations Active in Disaster (VOADs) (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City departments (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health department (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corp of Engineers (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development authority (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lenders (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First responders (52)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation department (53)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Bureau	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(54) Local citizens (55)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments:

Response involves search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

The following agencies and organizations should be involved in **response** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Local emergency managers (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency managers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency managers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional emergency managers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal emergency managers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City law enforcement (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional law enforcement (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City firefighters (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County firefighters (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional firefighters (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal firefighters (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local USDA (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County USDA (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State USDA (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City public works (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County public works (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional public works (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal public works (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secondary education (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City volunteers (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County volunteers (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

volunteers (25)						
Federal volunteers (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City professional programs (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County professional programs (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional professional programs (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal professional programs (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City youth programs (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County youth programs (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional youth programs (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal youth programs (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food and Forestry (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community animal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

response teams (36)						
Animal control (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County elected officials (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voluntary Organizations Active in Disaster (VOADs) (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neighbors (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City departments (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health department (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corp of Engineers (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development authority (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Medical Service (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salvation Army (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospitals (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Animal shelter (52)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local citizens (53)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

The following agencies and organizations should be involved in **recovery** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Local emergency managers (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency managers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency managers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional emergency managers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal emergency managers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City law enforcement (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional law enforcement (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(9) City firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(10) County firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(11) Regional firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(12) Federal firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(13) Local USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(14) County USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(15) State USDA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(16) City public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(17) County public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(18) Regional public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(19) Federal public works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(20) Secondary education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(21) Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(22) City volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(23) County volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(24) Regional volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Federal volunteers (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City professional programs (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County professional programs (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional professional programs (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal professional programs (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City youth programs (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County youth programs (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional youth programs (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal youth programs (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small Business Administration (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voluntary Organizations Active in Disaster (VOADs) (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City departments (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health department (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veterinarians (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corp of Engineers (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development authority (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lenders (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First responders (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation department (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food and Forestry (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bank/loan agencies (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Please note: After the list of roles for each phase, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **mitigation**:

Emergency management

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize trainings using exercises (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Firefighters

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Citizen protection (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Basic services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Health department

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care and diseases (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local emergency planning committee

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical risks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veterinarians

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care and diseases (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Corp of Engineers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Development authority

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Financial guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-ops

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture Food and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Education (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunization of animals (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Conservation department

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Preservation of land and water by design and engineering (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County commissioners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Funding (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Permits (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Department of Environmental Quality

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Water quality (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air quality (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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Identify the potential hazards (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate landowners about disasters (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate landowners about disaster preparation (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate landowners about how to mitigate loss (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in unified planning (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **preparedness**:

Emergency management

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize trainings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

using exercises (5)						
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Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fire services

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Citizen protection (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Basic services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Health department

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor human shelters (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local emergency planning committee

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical risks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veterinarians

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinations (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Corp of Engineers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Development authority

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Financial guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-ops

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Education (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring of animal disease (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Conservation department

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Education (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Funding assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design assistance (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farm Bureau

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assess property damage (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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Participate in unified planning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliver the preparedness message to potential victims (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate the public on the importance of preparing themselves and their families, livestock, and equipment for incidents (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliver the message that outside assistance will not be immediate (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliver messages about what to expect and from whom during response (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Response involves search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **response**:

Emergency management

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization using National Incident Management System (NIMS) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respond using emergency operations plans (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Keep the law (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance as needed (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secure perimeters (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control access to affected areas (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Firefighters

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Activate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

communications (1)						
Manage fire when needed (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rescue citizens (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist only when directed by command staff (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Search and rescue (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immediate preservation of life (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immediate incident stabilization (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immediate preservation of property (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Emergency Medical Service

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Transportation (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency first aid (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Basic services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazmat response (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Health departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local emergency planning committee

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical risks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazmat response (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veterinarians

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinations (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal shelters (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Corp of Engineers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Development authority

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Financial guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-ops

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

First responders

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
First response (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Red Cross

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide shelters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(1) Provide personal needs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Salvation Army

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide food (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Animal shelters

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide animal shelter (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hospital

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide medical treatment (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Landowners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Need to provide as much self-care as possible. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County animal response teams

	Strongly Disagree	Disagree (2)	Slightly Disagree	Slightly Agree (4)	Agree (5)	Strongly Agree (6)

	(1)		(3)			
Recover animals (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Triage animals (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treat animals (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
House animals (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Animal control

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Collect animals (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliver animals to triage (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deliver triaged animals to proper facility (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Neighbors

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Collect neighbors' livestock (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure safety and well-being of livestock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

until owner can retrieve them (2)						
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County officials

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide equipment (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide equipment operators (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Voluntary Organizations Active in Disaster (VOADs)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide temporary housing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide personal needs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Participate in unified planning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **recovery**:

Emergency management

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Obtain assistance as needed, using outside aid if needed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep documentation as needed (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get technical assistance from county commissioners and city officials for finances (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get technical assistance from county commissioners and city officials for loans (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get technical assistance from county commissioners and city officials for grants (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get technical assistance from county commissioners and city officials for manpower (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Get technical assistance from county commissioners and city officials for equipment (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as liaison for state agencies providing services to landowners (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as liaison for federal agencies providing services to landowners (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Work with emergency managers to respond where needed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review what was done right or wrong (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review if different actions could make mitigation,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

preparedness, and response go more smoothly (3)						
Update emergency response plans with what changes are needed (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Firefighters

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Work with emergency managers to respond where needed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review what was done right or wrong (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review if different actions could make mitigation, preparedness, and response go more smoothly (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Update emergency response plans with what changes are needed (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Basic services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Health department

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local emergency planning committee

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical risks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veterinarians

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal diseases (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Corp of Engineers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Development authority

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Financial guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-ops

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Chemical guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bank/loan agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide funding to rebuild (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Small Business Administration

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide low-interest loans for recovery (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance companies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide funding within the limits of policy to affect recovery (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Voluntary Organizations Active in Disaster (VOADs)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide assistance through long-term recovery committees to meet unique needs of victims (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

OALP round two instrument

In round one of this study, you were asked to identify the organizations that should be involved in mitigation, planning, response, and recovery and their corresponding roles during disasters that impact rural areas and agricultural businesses.

Disasters have been categorized into four phases, including mitigation, preparedness, response, and recovery. **Mitigation** is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster. **Preparedness** occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations. **Response** involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property. **Recovery** begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

The organizations identified in round one and statements explaining the roles of these organizations in disaster mitigation, preparedness, response, and recovery are listed below. The organizations and statements are not listed in any particular order. Please read each statement and mark your level of agreement with each organization and role.

A scale is available for you to use to indicate your level of agreement with each statement. Please rate each item from 1 to 6 as follows: **1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree**. Space also is provided for you to offer additional comments if you believe that more information, detail, or clarification is needed regarding a particular organization or role within each disaster phase. In addition, at the end of the instrument, space is provided for you to share additional organizations or roles you believe may have been overlooked in round one.

If you have any questions regarding this study, please e-mail me at amy.dronberger@okstate.edu.

Please note: After the organization list for each phase, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster. The following

agencies and organizations should be involved in **mitigation** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural environmental management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
American Farmers & Ranchers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baptist General Convention Disaster Team (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chamber of Commerce (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Church groups (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community members (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation districts (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Construction boards (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County commissioners (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency management (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency management (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiologist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(13)						
Farm Bureau (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Service Agency (FSA) (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal Emergency Management Agency (FEMA) (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire departments (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local government (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County government (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State government (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance Department (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local law enforcement (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(27) Livestock associations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(28) Local banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(29) Local schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(30) Natural Resources Conservation Service (NRCS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(31) Noble Foundation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(32) Oklahoma Department of Health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(33) Oklahoma Pork Council	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(34) Oklahoma Cattlemen's Association	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(35) Oklahoma Department of Agriculture, Food, and Forestry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(36) Oklahoma Veterinary Medical Association (OVMA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(37) OSU Extension	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(38) Poultry Federation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(39) Private	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

emergency agencies (40)						
Red Cross (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk Management Agency (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural electric cooperatives (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salvation Army (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special disaster programs (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State building codes (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State veterinarian (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trade organizations (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Rural Development (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (52)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

The following agencies and organizations should be involved in **preparedness** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural environmental management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baptist General Convention Disaster Team (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Churches (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community members (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation district (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County commissioners (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency management (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency management (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiologist (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Bureau (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Federal Emergency Management Agency (FEMA) (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire departments (paid) (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural fire departments (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local government (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County government (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State government (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human resource departments of local companies (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual counties (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Livestock associations (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local banks (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local environmental organizations (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local schools (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local weather services (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mesonet (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Guard (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Weather Service (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Resources Conservation Service (NRCS) (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
News teams (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Health (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Pork Council (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Cattlemen's Association (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food, and Forestry (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Veterinary Medical Association (OVMA) (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Extension service (39)						
Poultry Federation (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private emergency agencies (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural electric cooperatives (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Rural Development (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Response involves search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

The following agencies and organizations should be involved in **response** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural environmental management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agricultural media/social media experts (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baptist General Convention Disaster Team (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commercial insurance companies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community members (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community volunteers (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation district (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County commissioners (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crop insurance agencies (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County emergency management (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State emergency management (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Medical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Services Authority (EMSA) (13)						
Epidemiologist (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Service Agency (FSA) (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal Emergency Management Agency (FEMA) (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire departments (paid) (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural fire departments (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Governor's office (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local law enforcement (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Livestock associations (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local churches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(27)						
National Guard (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Resources Conservation Service (NRCS) (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Office of Emergency Management (OEM) (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Health (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Pork Council (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Cattlemen's Association (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food, and Forestry (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Veterinary Medical Association (OVMA) (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension service (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poultry Federation (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private emergency agencies (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural electric cooperatives (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural mail carriers (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salvation Army (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Rural Development (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. **Recovery** may include loans, legal assistance, and the rebuilding of inventories and property.

The following agencies and organizations should be involved in **recovery** to maximize disaster resilience for the agricultural businesses in your community:

	Strongly disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Agricultural environmental management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agricultural media (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AMBUCS (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building supply companies (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Civic organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(6)						
Commercial insurance companies (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community organizations (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation district (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contractors (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County commissioners (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crop insurance agencies (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency grants and loans (state and federal) (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency management (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiologist (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Service Agency (FSA) (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal Emergency Management Agency (FEMA) (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire departments (paid) (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural fire departments (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local government (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County government (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Livestock associations (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local banks (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local churches (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local schools (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Guard (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Resources Conservation Service (NRCS) (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Health (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Pork Council (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Cattlemen's Association (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food, and	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Forestry (34)						
Oklahoma Veterinary Medical Association (OVMA) (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension service (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poultry Federation (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rotary clubs (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salvation Army (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small Business Administration (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
United States Department of Agriculture (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Rural Development (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Please note: After the list of roles for each phase, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster life cycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **mitigation**:

Business owners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize trainings using exercises (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community members

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide community awareness (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County commissioners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Work in partnership with all agencies/organizations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Give immediate attention to a new	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

problem before it grows (2)						
Prepare and plan (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Emergency management

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Rely on their training and knowledge to be in charge of disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilize their knowledge of resources available (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initial response (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluation of needs for each area of destruction (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farm Service Agency (FSA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Mobilize resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farmers and ranchers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should be involved in agricultural organizations to have a network to rely on (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Federal Emergency Management Agency (FEMA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Long-term planning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Short-term support of other agencies (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Government agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Need to enforce building codes (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Individuals

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Must have knowledge of how they could be impacted by	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

a disaster (1)						
Must have knowledge of their own options in a disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop relationships with potential responders (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Disaster programs

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide financial assistance for recovery (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicate with local groups about plans (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate of readiness plans (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advance planning for shelter set-up and changes in building design (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance companies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Offer discounts to help pay for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>the improvements if mitigation steps have been taken, such as hurricane strips in high wind areas or shatter-proof windows (1)</p> <p>Review disaster plans for businesses to determine how much and what type of insurance is needed (2)</p> <p>Distribute cost of the disaster over a larger pool (3)</p> <p>Allow for repayment of personal property damaged in a disaster (4)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Understand what expectations will be on law enforcement (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand what	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

resources will be available (2)						
Emergency response (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Securing the disaster area from any onlookers or theft (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Livestock organizations

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide knowledge of industries (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide knowledge of how a potential disaster would impact specific industries (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as direct conduit to producers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local and county government

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Educate public on what to do to prevent or mitigate disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Natural Resources Conservation Service (NRCS)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Erosion control (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage structures and features that convey water (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides design and engineering of water structures and features to conservation districts (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Noble Foundation

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Educate public on what to do to prevent or mitigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

disasters (1)						
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Oklahoma Department of Health

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Understanding of any potential animal disease impacts on human health (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding of any potential animal disaster impacts (other than disease) on human health (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide understanding of what services are available to plan for a disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide understanding of what resources are available to plan for a disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

of what authorities are available to plan for a disaster (3)						
Prepare mitigation plans for potential disasters (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Veterinary Medical Association (OVMA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Knowledge of animal health needs (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge of animal health responses (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Education of public on what to do to prevent or mitigate disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge of resources available (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

local farmers and ranchers to provide information (3)						
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Private emergency agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Initiate immediate assistance with support from FEMA and direction from local emergency agencies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Risk Management Agency

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide risk protection from weather (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide risk protection from markets (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural electric cooperatives

	Strongly	Disagree	Slightly	Slightly	Agree (5)	Strongly
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	Disagree (1)	(2)	Disagree (3)	Agree (4)		Agree (6)
Remain equipped to handle disaster situations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural fire departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Complete drills in firefighting (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stay proficient in emergency medical procedures (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Soil conservation district

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Maintain the system of flood control dams throughout the state (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operate the system of flood control dams throughout the state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(2) Care for the system of flood control dams throughout the state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) Work with terraces, waterways, streams, and other structures and features where water flows (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

State building codes

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Enforce building codes (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Prepare mitigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

plans for potential disasters (1)						
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Rural water districts

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide familiarity with critical water resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water locations (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water sensitivities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Be able to organize a preparedness plan, organize the roles each would take, the level of involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

given a disaster, and the sequence each would take (1)						
Have a crisis plan and continually update and morph that plan (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform their stakeholders of its crisis plan (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **preparedness**:

Business owners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Visit with bankers to cover their disaster plan and determine how the bank can help during these times (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community members

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Prepare an action plan (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County commissioners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Prepare a plan of action for all resources in their jurisdiction for all events (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work in partnership with all agencies/organizations (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farmers and ranchers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should be involved in agricultural organizations to have a network to rely on (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with response times (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

what needs to be done in the state of a disaster (2)						
Provide information to the public (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with the action plan that was identified in the mitigation process (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use the past history of occurrences to prepare (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Firefighters (paid and volunteer/rural)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Practice what and when to take action (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practice a chain of command (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Human resource departments of local companies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Disseminate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

information to employees (1)						
Assist in local involvement activities (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Individuals

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Have knowledge of how they could be impacted by a disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have knowledge of their own options in a disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance companies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Review disaster plans for businesses to determine how much and what	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

type of insurance is needed (1)						
Distribute cost of the disaster over a larger pool (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allow for repayment of personal property damaged in a disaster (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Livestock associations

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Exercises and drills that reinforce to livestock owners and all others on this list what will likely happen in a disaster scenario (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help livestock owners develop plans for dealing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

with disaster (2)						
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Local and county governments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Identify needs (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate state and national efforts on those needs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local churches

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Food (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clothing (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shelter (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local weather services

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide information services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

News teams

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide information services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Providing general guidelines for preparedness (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in forecasting (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Veterinary Medical Association (OVMA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Stockpile vaccines (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in planning for stockpiling (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in providing general guidelines for preparedness (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in helping communities to prepare for disaster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(3) Contact local farmers and ranchers to provide information (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Red Cross

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide temporary housing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide food (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide supplies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assess resources and determine needs (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide public shelters (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural electric cooperatives

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Keep an understanding of what is needed to restore electricity (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sponsor meetings for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

individuals to have an understanding of what actions to take during a disaster (2)						
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State veterinarian

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in planning for stockpiling (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in providing general guidelines for preparedness (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

United States Department of Agriculture

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Stockpile vaccines (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly Disagree	Disagree (2)	Slightly Disagree	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Take lead role in planning for agency utilization to increase efficiency of response operations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural water districts

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide familiarity with critical water resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water locations (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water sensitivities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Coordinate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

group efforts (1) Work together to formulate a plan of action identified for each type of disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizations should have a crisis plan and continually update and morph that plan (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform stakeholders of its crisis plan (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local and private emergency agencies should work together (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government agencies should be available for additional support (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All groups should help schools build large public shelters for everyone's use (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Response involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **response**:

Business owners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Supply needed items for immediate use (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with clean up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with shelter (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with food (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with fuel (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should be nearby to help firefighters know the best way in and out of a property (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Commercial insurance

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Must have monies available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

for immediate needs (1)						
Assess damage (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide recover funds for policy holders (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allow for repayment of personal property damaged in a disaster (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community members

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should respond to the situation and offer their services (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand the local needs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County commissioners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Work in partnership with all agencies/organizations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Emergency Medical Services Authority (EMSA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Take lead role in search and rescue mission (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farmers and ranchers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should be involved in agricultural organizations to have a network to rely on (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Government agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should supply private agencies with the needed supplies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Governor's office

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Take lead role in developing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

rescue missions (1)						
Take lead role in shelter set-up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in ascertaining emergency assistance, if available (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in securing perimeters (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Individuals

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Have knowledge of how they could be impacted by a disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have knowledge of their options in a disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Law enforcement

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)

Provide animal quarantine (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as escort for disease samples (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with responding to the needs of the community (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Livestock associations

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Disseminate information to members (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local churches

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with responding to the needs of the community (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Firefighters

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Trained to be first responders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(1) Communicate needs to other stakeholders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(2) Assist with responding to the needs of the community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) Keep knowledge of where people in rural areas are located	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4)						

National Guard

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in cleaning up the area (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing manual labor for the disaster area (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Boots on the ground help" providing supplies, food, etc. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizing groups to get things done (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

and bodies to get started for recovery (5)						
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Office of Emergency Management (OEM)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Lead the Emergency Operations Center (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Have statutory authority to respond to certain disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in shelter set-up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in establishing secure perimeters (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Veterinary Medical Association (OVMA)

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in shelter set-up (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in emergency assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in damage assessment (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact local farmers and ranchers to provide information (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private emergency agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Distribute needed materials to the affected areas (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural electric cooperatives

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in knowledge of where people are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

located (1)						
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State veterinarian

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in emergency assistance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in damage assessment (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

United States Department of Agriculture

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Have statutory authority to respond to certain disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in rescue missions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(1) Assist in shelter set-up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in damage assessment (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural water districts

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide familiarity with critical water resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water locations (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water sensitivities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Know what their role is before response (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Work together to formulate a plan of action identified for each type of disaster (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate appropriate responses with all of the agencies involved (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a central command to plan and provide safe, effective support (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate assistance for shelters (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribute goods and services (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assess damage (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate damage repair (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a crisis plan and continually update and morph that plan (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

stakeholders of its crisis plan (10)						
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Comments:

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

To maximize disaster resilience for the agricultural businesses in your community, the following agencies and organizations should fulfill the following roles for **recovery**:

Business owners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should have all insurance and loan documentation accessible so arrangement can be made quickly (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supply needed items for immediate use (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with clean up (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with shelter (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with food (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with fuel (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Commercial insurance

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

money back into community to rebuild (1)						
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Community members

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should meet the needs based on the disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

County commissioners

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Work in partnership with all agencies/organizations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Farmers and ranchers

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should be involved in agricultural organizations to have a network to rely on (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Federal and state emergency grants and loans

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Place money back into community to rebuild (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Government

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Lead the cleanup efforts (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should take on efforts of a long-term recovery plan (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Individuals

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Have knowledge of how they could be impacted by a disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have knowledge of their own options in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

a disaster (2)						
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Insurance companies

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assess damages in a timely manner (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Process claims in a timely manner (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribute cost of the disaster over a larger pool (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allow for repayment of personal property damaged in a disaster (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local churches

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with supplies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize volunteer groups (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize donations (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide information about recovery services available (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Contact local farmers and ranchers to provide information (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information about recovery services available (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Red Cross

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with supplies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize volunteer groups (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

donations (3)						
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Rural fire departments

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Keep a knowledge of the community and where people are located for times during disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Salvation Army

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with supplies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize volunteer groups (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize donations (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly	Disagree	Slightly	Slightly	Agree (5)	Strongly
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	Disagree (1)	(2)	Disagree (3)	Agree (4)		Agree (6)
Take lead role in providing loans (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in providing legal assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in rebuilding of inventories and property (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rural water districts

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide familiarity with critical water resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water locations (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide familiarity with critical water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

sensitivities (3)						
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Organizations should:

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist with rebuilding (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare future plans (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raise financial assistance needed (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with clean-up to get lives back to normal (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with paperwork to get lives back to normal (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Report where fundraising funds are used (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information to the affected parties so that everyone is accorded effective services (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

appropriate responses for the affected parties so that everyone is accorded effective services (8)						
Pay claims (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make loans for rebuilding (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage stronger building codes (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a long-term effective policy to deliver all resources and assets over the length of the recovery process (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a crisis plan and continually update and morph that plan (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform stakeholders of its crisis plan (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

APPENDIX H
ROUND THREE EMAILS

LEPC and OALP round 3 emails

Dear (Subject):

Thank you for your participation this far in the research study, “Identifying the organizations and their corresponding roles that may increase community resilience to disasters.” Your feedback is greatly appreciated and has been used to develop a third, and final, questionnaire.

In round two, you indicated your level of agreement with the statements provided from round one. In round three, we are attempting to reach consensus for those items in which at least 51% but less than 75% of panelists selected “Agree” (5) or “Strongly Agree” (6) in round two.

This questionnaire will take approximately 10 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. If you are not able to access the online questionnaire, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Your immediate response is greatly appreciated.

Your responses are voluntary and will be treated confidentially. Responses to this questionnaire will be stored online in a password-protected account until the questionnaire is closed and then will be stored for approximately three years in a password-protected spreadsheet on the researcher's computer.

You may choose at any time to withdraw from the study without penalty. The risks associated with this study are not greater than those ordinarily encountered in daily life.

Thank you for taking time to complete the questionnaire. If you have any questions about this study, please call me at 405-744-2330 or email me at amy.dronberger@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair at 219 Cordell North, Stillwater, OK 74078; 405-744-3377; or irb@okstate.edu.

Sincerely,

Amy Dronberger
Ph.D. Candidate
Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

LEPC and OALP round 3 reminder email

To: OALP and LEPC panel

Subject: Agricultural organizations in resilience study

Dear (Subject):

Just a reminder that I need your help! In this third and final round of the study, you are asked to indicate your level of agreement about organizations and roles that were identified in round one in an attempt to reach further consensus.

This questionnaire will take approximately 10 minutes to complete. Please respond to the questions in terms of your knowledge and perceptions. If you are not able to access the online survey, please email me at amy.dronberger@okstate.edu.

By clicking on the following link, you are giving your consent to participate in this study. To access the online questionnaire, please [click here](#).

Sincerely,

Amy Dronberger

Ph.D. Candidate

Department of Agricultural Education, Communications, and Leadership
Oklahoma State University

APPENDIX I
ROUND THREE INSTRUMENTS

LEPC round three instrument

Directions: In round two of this study, you were asked to rate your level of agreement for the organizations that should be involved in mitigation, planning, response, and recovery and their corresponding roles during disasters that impact rural areas and agricultural businesses. Of the 361 total statements, the panel reached consensus on 328 items. The remaining 33 statements are included in this round of the study.

As in round two, please read each statement and mark your level of agreement with each organization and role.

A scale is available for you to use to indicate your level of agreement with each statement. Please rate each item from 1 to 6 as follows: **1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree.** Space also is provided for you to offer additional comments if you believe that more information, detail, or clarification is needed regarding a particular organization or role within each disaster phase. In addition, at the end of the instrument, space is provided for you to share additional organizations or roles you believe may have been overlooked in round one.

If you have any questions regarding this study, please e-mail me at amy.dronberger@okstate.edu.

Please note: After the organization list, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

The following agencies or organizations should be involved in **mitigation** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Regional law enforcement (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County professional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

programs (4)						
Health department (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local citizens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

The following agencies or organizations should be involved in **preparedness** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
City public works (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County public works (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County volunteers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City professional programs (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health department (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local citizens (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Response involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

The following agencies or organizations should be involved in **response** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Federal law enforcement (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal firefighters (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal public works (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corp of engineers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-ops (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

The following agencies or organizations should be involved in **recovery** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
City law enforcement (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City firefighters (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City public works (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional volunteers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City professional programs (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County professional programs (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County youth programs (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional youth programs (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City departments (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Please note: After the list of roles, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **mitigation**:

Development authority

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Financial guidance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Response involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **response**:

Health department

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Animal care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VOADs

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide temporary housing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

OALP round three instrument

Directions: In round two of this study, you were asked to rate your level of agreement for the organizations that should be involved in mitigation, planning, response, and recovery and their corresponding roles during disasters that impact rural areas and agricultural businesses. Of the 439 total statements, the panel reached consensus on 310 items. The remaining 129 statements are included in this round of the study.

As in round two, please read each statement and mark your level of agreement with each organization and role.

A scale is available for you to use to indicate your level of agreement with each statement. Please rate each item from 1 to 6 as follows: **1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree.** Space also is provided for you to offer additional comments if you believe that more information, detail, or clarification is needed regarding a particular organization or role within each disaster phase. In addition, at the end of the instrument, space is provided for you to share additional organizations or roles you believe may have been overlooked in round one.

If you have any questions regarding this study, please e-mail me at amy.dronberger@okstate.edu.

Please note: After the organization list, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

The following agencies or organizations should be involved in **mitigation** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Ag Environmental Management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation districts (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiologist (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Service Agency (FSA) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance department (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal law enforcement (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Resource Conservation Service (NRCS) (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OK Department of Health (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma Department of Agriculture, Food, and Forestry (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private emergency agencies (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural electric cooperatives (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water district (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special disaster programs (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

The following agencies or organizations should be involved in **preparedness** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Ag Environmental Management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baptist General Convention Disaster Team (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual counties (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance companies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local weather services (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mesonet (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Weather Service (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
News teams (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural electric cooperative (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Response involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

The following agencies or organizations should be involved in **response** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Ag Environmental Management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commercial insurance companies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation district (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crop insurance agencies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmers and ranchers (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local churches (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oklahoma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Department of Agriculture, Food, and Forestry (8)						
Rural electric cooperatives (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarians (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

The following agencies or organizations should be involved in **recovery** to maximize disaster resilience for the agricultural industry in your community:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Ag Environmental Management (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ag media (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building supply companies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owners (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Civic organizations (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation district (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farm Service Agency (FSA) (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paid fire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

departments (8)						
Local government (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
County law enforcement (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State law enforcement (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Livestock associations (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local churches (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local schools (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Resource Conservation Service (NRCS) (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OSU Extension service (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Cross (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural water districts (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
United States Department of Agriculture (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Rural Development (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Please note: After the list of roles, you will have the opportunity to provide additional comments.

Mitigation is the initial phase of the disaster lifecycle, including long-term activities focused on reducing the impacts and distributing the costs of disaster.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **mitigation**:

Farm Service Agency (FSA)

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Mobilize resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance companies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Distribute cost of the disaster over a larger pool (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Natural Resource Conservation Service (NRCS)

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Flood control (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Erosion control (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage structures and features that convey water (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides design and	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

engineering of water structures and features to conservation districts (4)						
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Noble Foundation

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Educate public on what to do to prevent of mitigate disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Contact local farmers and ranchers to provide information (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private emergency agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Initiate immediate assistance with support from FEMA and	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

direction from local emergency agencies (1)						
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Risk Management Agency

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide risk protection from weather (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide risk protection from markets (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Soil conservation district

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Maintain the system of flood control dams throughout the state (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operate the system of flood control dams throughout the state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(2) Care for the system of flood control dams throughout the state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) Work with terraces, waterways, streams and other structures and features where water flows (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Prepare mitigation plans for potential disasters (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly disagree	Disagree (2)	Slightly disagree	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Inform their stakeholders of its crisis plan (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Preparedness occurs closest to the onset of a disaster and includes resource stockpiling, forecasting, and planning to increase the efficiency of response operations.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **preparedness**:

Human Resource Departments of local companies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Disseminate information to employees (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in local involvement activities (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance companies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Distribute cost of the disaster over a larger pool (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Livestock associations

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)

Help livestock owners develop plans for dealing with disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Oklahoma Veterinary Medicine Association (OVMA)

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Stockpile vaccines (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in planning for stockpiling (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in providing general guidelines for preparedness (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact local farmers and ranchers to provide information (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Red Cross

	Strongly disagree	Disagree (2)	Slightly disagree	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Provide temporary housing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide food (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide supplies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide public shelters (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

State veterinarian

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in planning for stockpiling (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in providing general guidelines for preparedness (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

United States Department of Agriculture

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Stockpile vaccines (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

research information to assist (1)						
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USDA agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Take lead role in planning for agency utilization to increase efficiency of response operations (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
All groups should help schools build large public shelters for everyone's use (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Response involves the search and rescue missions, shelter set-up, emergency assistance, damage assessment, and establishing secure perimeters. This phase is focused on immediate action to save lives and property.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **response**:

Business owners

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Supply needed items for immediate use (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with clean up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with shelter (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with food (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with fuel (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Emergency Medical Services Authority (EMSA)

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Take lead role in search and rescue mission (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Government agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Should supply private agencies with the needed supplies (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Governor's office

	Strongly disagree	Disagree (2)	Slightly disagree	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
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	(1)		(3)			
Take lead role in developing rescue missions (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in ascertaining emergency assistance, if available (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take lead role in securing perimeters (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

National Guard

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Organizing groups to get things done (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oklahoma Department of Agriculture, Food, and Forestry

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in shelter set-up (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in shelter set-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

up (1) Assist in emergency assistance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in damage assessment (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact local farmers and ranchers to provide information (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

State veterinarian

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in emergency assistance (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in damage assessment (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Assist in rescue missions (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in shelter set- up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

damage assessment (3)						
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Recovery begins immediately after a disaster but may last for months or years to return an individual and/or community systems back to normal. Recovery may include loans, legal assistance, and the rebuilding of inventories and property.

To maximize disaster resilience for the agricultural industry in your community, the following agencies and organizations should fulfill the following roles for **recovery**:

Business owners

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Supply needed items for immediate use (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with clean up (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with shelter (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with food (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist with fuel (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Government

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Lead the clean-up efforts (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should take on efforts of a long term recovery plan (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Insurance company

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Allow for repayment of personal property damaged in a disaster (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OSU Extension

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Contact local farmers and ranchers to provide information (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Universities

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Provide research information to assist (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USDA agencies

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Take lead role in providing loans (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Organizations should:

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Slightly Agree (4)	Agree (5)	Strongly Agree (6)
Pay claims (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make loans for rebuilding (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

APPENDIX J
PARTICIPATION THANK YOU EMAIL

Thank you email

To: OALP and LEPC panel

Subject: Agricultural organizations in resilience study

Dear (Subject):

Thank you so much for participating in my study, “Identifying the organizations and their corresponding roles that may increase community resilience to disasters.” Your feedback and willingness to participate is greatly appreciated.

The study is now complete and I just wanted to send one last email to say thank you so much for your participation!

Sincerely,

Amy Dronberger

Ph.D. Candidate

Department of Agricultural Education, Communications, and Leadership

Oklahoma State University

APPENDIX K
PERCENTAGE OF AGREEMENT ACROSS ROUNDS

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Mitigation	
Local emergency managers	100%
County emergency managers	100%
State emergency managers	100%
Local emergency planning committees	100%
Oklahoma Department of Agriculture, Food, and Forestry	100%
Regional emergency managers	88%
Federal emergency managers	88%
Local USDA	88%
County USDA	88%
State USDA	88%
OSU Extension	88%
Farmers	88%
First responders	88%
County law enforcement	75%
City firefighters	75%
County firefighters	75%
County volunteers	75%
Landowners	75%
Co-ops	75%
Conservation department	75%
County commissioners	75%
Department of Environmental Quality	75%
Veterinarians	71%
Regional law enforcement	63%
County public works	63%
Universities	63%
County professional programs	63%
Health department	63%
Local citizens	63%
City law enforcement	50%
Regional firefighters	50%
City public works	50%
Secondary education	50%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Federal professional programs	50%
County youth programs	50%
Lenders	50%
Federal firefighters	43%
Regional public works	43%
Federal law enforcement	38%
Federal public works	38%
City volunteers	38%
Regional volunteers	38%
Federal volunteers	38%
Regional professional programs	38%
Regional youth programs	38%
Federal youth programs	38%
4-H	38%
Corps of engineers	38%
Development authority	38%
City professional programs	25%
City youth programs	25%
City departments	25%
Preparedness	
Local emergency managers	100%
County emergency managers	100%
Local emergency planning committees	100%
Oklahoma Department of Agriculture, Food, and Forestry	100%
Community animal response teams	100%
First responders	100%
State emergency managers	88%
Local USDA	88%
County USDA	88%
State USDA	88%
Landowners	88%
Voluntary Organizations Active in Disaster (VOADs)	88%
OSU Extension	88%
Farmers	88%
Lenders	88%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Regional emergency managers	75%
Federal emergency managers	75%
County law enforcement	75%
County firefighters	75%
County elected officials	75%
Red Cross	75%
Veterinarians	75%
Conservation department	75%
Farm Bureau	75%
City public works	63%
County public works	63%
Universities	63%
County volunteers	63%
City professional programs	63%
Health department	63%
Co-ops	63%
Local citizens	63%
City law enforcement	50%
Regional law enforcement	50%
Federal law enforcement	50%
City firefighters	50%
Secondary education	50%
County professional programs	50%
Regional professional programs	50%
Federal professional programs	50%
County youth programs	50%
Federal youth programs	50%
4-H	50%
Corps of engineers	50%
City volunteers	38%
Regional volunteers	38%
Federal volunteers	38%
Regional youth programs	38%
City departments	38%
Development authority	38%
Regional firefighters	25%
Federal firefighters	25%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Regional public works	25%
Federal public works	25%
City youth programs	25%
Response	
Local emergency managers	100%
County emergency managers	100%
State emergency managers	100%
County law enforcement	100%
County firefighters	100%
County USDA	100%
State USDA	100%
County volunteers	100%
Regional volunteers	100%
Voluntary Organizations Active in Disaster (VOADs)	100%
Neighbors	100%
Veterinarians	100%
City law enforcement	88%
City firefighters	88%
Local USDA	88%
City volunteers	88%
Oklahoma Department of Agriculture, Food, and Forestry	88%
Community animal response teams	88%
Animal control	88%
County elected officials	88%
Red Cross	88%
Health department	88%
OSU Extension	88%
Emergency medical service	88%
Salvation Army	88%
Hospitals	88%
Animal shelters	88%
Local citizens	88%
Regional emergency managers	86%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Federal emergency managers	86%
Regional law enforcement	75%
Regional firefighters	75%
City public works	75%
County public works	75%
Federal volunteers	75%
City departments	75%
Federal law enforcement	63%
Federal firefighters	63%
Federal public works	63%
Corps of engineers	63%
Co-ops	63%
Regional public works	50%
Development authority	38%
Universities	25%
County professional programs	25%
Federal youth programs	25%
Secondary education	13%
City professional programs	13%
Regional professional programs	13%
Federal professional programs	13%
City youth programs	13%
County youth programs	13%
Regional youth programs	13%
Recovery	
Local emergency managers	100%
County emergency managers	100%
State emergency managers	100%
County USDA	100%
Voluntary Organizations Active in Disaster (VOADs)	100%
Veterinarians	100%
Conservation department	100%
Oklahoma Department of Agriculture, Food, and Forestry	100%
Bank/loan agencies	100%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Federal emergency managers	88%
Local USDA	88%
City volunteers	88%
County volunteers	88%
Small Business Administration	88%
Insurance companies	88%
Health department	88%
Development authority	88%
OSU Extension	88%
Farmers	88%
Regional emergency managers	86%
Lenders	86%
State USDA	75%
Corps of engineers	75%
Co-ops	75%
First responders	75%
City law enforcement	63%
County law enforcement	63%
City firefighters	63%
City public works	63%
Regional volunteers	63%
City professional programs	63%
County professional programs	63%
County youth programs	63%
Regional youth programs	63%
City departments	63%
Regional law enforcement	50%
County firefighters	50%
Federal firefighters	50%
County public works	50%
Regional public works	50%
Federal public works	50%
Universities	50%
Federal volunteers	50%

Table K1

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Two

Organization	% Agreement ^a
Federal professional programs	50%
City youth programs	50%
Federal youth programs	50%
Federal law enforcement	43%
Regional firefighters	43%
Secondary education	38%
Regional professional programs	38%

Table K2

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Three

Organization	% Agreement ^a
Mitigation	
Regional law enforcement	100%
Health department	100%
Veterinarians	100%
County public works	86%
Local citizens	86%
Universities	71%
County professional programs	71%
Preparedness	
County public works	100%
Health department	100%
City public works	86%
Universities	71%
County volunteers	71%
City professional programs	71%
Co-ops	71%
Local citizens	71%

Table K2

Local Emergency Planning Committee Panel: Level of Agreement for Organizations during Round Three

Organization	% Agreement ^a
Response	
Federal law enforcement	71%
Corps of engineers	71%
Federal firefighters	57%
Federal public works	57%
Co-ops	57%
Recovery	
County law enforcement	100%
City law enforcement	71%
City public works	71%
City professional programs	71%
County professional programs	71%
County youth programs	71%
City departments	71%
City firefighters	57%
Regional volunteers	57%
Regional youth programs	57%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
Mitigation	
County emergency management	94%
Fire departments	94%
Local government	94%
County government	94%
State government	94%
Federal Emergency Management Agency	88%
Red Cross	88%
County commissioners	82%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
State emergency management	82%
County law enforcement	82%
Local law enforcement	76%
State law enforcement	76%
Risk Management Agency	76%
Community members	75%
Private emergency agencies	71%
Agricultural environmental management	65%
Federal law enforcement	65%
Oklahoma Department of Agriculture, Food, and Forestry	65%
Special disaster programs	65%
Farmers and ranchers	59%
Farm Service Agency	59%
Oklahoma Department of Health	59%
Rural electric cooperatives	59%
Epidemiologist	56%
Conservation districts	53%
Insurance companies	53%
Insurance department	53%
Natural Resources Conservation Service	53%
Rural water districts	53%
American Farmers & Ranchers	47%
OSU Extension	47%
Salvation Army	47%
State veterinarian	47%
Baptist General Convention Disaster Team	41%
Farm Bureau	41%
Livestock associations	41%
Oklahoma Veterinary Medical Association	41%
Veterinarians	41%
Construction boards	38%
Chamber of Commerce	35%
Church groups	35%
Business owners	29%
State building codes	29%
Local banks	24%
Local schools	24%
Noble Foundation	24%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
Oklahoma Pork Council	24%
Oklahoma Cattlemen's Association	24%
Poultry Federation	18%
USDA Rural Development	18%
Universities	12%
Trade organizations	6%
Preparedness	
County emergency management	94%
State emergency management	94%
Federal Emergency Management Agency	88%
Fire departments (paid)	88%
Rural fire departments	88%
Local government	88%
County government	88%
State government	88%
County commissioners	82%
National Guard	82%
Private emergency agencies	82%
Red Cross	82%
County law enforcement	76%
State law enforcement	71%
Mesonet	71%
National Weather Service	71%
Agricultural environmental management	65%
Local weather services	65%
Rural electric cooperatives	65%
Individual counties	59%
Rural water districts	59%
Baptist General Convention Disaster Team	53%
Farmers and ranchers	53%
Insurance companies	53%
News teams	53%
Conservation district	50%
Community members	47%
Local environmental organizations	47%
OSU Extension service	47%
Epidemiologist	44%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
Human resource departments of local companies	41%
Livestock associations	41%
Natural Resources Conservation Service	41%
Oklahoma Department of Health	41%
Oklahoma Department of Agriculture, Food, and Forestry	41%
USDA Rural Development	41%
Business owners	35%
Churches	29%
Farm Bureau	29%
Local schools	29%
Oklahoma Pork Council	29%
Oklahoma Cattlemen's Association	29%
Oklahoma Veterinary Medical Association	29%
Poultry Federation	29%
Veterinarians	29%
Local banks	18%
Response	
County emergency management	100%
Local law enforcement	100%
County law enforcement	100%
Community volunteers	94%
State emergency management	94%
Fire departments (paid)	94%
Rural fire departments	94%
State law enforcement	94%
Office of Emergency Management	88%
Red Cross	88%
County commissioners	82%
Emergency Medical Service Authority (EMSA)	82%
Federal Emergency Management Agency	82%
Governor's office	82%
Federal law enforcement	82%
Private emergency agencies	82%
Salvation Army	82%
Baptist General Convention Disaster Team	76%
Community members	76%
Insurance companies	76%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
National Guard	76%
Oklahoma Department of Health	76%
Oklahoma Department of Agriculture, Food, and Forestry	71%
Rural electric cooperatives	71%
Agricultural environmental management	65%
Commercial insurance companies	65%
Farmers and ranchers	65%
Local churches	65%
Business owners	59%
Conservation district	59%
Rural water districts	59%
Crop insurance agencies	53%
Veterinarians	53%
Epidemiologist	50%
Natural Resources Conservation Service	50%
Agricultural media/social media experts	47%
OSU Extension service	47%
Universities	41%
USDA Rural Development	41%
Oklahoma Veterinary Medical Association	35%
Oklahoma Pork Council	29%
Oklahoma Cattlemen's Association	29%
Poultry Federation	29%
Livestock associations	24%
Rural mail carriers	24%
Farm Service Agency	18%
Recovery	
Emergency grants and loans (state and federal)	100%
Community organizations	88%
Contractors	88%
Local banks	88%
Commercial insurance companies	82%
Farmers and ranchers	82%
Federal Emergency Management Agency	82%
Small Business Administration	82%
County commissioners	76%
Crop insurance agencies	76%
Emergency management	76%

Table K3

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organizations	% Agreement ^a
County government	76%
Agricultural environmental management	71%
Building supply companies	71%
Business owners	71%
Civic organizations	71%
Local government	71%
USDA Rural Development	69%
Farm Service Agency	65%
Livestock associations	65%
Natural Resources Conservation Service	65%
United States Department of Agriculture	65%
Conservation district	59%
Local churches	59%
Rural water districts	59%
Agricultural media	53%
Fire departments (paid)	53%
County law enforcement	53%
State law enforcement	53%
Local schools	53%
OSU Extension service	53%
Red Cross	53%
Rural fire departments	47%
Oklahoma Department of Agriculture, Food, and Forestry	47%
Rotary clubs	47%
Salvation Army	47%
National Guard	41%
Universities	35%
Oklahoma Department of Health	29%
AMBUCS	26%
Epidemiologist	25%
Oklahoma Veterinary Medical Association	24%
Oklahoma Pork Council	18%
Oklahoma Cattlemen's Association	18%
Poultry Federation	18%
Veterinarians	13%

Table K4

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organizations	% Agreement ^a
Mitigation	
Farmers and ranchers	86%
Private emergency agencies	76%
Conservation districts	71%
Insurance companies	71%
Rural electric cooperatives	71%
Insurance department	67%
Oklahoma Department of Agriculture, Food and Forestry	67%
Special disaster programs	62%
Agricultural environmental management	57%
Farm Service Agency (FSA)	52%
Natural Resources Conservation Service	52%
Oklahoma Department of Health	52%
Rural water districts	52%
Federal law enforcement	48%
Epidemiologist	38%
Preparedness	
Individual counties	90%
Farmers and ranchers	81%
State law enforcement	76%
Rural electric cooperatives	76%
National Weather Service	71%
Local weather services	67%
Rural water districts	67%
Insurance companies	62%
Mesonet	62%
Agricultural environmental management	57%
Baptist General Convention Disaster Team	57%
News teams	48%
Response	
Rural electric cooperatives	71%
Local churches	67%
Crop insurance agencies	62%
Oklahoma Department of Agriculture, Food, and Forestry	62%

Table K4

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organizations	% Agreement ^a
Rural water districts	62%
Veterinarians	62%
Agricultural environmental management	52%
Conservation district	43%
Recovery	
Red Cross	95%
Business owners	86%
Civic organizations	86%
Local government	86%
Rural water districts	86%
Building supply companies	81%
County law enforcement	81%
State law enforcement	81%
Local churches	76%
Fire departments (paid)	71%
United States Department of Agriculture	71%
Farm Service Agency	67%
Natural Resources Conservation Service	67%
OSU Extension service	67%
USDA Rural Development	67%
Livestock associations	65%
Agricultural environmental management	62%
Agricultural media	57%
Local schools	57%
Conservation district	55%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Mitigation	
Emergency management	Organization	100%
	Planning	100%
	Media	100%
	Safety	100%
	Organize trainings using exercises	100%
	Coordination	100%
Law enforcement	Planning	88%
	Organization	75%
Firefighters	Citizen protection	100%
City departments	Basic services	88%
Health department	Education	100%
	Immunizations	100%
	Animal care and diseases	75%
Local Emergency Planning Committees	Chemical risks	100%
Veterinarians	Animal care and diseases	100%
Corps of Engineers	Flood control	88%
Co-ops	Chemical guidance	75%
OSU Extension	Agricultural guidance	100%
	Education	100%
Oklahoma Department of Agricultural, Food, and Forestry	Education	100%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Immunization of animals	100%
Conservation department	Preservation of land and water by design and engineering	100%
County commissioners	Funding	100%
	Permits	88%
Department of Environmental Quality	Water quality	88%
	Air quality	75%
Development authority	Financial guidance	100%
Organizations should:	Identify the potential hazards	100%
	Educate landowners about disasters	100%
	Educate landowners about disaster preparation	100%
	Educate landowners about how to mitigate loss	100%
	Participate in unified planning	100%
	Preparedness	
Emergency management	Organization	100%
	Planning	100%
	Media	100%
	Safety	100%
	Organize trainings using exercises	100%
Law enforcement	Organization	100%
	Planning	100%
Fire services	Citizen protection	100%
City departments	Basic services	88%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
Health department	Immunizations	100%
	Animal care	88%
	Animal diseases	88%
	Monitor human shelters	88%
Local Emergency Planning Committee	Chemical risks	100%
Veterinarians	Animal care	100%
	Animal diseases	100%
	Vaccinations	100%
Corps of Engineers	Flood control	88%
Development authority	Financial guidance	100%
Co-ops	Chemical guidance	88%
OSU Extension	Agricultural guidance	100%
Oklahoma Department of Agriculture, Food, and Forestry	Education	100%
	Monitoring of animal disease	100%
Conservation department	Education	100%
	Funding assistance	100%
	Design assistance	100%
Farm Bureau	Assess property damage	88%
Organizations should:	Participate in unified planning	100%
	Deliver the preparedness message to potential victims	100%
	Educate the public on the importance of preparing themselves and their families, livestock, and equipment for incidents	100%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Deliver the message that outside assistance will not be immediate	100%
	Deliver the message about what to expect and from whom during response	100%
	Response	
Emergency management	Organization using National Incident Management System	100%
	Respond using emergency operations plans	100%
	Coordination	100%
Law enforcement	Keep the law	100%
	Assistance as needed	100%
	Secure perimeters	100%
	Control access to affected areas	100%
	Traffic	88%
Firefighters	Manage fire when needed	100%
	Rescue citizens	100%
	Search and rescue	100%
	Immediate preservation of life	100%
	Immediate incident stabilization	100%
	Immediate preservation of property	100%
	Activate communications	86%
	Assist only when directed by command staff	75%
Emergency medical service	Transportation	100%
	Emergency first aid	100%
City departments	Basic services	100%
	Hazmat response	75%
Health departments	Animal diseases	75%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Animal care	63%
Local Emergency Planning Committee	Chemical risks	100%
	Hazmat response	86%
Veterinarians	Animal diseases	100%
	Vaccinations	100%
	Animal care	88%
	Animal shelters	88%
Corps of Engineers	Flood control	88%
Development authority	Financial guidance	100%
Co-ops	Chemical guidance	88%
	Technical assistance	88%
OSU Extension	Agricultural guidance	100%
	Technical assistance	100%
First responders	First response	100%
Red Cross	Provide shelters	88%
	Provide personal needs	88%
Salvation Army	Provide food	88%
Animal shelters	Provide animal shelter	88%
Hospital	Provide medical treatment	100%
Landowners	Need to provide as much self-care as possible	100%
County animal response teams	Recover animals	88%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Triage animals	88%
	House animals	88%
	Treat animals	75%
Animal control	Collect animals	88%
	Deliver animals to triage	88%
	Deliver triaged animals to proper facility	88%
Neighbors	Collect neighbors livestock	86%
	Ensure safety and well-being of livestock until owner can retrieve them	88%
County official	Provide equipment	100%
	Provide equipment operators	100%
Voluntary Organizations Active in Disaster (VOADs)	Provide personal needs	86%
	Provide temporary housing	71%
Organizations should:	Participate in unified planning	100%
Recovery		
Emergency management	Obtain assistance as needed, using outside aid if needed	100%
	Keep documentation as needed	100%
	Get technical assistance from county commissioners and city officials for finances	100%
	Get technical assistance from county commissioners and city officials for manpower	100%
	Get technical assistance from county commissioners and city officials for equipment	100%
	Coordination	100%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Get technical assistance from county commissioners and city officials for grants	88%
	Serve as liaison for state agencies providing services to landowners	88%
	Serve as liaison for federal agencies providing services to landowners	88%
	Get technical assistance from county commissioners and city officials for loans	50%
Law enforcement	Work with emergency managers to respond where needed	100%
	Review what was done right or wrong	100%
	Review if different actions could make mitigation, preparedness, and response go more smoothly	100%
	Update emergency response plans with what changes are needed	100%
Firefighters	Work with emergency manager to respond where needed	100%
	Review what is done right or wrong	100%
	Review if different actions could make mitigation, preparedness, and response go more smoothly	100%
	Update emergency response plans with what changes are needed	100%
City departments	Basic services	75%
Health department	Animal diseases	75%
	Animal care	43%
Local Emergency Planning Committee	Chemical risks	88%
Veterinarians	Animal diseases	100%

Table K5

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Two

Organization	Role	% Agreement ^a
	Animal care	88%
Corps of Engineers	Flood control	88%
Development authority	Financial guidance	100%
Co-ops	Chemical guidance	75%
OSU Extension	Agricultural guidance	100%
Bank/loan agencies	Provide funding to rebuild	100%
Small Business Administration	Provide low-interest loans for recovery	100%
Insurance companies	Provide funding within the limits of policy to affect recovery	100%
Voluntary Organizations Active in Disaster (VOADs)	Provide assistance through long-term recovery committees to meet unique needs of victims	100%

Table K6

Local Emergency Planning Committee Panel: Level of Agreement for Roles during Round Three

Organization	Role	% Agreement
	Mitigation	
Development authority	Financial guidance	100%
	Response	
Health departments	Animal care	57%
Voluntary Organizations Active in Disaster (VOADs)	Provide temporary housing	71%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
	Mitigation	
Community members	Provide community awareness	94%
County commissioners	Work in partnership with all agencies/organizations	88%
	Prepare and plan	88%
	Give immediate attention to a new problem before it grows	82%
Emergency management	Rely on their training and knowledge to be in charge of disaster	100%
	Utilize their knowledge of resources available	100%
	Evaluation of needs for each area of destruction	100%
	Initial response	94%
Farmers and ranchers	Should be involved in agricultural organizations to have a network to rely on	82%
Federal Emergency Management Agency	Long-term planning	82%
	Short-term support of other agencies	82%
Government agencies	Need to enforce building codes	76%
Individuals	Must have knowledge of how they could be impacted by a disaster	100%
	Must have knowledge of their own options in a disaster	100%
	Develop relationships with potential	88%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
	responders	
Disaster programs	Communicate with local groups about plans	100%
	Provide financial assistance for recovery	88%
	Coordinate readiness plans	88%
	Advance planning for shelter set-up and changes in building design	82%
Insurance companies	Offer discounts to help pay for the improvements if mitigation steps have been taken, such as hurricane strips in high wind areas or shatter-proof windows	76%
	Review disaster plans for businesses to determine how much and what type of insurance is needed	76%
	Allow for repayment of personal property damaged in a disaster	76%
Law enforcement	Understand what expectations will be on law enforcement	100%
	Understand what resources will be available	100%
	Emergency response	100%
	Securing the disaster area from any onlookers or theft	100%
Livestock organizations	Provide knowledge of how a potential disaster would impact specific industries	94%
	Provide knowledge of industries	82%
	Serve as direct conduit to producers	82%
Local and county government	Educate public on what to do to prevent or mitigate disasters	82%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Oklahoma Department of Health	Understanding of any potential animal disease impacts on human health	82%
	Understanding of any potential animal disaster impacts (other than disease on human health)	82%
Oklahoma Department of Agriculture, Food, and Forestry	Provide understanding of what services are available to plan for a disaster	82%
	Provide understanding of what resources are available to plan for a disaster	82%
	Provide understanding of what authorities are available to plan for a disaster	76%
	Prepare mitigation plans for potential disasters	76%
Oklahoma Veterinary Medical Association	Knowledge of animal health needs	76%
	Knowledge of animal health responses	76%
OSU Extension	Knowledge of resources available	100%
	Education of public on what to do to prevent or mitigate disasters	76%
Rural electric cooperatives	Remain equipped to handle disaster situations	94%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Rural fire departments	Stay proficient in emergency medical procedures	94%
	Complete drills in firefighting	88%
State building codes	Enforce building codes	76%
Rural water districts	Provide familiarity with critical water resources	88%
	Provide familiarity with critical water locations	88%
	Provide familiarity with critical water sensitivities	88%
Farm Service Agency	Mobilize resources	53%
Insurance companies	Distribute cost of the disaster over a larger pool	59%
Natural Resources Conservation Service	Flood control	71%
	Provides design and engineering of water structures to conservation districts	71%
	Erosion control	68%
	Manage structures and features that convey water	65%
Noble Foundation	Educate public on what to do to prevent or mitigate disasters	59%
OSU Extension	Contact local farmers and ranchers to provide information	65%
Private emergency agencies	Initiate immediate assistance with support from FEMA and direction from local emergency agencies	71%
Risk Management Agency	Provide risk protection from weather	65%
	Provide risk protection from markets	59%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Soil conservation district	Maintain the system of flood control dams throughout the state	71%
	Care for the system of flood control dams throughout the state	71%
	Operate the system of flood control dams throughout the state	65%
	Work with terraces, waterways, streams, and other structures and features where water flows	65%
Universities	Provide research information to assist	71%
USDA Agencies	Prepare mitigation plans for potential disasters	65%
Business owners	Organization	47%
	Planning	47%
	Safety	41%
	Organize trainings using exercises	41%
	Media	12%
Organizations should:	Be able to organize a preparedness plan, organize the roles each would take, the level of involvement given a disaster, and the sequence each would take	76%
	Have a crisis plan and continually update and morph that plan	76%
	Inform their stakeholders of its crisis plan	71%
	Preparedness	
Community members	Prepare an action plan	76%
County commissioners	Prepare a plan of action for all resources in their jurisdiction for all events	94%
	Work in partnership with all agencies/organizations	94%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Farmers and ranchers	Should be involved in agricultural organizations to have a network to rely on	88%
Law enforcement	Provide information to the public	100%
	Assist with the action plan that was identified in the mitigation process	100%
	Assist with response times	94%
	Determine what needs to be done in the state of a disaster	94%
	Use the past history of occurrences to prepare	88%
Firefighters (paid and volunteer/rural)	Practice what and when to take action	100%
	Practice a chain of command	94%
Individuals	Have knowledge of their own options in a disaster	100%
	Have knowledge of how they could be impacted by a disaster	94%
Insurance companies	Allow for repayment of personal property damaged in a disaster	100%
	Review disaster plans for businesses to determine how much and what type of insurance is needed	88%
Local and county governments	Identify needs	88%
	Educate state and national efforts on those needs	88%
Local churches	Shelter	94%
	Food	88%
	Clothing	88%
Local weather services	Provide information services	100%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
News teams	Provide information services	88%
Oklahoma Department of Agriculture, Food and Forestry	Providing general guidelines for preparedness	82%
Red Cross	Assess resources and determine needs	76%
Rural electric cooperatives	Keep an understanding of what is needed to restore electricity	94%
Rural water districts	Provide familiarity with critical water resources	94%
	Provide familiarity with critical water locations	94%
	Provide familiarity with critical water sensitivities	94%
Human resource departments of local companies	Disseminate information to employees	71%
	Assist in local involvement activities	65%
Insurance companies	Distribute cost of the disaster over a larger pool	65%
Livestock associations	Help livestock owners develop plans for dealing with disaster	71%
Oklahoma Veterinary Medical Association (OVMA)	Stockpile vaccines	53%
OSU Extension	Assist in providing general guidelines for preparedness	65%
	Assist in planning for stockpiling	63%
	Contact local farmers and ranchers to provide information	56%
Red Cross	Provide food	71%
	Provide supplies	71%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
	Provide temporary housing	65%
	Provide public shelters	59%
State veterinarian	Assist in planning for stockpiling	59%
	Assist in providing general guidelines for preparedness	59%
United States Department of Agriculture	Stockpile vaccines	59%
Universities	Provide research information to assist	65%
USDA Agencies	Take lead role in planning for agency utilization to increase efficiency of response operations	59%
Business owners	Visit with bankers to cover their disaster plan and determine how the bank can help during these times	47%
Livestock associations	Exercises and drills that reinforce to livestock owners and all others on this list what will likely happen in a disaster scenario	47%
Oklahoma Department of Agriculture, Food, and Forestry	Take lead role in forecasting	35%
OSU Extension	Take lead role in helping communities to prepare for disaster	47%
Rural electric cooperatives	Sponsor meetings for individuals to have an understanding of what actions to take during a disaster	47%
Organizations should:	All groups should help schools build large public shelters for	65%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
	everyone's use	
	Organizations should have a crisis plan and continually update and morph that plan	94%
	Local and private emergency agencies should work together	94%
	Coordinate group efforts	88%
	Work together to formulate a plan of action identified for each type of disaster	88%
	Government agencies should be available for additional support	88%
	Inform stakeholders of its crisis plan	76%
	Response	
Business owners	Should be nearby to help firefighters know the best way in and out of a property	76%
Commercial insurance	Must have monies available for immediate needs	100%
	Assess damage	100%
	Provide recover funds for policy holders	94%
	Allow for repayment of personal property damaged in a disaster	82%
Community members	Understand the local needs	94%
	Should respond to the situation and offer their services	88%
County commissioners	Work in partnership with all agencies/organizations	94%
Farmers and ranchers	Should be involved in agricultural organizations to have a network to rely on	76%
Individuals	Have knowledge of how they could	94%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
	be impacted by a disaster	
	Have knowledge of their options in a disaster	94%
Law enforcement	Assist with responding to the needs of the community	94%
	Serve as escort for disease samples	82%
Livestock associations	Disseminate information to members	88%
Local churches	Assist with responding to the needs of the community	88%
Firefighters	Trained to be first responders	100%
	Assist with responding to the needs of the community	100%
	Communicate needs to other stakeholders	88%
	Keep knowledge of where people in rural areas are located	82%
National Guard	Provide resources and bodies to get started for recovery	88%
	"Boots on the ground help" providing supplies, food, etc.	82%
	Assist in cleaning up the area	76%
	Providing manual labor for the disaster area	76%
Office of Emergency Management	Lead the Emergency Operations Center	88%
Oklahoma Department of Agriculture, Food, and Forestry	Have statutory authority to respond to certain disasters	76%
Oklahoma Veterinary Medical Association	Provide animal care	76%
Private emergency	Distribute needed materials to the	88%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
agencies	affected areas	
Rural electric cooperatives	Assist in knowledge of where people are located	94%
United States Department of Agriculture	Have statutory authority to respond to certain disasters	76%
Universities	Provide research information to assist	76%
Rural water districts	Provide familiarity with critical water resources	94%
	Provide familiarity with critical water locations	94%
	Provide familiarity with critical water sensitivities	94%
Business owners	Supply needed items for immediate use	59%
	Assist with clean up	59%
	Assist with shelter	53%
	Assist with food	53%
	Assist with fuel	53%
Emergency Medical Services Authority (EMSA)	Take lead role in search and rescue mission	71%
Government agencies	Should supply private agencies with the needed supplies	65%
Governor's office	Take lead role in ascertaining emergency assistance, if available	71%
	Take lead role in developing rescue missions	53%
	Take lead role in securing perimeters	53%
National Guard	Organizing groups to get things done	71%
Oklahoma Department of	Assist in shelter set-up	59%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Agriculture, Food, and Forestry		
OSU Extension	Contact local farmers and ranchers to provide information	71%
	Assist in shelter set-up	59%
	Assist in emergency assistance	59%
	Assist in damage assessment	59%
State veterinarian	Assist in emergency assistance	63%
	Assist in damage assessment	59%
USDA Agencies	Assist in damage assessment	71%
	Assist in shelter set-up	59%
	Assist in rescue missions	53%
Governor's office	Take lead role in shelter set-up	47%
Law enforcement	Provide animal quarantine	41%
Oklahoma Department of Agriculture, Food, and Forestry	Assist in establishing secure perimeters	41%
Organizations should:	Know what their role is before response	100%
	Work together to formulate a plan of action identified for each type of disaster	100%
	Coordinate appropriate responses with all of the agencies involved	100%
	Have a central command to plan and provide safe, effective support	100%
	Distribute goods and services	100%
	Coordinate assistance for shelters	94%
	Have a crisis plan and continually update and morph that plan	94%
	Assess damage	88%
	Coordinate damage repair	88%
	Inform stakeholders of its crisis plan	88%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Recovery		
Business owners	Should have all insurance and loan documentation accessible so arrangement can be made quickly	82%
Commercial insurance	Place money back into community to rebuild	82%
Community members	Should meet the needs based on the disaster	82%
County commissioners	Work in partnership with all agencies/organizations	94%
Farmers and ranchers	Should be involved in agricultural organizations to have a network to rely on	100%
Federal and state emergency grants and loans	Place money back into community to rebuild	82%
Individuals	Have knowledge of how they could be impacted by a disaster	100%
	Have knowledge of their own options in a disaster	100%
Insurance companies	Assess damages in a timely manner	100%
	Process claims in a timely manner	100%
	Distribute cost of the disaster over a larger pool	76%
Local churches	Organize volunteer groups	94%
	Organize donations	94%
	Assist with supplies	88%
Oklahoma Department of Agriculture, Food, and	Provide information about recovery services available	82%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Forestry		
OSU Extension	Provide information about recovery services available	76%
Red Cross	Assist with supplies	94%
	Organize volunteer groups	88%
	Organize donations	88%
Rural fire departments	Keep a knowledge of the community and where people are located for times during disaster	100%
Salvation Army	Assist with supplies	88%
	Organize donations	88%
	Organize volunteer groups	83%
Rural water districts	Provide familiarity with critical water resources	88%
	Provide familiarity with critical water locations	88%
	Provide familiarity with critical water sensitivities	88%
Business owners	Supply needed items for immediate use	71%
	Assist with clean up	71%
	Assist with shelter	53%
	Assist with food	53%
	Assist with fuel	53%
Government	Should take on efforts of a long-term recovery plan	69%
	Lead the cleanup efforts	63%
Insurance companies	Allow for repayment of personal property damaged in a disaster	71%
OSU Extension	Contact local farmers and ranchers to provide information	69%

Table K7

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Two

Organization	Role	% Agreement ^a
Universities	Provide research information to assist	63%
USDA Agencies	Take lead role in providing loans	56%
	Take lead role in providing legal assistance	38%
	Take lead role in rebuilding of inventories and property	31%
Organizations should:	Make loans for rebuilding	71%
	Pay claims	65%
	Assist with rebuilding	100%
	Prepare future plans	100%
	Assist with paperwork to get lives back to normal	100%
	Raise financial assistance needed	88%
	Assist with clean-up to get lives back to normal	88%
	Encourage stronger building codes	88%
	Have a crisis plan and continually update and morph that plan	88%
	Have a long-term effective policy to deliver all resources and assets over the length of the recovery process	82%
	Report where fundraising funds are used	76%
	Provide information to the affected parties so that everyone is accorded effective services	76%
	Coordinate appropriate responses for the affected parties so that everyone is accorded effective services	76%
	Inform stakeholders of its crisis plan	76%

Table K8

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organization	Role	% Agreement ^a
	Mitigation	
Natural Resources Conservation Service	Flood control	76%
	Provides design and engineering of water structures to conservation districts	76%
OSU Extension	Contact local farmers and ranchers to provide information	76%
Private emergency agencies	Initiate immediate assistance with support from FEMA and direction from local emergency agencies	81%
Risk Management Agency	Provide risk protection from weather	76%
Universities	Provide research information to assist	76%
USDA Agencies	Prepare mitigation plans for potential disasters	81%
Organizations should:	Inform their stakeholders of its crisis plan	86%
Farm Service Agency	Mobilize resources	43%
Insurance companies	Distribute cost of the disaster over a larger pool	48%
Natural Resources Conservation Service	Erosion control	71%
	Manage structures and features that convey water	67%
Noble Foundation	Educate public on what to do to prevent or mitigate disasters	71%
Risk Management Agency	Provide risk protection from markets	67%
Soil conservation district	Work with terraces, waterways, streams, and other structures and	71%

Table K8

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organization	Role	% Agreement ^a
	features where water flows	
	Maintain the system of flood control dams throughout the state	62%
	Operate the system of flood control dams throughout the state	62%
	Care for the system of flood control dams throughout the state	62%
	Preparedness	
Human resource departments of local companies	Disseminate information to employees	86%
	Assist in local involvement activities	81%
Livestock associations	Help livestock owners develop plans for dealing with disaster	81%
OSU Extension	Assist in providing general guidelines for preparedness	86%
	Contact local farmers and ranchers to provide information	81%
Red Cross	Provide food	86%
	Provide supplies	86%
	Provide public shelters	76%
State veterinarian	Assist in providing general guidelines for preparedness	86%
	Assist in planning for stockpiling	81%
Universities	Provide research information to assist	75%
Insurance companies	Distribute cost of the disaster over a larger pool	62%
Oklahoma Veterinary Medical Association	Stockpile vaccines	57%

Table K8

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organization	Role	% Agreement ^a
OSU Extension	Assist in planning for stockpiling	57%
Red Cross	Provide temporary housing	71%
United States Department of Agriculture	Stockpile vaccines	65%
USDA Agencies	Take lead role in planning for agency utilization to increase efficiency of response operations	71%
Organizations should:	All groups should help schools build large public shelters for everyone's use	48%
	Response	
Emergency Medical Services Authority (EMSA)	Take lead role in search and rescue mission	81%
National Guard	Organizing groups to get things done	81%
Business owners	Supply needed items for immediate use	57%
	Assist with clean up	52%
	Assist with food	52%
	Assist with shelter	48%
	Assist with fuel	43%
Government agencies	Should supply private agencies with the needed supplies	67%
Governor's office	Take lead role in developing rescue missions	62%
	Take lead role in ascertaining emergency assistance, if available	62%
	Take lead role in securing perimeters	57%
Oklahoma Department of	Assist in shelter set-up	43%

Table K8

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organization	Role	% Agreement ^a
Agriculture, Food, and Forestry		
OSU Extension	Contact local farmers and ranchers to provide information	71%
	Assist in damage assessment	57%
	Assist in emergency assistance	48%
	Assist in shelter set-up	38%
State veterinarian	Assist in emergency assistance	71%
	Assist in damage assessment	67%
USDA Agencies	Assist in damage assessment	62%
	Assist in rescue missions	38%
	Assist in shelter set-up	29%
Recovery		
Government	Should take on efforts of a long-term recovery plan	76%
Insurance companies	Allow for repayment of personal property damaged in a disaster	81%
OSU Extension	Contact local farmers and ranchers to provide information	85%
Business owners	Supply needed items for immediate use	48%
	Assist with clean up	38%
	Assist with food	38%
	Assist with fuel	33%
	Assist with shelter	29%
Government	Lead the cleanup efforts	67%
Universities	Provide research information to assist	70%
USDA Agencies	Take lead role in providing loans	67%

Table K8

Oklahoma Agricultural Leadership Program Alumni Panel: Level of Agreement for Organizations during Round Three

Organization	Role	% Agreement ^a
Organizations should:	Make loans for rebuilding	52%
	Pay claims	48%

VITA

Amy Michelle Dronberger

Candidate for the Degree of

Doctor of Philosophy

Thesis: IDENTIFYING ORGANIZATIONS WITH ROLES IN DISASTER
RESILIENCY FOR RURAL AREAS AND AGRICULTURAL BUSINESSES
IN OKLAHOMA: A DELPHI STUDY

Major Field: Agricultural Education

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma in December, 2013.

Completed the requirements for the Master of Science in Animal Science at Oklahoma State University, Stillwater, Oklahoma in 2006.

Completed the requirements for the Bachelor of Science in Animal Science at Kansas State University, Manhattan, Kansas in 2004.

Experience: Manager of Sponsored Programs, Oklahoma State University Center for Innovation and Economic Development, Inc.; Claims Adjuster, Oklahoma Farm Bureau Mutual Insurance Company; Graduate Research and Teaching Assistant, Oklahoma State University; Assistant Horse Judging Coach, Oklahoma State University

Professional Memberships: American Association of Agricultural Education; North American Colleges and Teachers of Agriculture; Extension Disaster Education Network Community of Practice; Agricultural Leadership of Oklahoma; National FFA Alumni Association