

Master of Public Health Field Experience Report

DEVELOPMENT OF A FOUNDATION FOR A KANSAS AGRICULTURAL EMERGENCY RESPONSE CORPS (KAERC)

by

PRISCILLA ROSE DE LOS SANTOS

MPH Candidate

B.S. Animal Science with emphasis in Bioscience/Biotechnology, Kansas State University 2012

submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

Graduate Committee:

Beth Montelone, PhD

Melinda Wilkerson, DVM, PhD

Robert Larson, DVM, PhD

Field Experience Site:

Kansas Department of Agriculture

Division of Animal Health

Manhattan, Kansas

March 2nd, 2015-April 13th, 2015

Field Experience Preceptor:

Tarrie Crnic, DVM, MPH

KANSAS STATE UNIVERSITY

Manhattan, Kansas

2015

Approved by:
Major Professor
Dr. Beth Montelone

Copyright

PRISCILLA DE LOS SANTOS

2015

Abstract

The safety, health and well-being of animals are critical to the safety, health and well-being of humans. Public health emergencies can range from unpredictable and uncontrollable natural disasters, to man-made bioterrorism threats. Public health emergencies also include livestock disease outbreaks resulting in the loss of large numbers of livestock and agricultural products, a decrease in food quality and security and potentially result in devastating human health consequences. For these reasons, it is important to implement an Agricultural Emergency Response Corps to limit the detrimental effects to both humans and animals that can potentially occur from these emergencies, particularly those involving the emergence of a foreign animal disease (FAD).

Currently, there are many active state animal emergency response teams across the country. They are strictly volunteer-based and focus almost solely on veterinary participation. This project is the foundation for development of a well-rounded team of individuals who will be trained to respond quickly and efficiently to an emergency. The goal of the Kansas Agricultural Emergency Response Corps (KAERC) is to create an all-encompassing unit with a wide range of expertise to cover all the facets of a public health emergency relating to animals, as well as overall human health.

The final product is a draft of a white paper to be submitted for government approval along with a tentative list of detailed position descriptions and roles that would best benefit the initial framework of the corps. The KAERC will fall under the Kansas Department of Agriculture.

Table of Contents

List of Figures.....	5
List of Tables.....	5
Acknowledgements.....	6
Chapter 1: Field Experience Scope of Work.....	7
1.1 Introduction.....	7
1.2 Current Animal Emergency Response Framework.....	9
1.3 How Animal Health Impacts Human Health.....	11
1.4 Anticipated Mission for the KAERC.....	15
Chapter 2: Learning Objectives.....	19
2.1 Investigation of State and Federal Animal Emergency Response Teams.....	19
2.2 Need for an Agricultural Emergency Response Corps.....	22
2.3 Accomplishments.....	25
Chapter 3: Culminating Experience.....	27
3.1 Future Scope of the KAERC.....	27
3.2 Integration of Core and Emphasis Area Competencies.....	29
3.3 Overall Experience and Career Goals.....	31
References.....	33
Appendix A.....	i
White Paper draft.....	i
Appendix B.....	viii
Drafts of Detailed Position Description Examples.....	viii
Appendix C.....	x
List of Interview Questions for Current State and Federal Agencies.....	x
List of Active State and Federal Animal Emergency Response Teams Contacted.....	xi

List of Figures

Figure 1.1 The Host-Parasite Ecological Continuum.....	13
Figure 2.1 Kansas Animal Health Reportable Diseases Poster.....	24
Figure 3.1 Projected KAERC Timeline.....	28

List of Tables

Table 1.1 List of Proposed KAERC Volunteer Roles.....	16
---	----

Acknowledgements

First and foremost, my biggest THANK YOU goes to God and my parents, Juan Pablo and Rosa Ivette De Los Santos, for without them I would not be constantly reminded of my potential, unconditionally loved and supported or had this road of success and excellence paved for me.

• • •

I would like to secondly thank my friend, and mentor, Dr. Kimathi Choma for guiding me through with his experiences and always believing in me from day one. It was you who helped me to discover that my true passion is in the field of Public Health and Infectious Disease by allowing me to participate in SURPH, recruiting me to be an advocate for the program and always being a listening ear and helping hand every single step of the way.

• • •

I also extend a thank you to my fantastic graduate committee, Drs. Beth Montelone, Melinda Wilkerson and Robert Larson. My deepest thank you for your compassion and determination in helping me succeed. Thank you for your continuous feedback and dedication to your students.

• • •

Thank you as well to Dr. Michael Cates and Barta Stevenson in the MPH program office for their commitment to this program and the students they work so hard for. Your diligence does not go unnoticed.

• • •

Finally, a tremendous thank you goes to the staff at the Kansas Department of Agriculture for allowing me the divine opportunity to complete my field experience with the Division of Animal Health. To my team of Dr. Tarrie Crnic, Dr. William Brown, Dr. Justin Smith, Kendra Frasier and Sandy Johnson thank you for the incredible knowledge I gained and the unforgettable experience I had working on a project I was profoundly passionate about that allowed me to help make a difference in the field of public and animal health.

CHAPTER 1: Field Experience Scope of Work

1.1 INTRODUCTION

Emergency preparedness and management are necessary inconveniences. Plans need to be in place, ready to deploy at any moment, and updated frequently but in the hope they never have to be utilized. Management begins with prevention. The government has a number of strict emergency preparedness protocols in place under the Federal Emergency Management Agency (FEMA) to protect the health and safety of the human population; however, few of those protocols include practices to protect animal health. FEMA did not have a written act enforced for companion animals until 2006, following the devastating events of Hurricane Katrina (Hodges). Subsequent to the hurricane, Zogby International conducted an online poll which assessed that 57% of the public agreed that official emergency response protocols should include plans for pet rescue as well (Zogby International, 2005). Post-disaster, the Pets Evacuation and Transportation Standards (PETS) Act was passed requiring the inclusion of animal needs in emergency preparedness plans (Library of Congress, 2006). In addition, the United States Department of Agriculture (USDA) has been responsible for protecting agricultural health, including livestock protection from disease threats and food safety, since its founding in 1862. In 1972, the USDA formed a branch titled the Animal and Plant Health Inspection Service (APHIS) to take over that responsibility and be strictly concerned with the health of animal and plant agriculture. While animal health has always been first priority, the Animal Health Protection Act was not passed until 2002, providing legislature to further safeguard animals from foreign animal disease (USDA APHIS, 2015).

Public Health includes the One Health initiative; an interconnected relationship between human, animal and environmental health that creates a “homeostasis” required for overall public health (One Health, 2011). Incorporating an animal health component to current emergency management protocols would create several benefits, which would aid in limiting the impacts of a potential public health emergency. These benefits include collaborations that allows for sharing of vital resources and information, acknowledgment of the importance of the human-animal bond during times of emergency, as well as a network of volunteers that are utilized in times of crisis that can seamlessly interact between all the involved services.

Public Health emergencies can be intentional or unintentional, man-made or created by nature. Regardless of the origin, all emergencies require the same care and attention to detail in formulating an adequate emergency preparedness response. Man-made emergencies consist of planned or accidental bio- and agro-terrorism threats that can give rise to infectious disease outbreaks and cause detrimental losses from unexpected or unexplained sickness or death of livestock. Natural disasters have no human interaction or control, such as a flood, tornado, wildfire, or an emerging disease.

Establishing a national emergency planning committee is a necessary best practice in preparedness and an important core function of animal health services. Such a committee has several responsibilities. These are outlined in the “Good Emergency Management Practice: The Essentials” by the Food and Agriculture Organization of the United Nations in 2011, and are listed as follows (Honhold et al., 2011):

- Determine the command structure and responsibilities
- Ensure that the required legal powers are in place
- Ensure that sources of financing have been identified
- Establish compensation policy
- Establish sourcing for any required vaccines and other critical supplies
- Undertake risk analysis to identify and prioritize potential disease risks
- Prepare, practice and refine contingency plans and operations manuals

These objectives are similar to established human emergency preparedness protocols, which further justifies the benefit that would come from collaboration between human and animal emergency management to handle a public health emergency. Furthermore, the protection of animal health greatly impacts overall human health in a number of different ways. Those will be discussed in greater detail later in this report.

1.2 CURRENT ANIMAL EMERGENCY RESPONSE FRAMEWORK

Many states in the United States have an animal or agricultural emergency response team ready to act in the event of a local emergency. All states are required to have at least an emergency preparedness plan in place incorporating pets under FEMA's Emergency Support Function #11, in reference to the National Response Framework, enacted by the Department of Homeland Security (FEMA, 2008). A major hindrance to this framework is that these response teams are mainly focused on the participation of veterinarians. One of the most well-known of these response teams is the National Animal Health Emergency Response Corps (NAHERC)

which was started in 2001 by the USDA-APHIS as a response to the foot and mouth disease outbreak in the United Kingdom (USDA APHIS, 2015). At present, only veterinarians, animal health technicians and veterinary students can be active participants in NAHERC, and although veterinarians drive the animal health field, this limited participation does not allow enough flexibility to adequately tackle all of the possible catastrophes that come about in time of disaster and emergency. While these various response teams may have different response or aid focuses, from natural disaster or animal disease outbreak responses, to companion animal or livestock aid; they all share a mutual purpose -- the opportunity to provide pet and/or livestock emergency preparedness education and training for the public.

Public education plays an important role in preventing unnecessary crises during an emergency situation. The present framework for animal response in the state of Kansas is a non-profit, 501(c)(3) organization which began through the Kansas Veterinary Medical Association (KVMA) as a multi-agency response effort to local disasters. This team, known as the Kansas State Animal Response Team (KS SART), is dedicated to companion animal evacuation and sheltering as well as educating the public on how to include pets in family evacuation plans (Kansas State Animal Response Team). A subgroup of KS SART, the Kansas Veterinary Medical Reserve Corp (KVMRC), is reserved for veterinarians and technicians who train together for animal emergency response situations. The emergency response teams are organized by county. About 15 of the 105 counties in Kansas have active response teams. To avoid duplication of efforts, which depletes available resources, KS SART has begun to implement a regional set of seven teams that could then provide assistance to all counties in the state.

Indiana was the first state to establish an animal emergency response team as part of their emergency preparedness plan in 1995 called the State Annex for Veterinary Emergencies (SAVE). It is regulated by the Indiana State Board of Animal Health (BOAH) and became the template for other states to develop an animal emergency response team (Indiana State Board of Animal Health). Each state response team has different missions, different areas of specialty, and different needs, but all have the same collective goal -- to protect animal health in the event of a public health crisis of any size or nature.

1.3 HOW ANIMAL HEALTH IMPACTS HUMAN HEALTH

Extensive research describes the many benefits of the human-animal bond (CFSPH, Hall, Schaffer). From people treating their pets like family, to entire communities relying on the health of livestock for food, income and livelihood, animals without a doubt keep us healthy. The American Veterinary Medical Association (AVMA) defines the human-animal bond as, “a mutually beneficial and dynamic relationship between people and other animals that is influenced by behaviors that are essential to the health and well-being of both. This includes but is not limited to, emotional, psychological, and physical interactions of people, other animals, and the environment (AVMA).”

Pets provide people with comfort, security and affection. Livestock provide families with food, income and livelihood. In emergency situations, the human-animal bond holds a high societal value and can oftentimes strongly influence behavior. Surveys have reported that about 50% of pet-owners consider their pets as family and that same 50% claim they would

refuse to evacuate if they had to leave their pets behind (CFSPH, 2005). In other studies, it has been shown that debilitating psychological effects, such as depression and suicide, can result from families losing livestock populations due to contagious disease outbreaks such as that observed in UK farmers whose cattle were depopulated due to the Foot and Mouth Disease outbreak in 2001 (Hall, 2004). This again shows that animal health is critical to the health of humans. By taking into account the value of the human-animal bond during an emergency response, we can avoid using scarce resources to tend to the animal-associated psychological impact of a disease outbreak. Furthermore, the negative stress animals may experience during crisis situations can cause diseases to emerge with possible zoonotic potential, meaning these diseases can be transmitted between human and animals, once again threatening the health of humans.

Emerging infectious diseases (EIDs) are not only a threat to public health on a day-to-day basis, but also hold a greater impact in the event of an emergency. Several factors, shown in Figure 1.1, influence the emergence of infectious disease in wildlife, domestic animals and humans as described in Daszak's "Emerging Infectious Disease of Wildlife—Threats to Biodiversity and Human Health." It is important to understand the risk factors associated with emerging infectious diseases in order to prevent, where possible, their emergence and subsequent negative impacts on public health (Daszak et al., 2000).

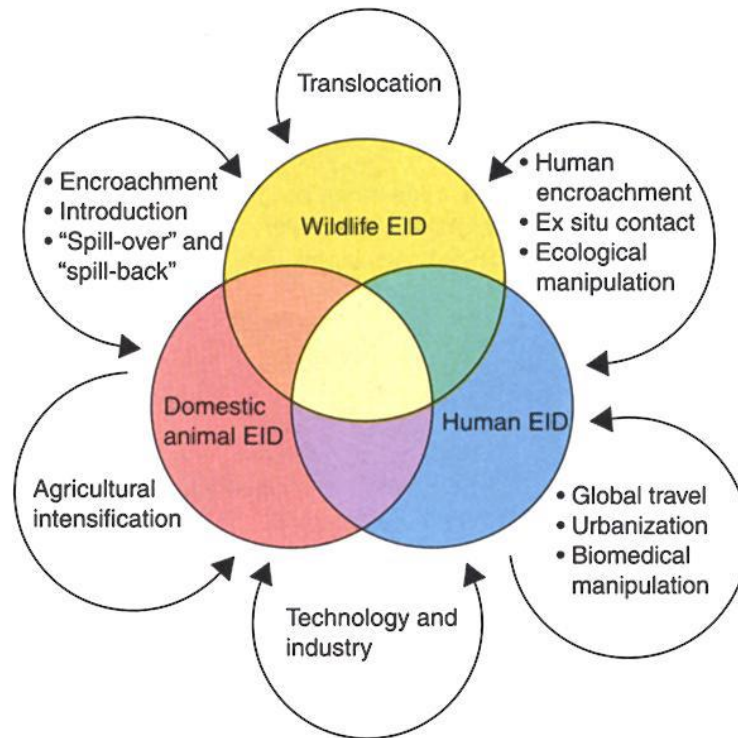


Figure 1.1 The host-parasite ecological continuum (Daszak et al., 2000)

Outbreaks of foreign animal diseases compromise the overall safety of the food supply in a number of ways. When animal populations are depleted due to illness, death or destruction, we risk having to compensate for the decrease in the food supply and possibly the safety and security of that food source. Public perception can also influence the trade and economy further contributing to the loss. For example, in the case of the Foot and Mouth Disease outbreak in the UK, the economy suffered great losses as people refused to eat meat or import products from the UK. Although Foot and Mouth Disease is not a public health risk that affects the human population, or a food safety concern, the public still perceived the severity of this disease as being a threat (Blake et al., 2003). The elimination of entire herds of cattle leads to an overwhelming loss of many years of selective breeding and genetics that provide income

and a high quality food supply. Further, natural disasters cause disturbances in the ecology or weather, creating the opportunity for infectious diseases to emerge. In addition, the emergence of an infectious disease itself could result in a public health emergency. Although it is not feasible to create an emergency preparedness plan against every infectious disease known to man, it is critical that a universal plan be in place in the event that an infectious disease emerges. Such a plan would include tasks such as, but not limited to, the recognition of the foreign disease, cleaning and disinfection protocols, and disease control strategies; examples have been outlined in Vet Med Today's "Disaster Medicine" (Wenzel et al., 2007).

Nearly 80% of all infectious diseases are zoonotic, therefore it would be essential to pay special attention to this particular group of agents in an emergency management response at an appropriate level of biosecurity and at the lowest possible level of jurisdiction. Daszak et al. make the case that a lack of regulation, awareness and surveillance exists concerning the exotic disease burden in wildlife. The study observes that wildlife diseases are only considered when there is a human or agricultural risk involved. Implementation of legislation to track wildlife populations regularly could help to fill in the missing gap to prevent emergence of foreign animal diseases that threaten human and domestic animal health. Furthermore, better conservation of wildlife populations both during times of crisis and in peacetime is an added benefit to wildlife animal surveillance and aids in the preventing the emergence of foreign animal disease as is seen in the control of Highly Pathogenic Avian Influenza (HPAI) which is transmitted to livestock birds via migratory wildlife flocks. While HPAI currently is rarely zoonotic to humans or other mammalian species, it does, show signs of stronger zoonotic potential (Kalthoff, 2010).

1.4 ANTICIPATED MISSION FOR THE KAERC

The foundational vision for the KAERC is a multi-disciplinary, multi-agency, all-encompassing team of professionals with the purpose of planning and responding to animal health emergencies in the state of Kansas. The Kansas Department of Agriculture (KDA) will develop a corps of volunteers that extends past the realm of strictly veterinary science to include a multitude of career specialties that are beneficial in biosecurity and emergency response. A goal of KAERC is to set a standard for other state and federal programs to demonstrate how to combine veterinary and human health efforts into a single preparedness plan, allowing an expansion of knowledge, wiser utilization of resources and establishment of a seamless collaboration.

The U.S. National Animal Health Emergency Management System (NAHEMS) guidelines state that “most countries focus on what needs to be done, but not who needs to do it,” regarding emergency management and preparedness (NAHEMS, 2010). Table 1.1 provides a general list of projected volunteer roles and responsibilities the KDA and I have proposed for the KAERC, their expected role in the emergency response, as well as preferred skill sets that would be utilized. While this list gives a good overview, it is by no means exhaustive. Putting these plans into effect will determine what other positions could contribute to and strengthen the group. Examples of more detailed position descriptions are presented in Appendix B.

Table 1.1 List of Proposed KAERC Volunteer Roles

<i>Projected Volunteer Responsibilities</i>	<i>Role in Emergency Response</i>	<i>Preferred Skillsets</i>
<i>Appraiser</i>	Aids KDA in assessing livestock animal value for indemnity purposes.	Knowledgeable in livestock grading, appraisal training provided by KDA.
<i>Clean-up and Disinfection</i>	On-site to prevent the spread of the emergency hazard to surrounding areas by proper disinfection.	Must demonstrate proper use of Personal Protection Equipment, completion of disinfection training provided by the KDA.
<i>Communications</i>	Assists the KDA Planning Section in regards to communication among responders via cell, satellite, radio, etc. and ensures all information is getting to the correct place. Maintains communication between animal and human health agencies on current events and management efforts.	Good personal communication skills. Knowledge of various communication devices and their use. Ability to work in a team environment on complex issues.
<i>Community Liaison</i>	Assists KDA communications team in attending to the public, media and other outlets to calm outrage and express concern. Helps to build public trust and promote the use of preparedness plans and may help maintain or develop Memorandums of Understanding with other local and state emergency personnel.	Strong public speaking ability, making positive first impressions, well-versed and strong presence in the community.
<i>Data Entry/Record Management</i>	Enters data regarding the emergency in the response database and keeps accurate records of information and volunteer staff.	Organizational skills, accurate record keeping ability.
<i>Disease Surveillance/Reporting</i>	Support the Operations Section in tracking any and all possible infectious disease threats or possible emergence due to public health emergency situation. Communicates the need for reporting of all foreign animal disease cases.	Good personal communication skills. Knowledge of local area and livestock populations.

<i>Epidemiologist</i>	Statistically evaluates disease impact and maintains an animal health information system of current disease statuses, incidence and prevalence.	Training in epidemiology and statistical analysis.
<i>Finance/Accounting</i>	Assists the KDA Financial Section in tracking funds and requests for compensation of necessary resources, supplies and personnel and assists in writing grants for additional funding.	Training in accounting for financial management. Grant writing skills would be ideal.
<i>IT</i>	Helps troubleshoot technology issues as they arise.	Technology (computer, printer, fax, etc.) repair, set-up, and support skills.
<i>Mapping (GIS)</i>	Assists KDA staff in tracking incident sites, resource utilization, management efforts etc.	Geographic Information Systems training and use. Ability to use mapping technology and systems.
<i>Physical Laborer</i>	Runs errands, assists when and where needed, gets supplies, etc.	Driver's license required (some tasks may require a Commercial Driver's License), ability to accomplish tasks in a timely manner.
<i>Psychologist/ Behavioral Health Specialists</i>	On call to respond to victims to help cope with loss of pets, loved ones, livestock, etc.	Psychology or mental health background and have Psychological First Aid training.
<i>Public Educator</i>	Provides meetings, literature and information on how the public can protect themselves, others and the animal populations from the emergency at hand as well as educating the public on emergency preparedness plans and attending drills.	Public speaking ability, well-versed on emergency response and preparedness.
<i>Resource Allocation</i>	Assists KDA Logistics Section in managing resources during an emergency response.	Organizational and tracking skills. Knowledge of local resources.
<i>Risk Analysis</i>	Assists the KDA in assessing, managing and communicating the risk involved with the emergency situation.	Risk analysis training and experience.

<i>Scientists and Laboratory Technicians</i>	Performs laboratory techniques with speed and accuracy to determine necessary results of emergency situation.	Proficient in laboratory skills, knowledgeable in appropriate testing protocols and reporting procedures.
<i>Slaughter and Culling</i>	Aids in slaughter response. May be asked to prepare supplies, and to transport animals for disposal.	Large animal handling experience, knowledge of standard slaughter procedures, commercial driver's license may be required.
<i>Traffic Control/ Security</i>	Helps to set up and man traffic control points, provides support and delivery of supplies.	Volunteer law enforcement or security experience, driver's license would be required.
<i>Training Officer</i>	Helps provide training to the public and other volunteers on necessary procedures needed to handle the emergency situation.	Ability to quickly and efficiently share information with others, and be able to assess that the information provided has been understood.
<i>Transportation</i>	Assists in the transport of animals when needed.	Commercial Driver's License will be required and large animal handling experience.
<i>Volunteer Manager</i>	Helps the KDA manage and track volunteer relief workers. Helps recruit and retain volunteer staff base as well as promote public involvement	Human resource management training and experience. Experience in volunteer management and retention.
<i>Warehouse Management</i>	Assist KDA Logistics Section in setting up and running a warehouse for emergency response supplies.	Organizational and tracking skills. Warehouse management and organization experience.

CHAPTER 2: Learning Objectives

2.1 INVESTIGATION OF STATE AND FEDERAL ANIMAL EMERGENCY RESPONSE TEAMS

In order to distinguish how different state and federal agencies and, including other stakeholders, can work together in the event of an animal health or zoonotic disease emergency and coordinate a volunteer response, it must first be investigated how current state and federal agencies perform. As part of my research, I contacted various programs via phone or email to ask them a list of interview questions. These questions required critical thinking responses related to their work, volunteer management, accomplishments, limitations and suggested changes. This fulfilled two of my learning objectives: to distinguish how different state and federal agencies and other stakeholders can work together in the event of an animal health or zoonotic disease emergency, and to evaluate how human and animal health groups can work together in the event of zoonotic disease outbreaks. The list of interview questions and agencies that were contacted can be found in Appendix C.

From the responses to these interview questions, I hoped to gain vital insight on how other groups manage their programs and volunteers in order to have a successful response and then to incorporate relevant information into the KAERC initiative. A total of fourteen groups were contacted and seven responses were received (refer to Appendix C). One important piece of advice the majority of the groups stressed was making sure that there is a strong relationship and mutual respect among already established emergency management services. Many times, well-established and mandatory emergency management services feel as though formulated response efforts such as this are “in the way” or “stepping on toes” making their jobs more

difficult, rather than being a helpful resource. KAERC plans to avoid this obstacle by being a unique program that will focus mainly on foreign animal disease which is an initiative not yet constituted in the state of Kansas at this capacity. Also, by being under the umbrella of the KDA it will avoid not earning the respect of other jurisdictions. The North Valley Animal Disaster group encourages that a spokesperson should be selected to advocate for and make good first impressions with the community including fire departments, politicians, offices of emergency services etc. to establish a strong, positive presence in state emergency management efforts. A memorandum of understanding will likely be established with the current KS SART team, who primarily handles companion animal sheltering during emergency situations, to prevent an overlap of services. It would also be beneficial to network with other state and Federal agencies, including, but not limited to:

State Departments

- Kansas Department of Agriculture
- Kansas Division of Emergency Management
- Kansas Department of Health and Environment
- Kansas Department of Transportation

Federal Agencies

- Farm Service Agency
- Federal Emergency Management Agency
- Food and Drug Administration
- National Guard and Reserves
- U.S. Department of Agriculture

Non-Governmental Organizations

- Community Emergency Response Teams
- Emergency Medical Services
- Kansas Veterinary Medical Association
- Kansas State Animal Response Team
- Red Cross

Being that many of these programs are volunteer based, as will be the KAERC, it is important to note that these are non-profit endeavors. Little monetary support is received by local, state or federal government funds. I was made aware from these interviews that grant writing would be an extremely necessary skill in receiving funds, as is active public outreach and fundraising.

With regards to volunteer recruitment and retention, it was observed that this was a primary limitation in maintaining an active volunteer structure. Methods of volunteer recruitment included attendance in various fairs, offering free or discounted training sessions, advertising through flyers and newsletters, and giving talks on emergency management at community events. The KAERC plans to hold public hearings, offer training sessions and recruit qualified volunteers by way of a white paper that will be published for the public. Retention will rely on community outreach efforts and continuing education on improving emergency management. The State of Massachusetts Animal Response Team acknowledges this restriction but has compensated by ensuring that when volunteers do leave, new ones can easily fill in the gap through proper education and training/cross-training, a strength the KDA plans to consolidate into the KAERC initiative.

It was very interesting to speak with these agencies to see where they started, where they are planning to go and the outcome of their response efforts. All had very meaningful insights, and each of them gave me a different perspective. There were a wide range of backgrounds coming from rural communities, to suburbs, to those who responded to wild fires or floods, and further, there were groups that focused on companion animals or large animals or both. Equally as diverse were the primary goals of these agencies. Some were concerned solely with search and rescue, while others worked on evacuation and sheltering, or disinfection and sanitation. It was very thought-provoking to be able to evaluate the needs for the state of Kansas and how to incorporate this knowledge into a plan tailored specifically to the KAERC scope.

2.2 NEED FOR AN AGRICULTURAL EMERGENCY RESPONSE CORPS

When formulating an emergency response collaborative, there are an infinite number of factors to be considered. Questions such as:

- What is our motive?
- What experts can we utilize?
- What resources do we need and in what quantity?
- How should we conduct risk communication to the public?
- How will our needs be funded?
- How do we recruit and retain volunteers?
- How do we educate the public?

- What training do we need to provide to our employees, volunteers and the public?
- What legislature is enforced to help regulate an emergency response?
- Is there a reliable command system?

Much of my work in developing the KAERC proposal was providing an answer to these, and many other, pressing questions. First and foremost, the scope of the KAERC mission needs to be defined. The KAERC aims to manage a wide-ranged and highly multidisciplinary volunteer base to plan and respond to incidences of agricultural emergencies in the state of Kansas. While a primary focus is the response to foreign animal disease, this corps will be trained and available to respond to any public health animal emergency that may arise. The initial action in building the framework of such a team is to establish general needs and which individuals should be recruited to respond to various aspects of an emergency response. These needs may include support in regulating road traffic, managing media, tracking disease status and many others. Determining the needs is a tedious but essential task in emergency preparedness. Many existing volunteer animal emergency response teams are limited to participants with veterinary and animal health backgrounds. For the purpose of the KAERC, the KDA really wanted to see a team that expanded to a broader scope, as it has been shown above that responding to a public health emergency will require a wide variety of skillsets not just limited to animal health.


A primary need in the emergency management of foreign animal disease is the surveillance and reporting of reportable animal diseases. Compliance in reporting these diseases is critical in controlling an event. A list of Kansas' reportable animal diseases can be



seen below in Figure 2.1. Not only is the surveillance itself important, but so are the methods in which these diseases are tracked and evaluated. An emergency response team cannot do its job if suspicious activity is not reported.

Figure 2.1 Kansas Animal Health Reportable Diseases poster published by the KDA

KANSAS ANIMAL HEALTH REPORTABLE DISEASES

The Kansas Department of Agriculture's Division of Animal Health mission is to ensure the public health, safety and welfare of Kansas' citizens through the prevention, control and eradication of infectious and contagious diseases and conditions affecting the health of livestock and domestic animals in Kansas. Below is list of animal diseases the Animal Health Commissioner has determined to be immediately reportable to Kansas Animal Health officials. *Other diseases the livestock commissioner determines to be immediately reportable due to an animal health emergency situation may be added at any time.*



 <h3>CERVID & CAMELID</h3> <ul style="list-style-type: none"> Foot and Mouth Disease Vesicular Stomatitis Tuberculosis (active and latent) Anthrax Brucellosis Rabies 	 <h3>CATTLE</h3> <ul style="list-style-type: none"> Foot and Mouth Disease Vesicular Stomatitis Tuberculosis (active and latent) Anthrax Brucellosis Rabies Rinderpest Bovine Leukosis Psoroptic Mange Scabies Johne's Disease Trichomoniasis 	 <h3>EQUINE</h3> <ul style="list-style-type: none"> Piroplasmosis Vesicular Stomatitis Equine Infectious Anemia Anthrax Brucellosis Rabies Equine herpesvirus myeloencephalopathy (EHM) 	 <h3>SHEEP & GOATS</h3> <ul style="list-style-type: none"> Foot and Mouth Disease Vesicular Stomatitis Scabies Anthrax Scrapie Psoroptic Mange Brucellosis Rabies 	 <h3>SWINE</h3> <ul style="list-style-type: none"> Foot and Mouth Disease Vesicular Stomatitis Classical Swine Fever/Hog Cholera Anthrax Vesicular Exanthema Pseudorabies Brucellosis African Swine Fever Porcine Epidemic Diarrhea Virus (PEDv) 	 <h3>AVIAN</h3> <ul style="list-style-type: none"> Avian Influenza Fowl Typhoid Exotic Newcastle Disease Psittacosis Pullorum 	 <h3>ZOONOTIC (HUMANS)</h3> <ul style="list-style-type: none"> Influenza⁺ Rabies⁺ Tuberculosis⁺ (active and latent) Botulism⁺ Plague or Yersinia pestis⁺ Q Fever (Coxiella burnetii)⁺ Anthrax⁺ Ehrlichiosis⁺ Brucellosis⁺ Campylobacter Infections⁺ Cryptosporidiosis⁺ Giardiasis⁺ Hantavirus Pulmonary Syndrome⁺ Leprosy or Hansen's disease⁺ Listeriosis⁺ Lyme disease⁺ Rocky Mountain Spotted Fever⁺ Salmonellosis, including typhoid fever⁺ Any transmissible spongiform encephalopathy or other prion disease⁺ E. coli O157:H7 and other Shiga toxin-producing E. coli⁺ <p>⁺ Disease must be reported to KDHE ⁺ Disease must be reported to KDA and KDHE</p>
--	--	---	--	---	---	---

KDA: (785) 564-6601 • KDHE hotline: (877) 427-7317

KDA Division of Animal Health • 1320 Research Park Drive, Manhattan, KS 66502 • (785) 564-6601 • agriculture.ks.gov/animalhealth

By decreasing the incidence of underreporting, we can improve the performance of emergency management and preparedness. Public outreach and education endeavors can include emphasizing the importance of reporting foreign animal disease occurrences in a timely manner to prevent an incident. A review of the “Animal Identification System in North America” states that animal disease outbreaks have increased significantly since the globalization of agriculture (Murphy et al.,2008). By maintaining proper traceability on imports and exports we can limit preventable entry of foreign animal diseases. All these efforts can be potential roles and responsibilities of the KAERC to keep volunteers active and involved.

2.3 ACCOMPLISHMENTS

The overall deliverable goal for this project was the production of a white paper. The white paper captures the essence of the KAERC and the overall plan in creating this corps. The intended audience for the white paper is potential volunteers, written to encourage readers to be a part of the KAERC. The paper will propose the need for - and public health significance of - a large-scale volunteer emergency response corps and how it will apply to human emergency preparedness and response practices involving animal health and zoonotic disease emergencies as outlined in my Learning Objectives for this field experience.

It began by identifying a problem; there is a need for a multi-disciplinary framework to respond to animal health emergencies in Kansas, specifically foreign animal disease. It was also determined that volunteer management and retention is vital to maintaining a stable volunteer base available to respond at any time. Once these challenges were determined, the KDA

proposed a solution: a multi-disciplinary group of volunteers, incorporating a wide range of subject matter experts to be trained and cross-trained in the necessary roles of emergency management and preparedness. The many opportunities for the public to get excited and involved in the KAERC were also outlined. It strongly dictates that anyone can be involved even if in a small way. The white paper itself is designed to be inviting and appealing. The KDA wanted readers and future volunteers to truly feel as though they would be utilized to their highest potential and every volunteer would be a vital component to the team.

As this program develops, the KDA wants the public to be a part of improving this framework thorough transparency, open dialogue and suggestions. Having strong public involvement from the beginning will allow for greater compliance in training, individual emergency preparedness and involvement in emergency management. Also, by encouraging public activism, the KDA can increase community relationships, build trust and buy-in, and decrease outrage in an actual crisis event. The final white paper draft can be found in Appendix A.

CHAPTER 3: Overall Culminating Experience

3.1 FUTURE SCOPE OF THE KAERC

Undoubtedly, developing a program built to respond to an emergency situation is not an easy task and it is one that comes with several risks and limitations. The KDA is developing an initiative that is unlike any other response program in the nation, but fortunately this has allowed for the opportunity to be the foundation for others to follow in their footsteps. Because a similar example does not exist, the initiative will be formed from the ground up allowing room for revision. However, in the event of an emergency, there is no time for trial and error; the response needs to be quick, efficient and ethical.

I had the unique experience in being able to develop this initiative as the state was under an animal health emergency dealing with a Highly Pathogenic Avian Influenza disease event. This gave me a first-hand look in seeing the areas in which the KAERC could benefit current emergency response efforts. While we can do our best to plan extensively, be as prepared as possible and have the properly trained personnel, no one can predict exactly what will occur during a public health emergency or all the possible roles and resources that will be needed. For that reason, there will always be an opportunity for improvement and continuous evolution of the KAERC initiative.

Through careful planning, the KDA is confident in the ability to create an effective agricultural emergency response team from various disciplines. Community outreach programs will be created and implemented, including training programs for volunteers, and public

education on emergency preparedness and management. The purpose of this particular phase of the project was to focus on the volunteer base. The hope is that this strong volunteer base can also be called upon to aid in creating the rest of the KAERC. Furthermore, in the near future, the KDA hopes to hold public meetings to introduce this proposal and get the media involved in putting this initiative onto the community's radar. There is also intention to use this plan in the upcoming emergency preparedness drills held by the KDA. A tentative timeline for implementation of the KAERC can be seen here in Figure 3.1:

KAERC TIMELINE 2015

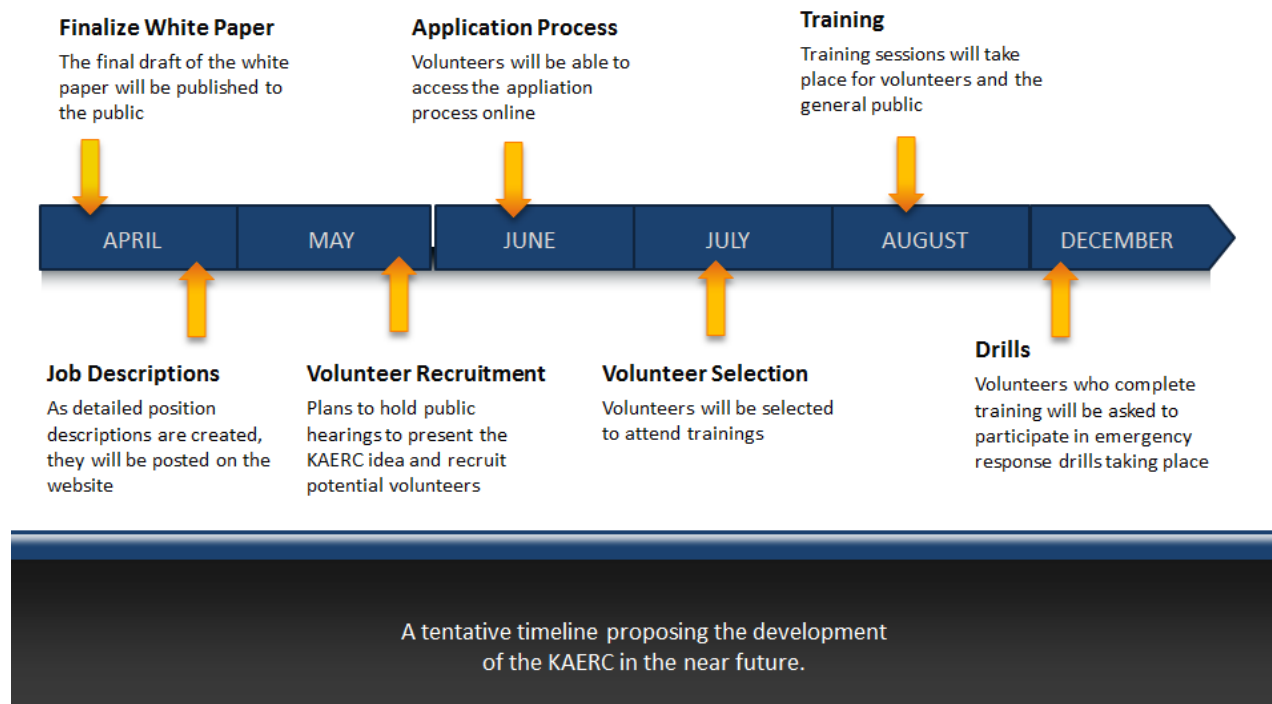


Figure 3.1: Projected KAERC Timeline

This is a unique program which the KDA feels will have much success in the field of foreign animal disease emergency response. While there is still a lot of work to be done, the KDA and I feel that a solid foundation has been developed and positive feedback and reaction from the public is expected. I am extremely honored to have been a part of this process and look forward to seeing it grow and prosper.

3.2 INTEGRATION OF CORE AND EMPHASIS AREA COMPETENCIES

I found applying the knowledge I have gained from my studies in the Master of Public Health program very easy to do in this field experience, and it was both interesting and beneficial to be given the opportunity to apply my class work to a real-world public health situation. In this section, I will summarize how each of the classes taken towards my Master of Public Health degree related to the tasks I completed working on this project for the KDA. While the knowledge gained in my courses was not used directly, an understanding of the job description and application of methods was necessary in helping me to determine the roles they serve during an emergency response.

COURSE	APPLICATION
<i>Biostatistics</i>	In an emergency situation, biostatistics is critical to obtain statistical data of the crisis by calculating the loss and damage done to aid in epidemiology and surveillance of infectious disease.
<i>Epidemiology</i>	Epidemiologists assess the adverse effects of disasters and help predict possible consequences should another disaster occur. They conduct surveillance on affected populations and determine prevalence, incidence, morbidity and mortality of an infectious disease as well as careful tracking of reportable diseases.
<i>Environmental Health Science</i>	The use of toxicology aids in determining various effects on the environment and enforces proper disinfection and disposal. The primary function is to determine the environmental health risk in an emergency situation whether it be the environmental impact of an emerging infectious disease, natural disaster or noncompliance with sanitation protocols.
<i>Health Services Administration</i>	Human health services are used in collaboration with animal response, specifically in the event of a zoonotic disease. This could also include providing psychological and behavioral health for those suffering loss of companion animals or livestock.
<i>Social and Behavioral Science</i>	By understanding the behavior of people, even how they react in crisis, we can determine ways to positively alter that behavior to decrease public outrage and build strong social constructs and communities, which in turn substantially strengthen an emergency response.
<i>Emerging Diseases</i>	Learning the science of emerging disease in the event of a natural disaster, an accidental or intentional release, wildlife foreign disease or zoonoses and their impact on human, animal and environmental health is necessary in responding to a foreign animal disease emergency.

<i>Food Protection and Defense</i>	Discussing concepts in protecting the food supply by preventing disease in livestock populations and agro-terrorism can help to not only prevent a public health emergency, but also provide expertise in how to respond should it occur.
<i>Risk Communication</i>	Methods of analyzing and communicating risk to the public are ways to decrease outrage during crisis and increase positive behaviors. This incorporates the use of Emergency Support Functions, Incident Command Systems, the National Incident Management System and the National Response Framework.
<i>Pathogenic Microbiology/Mechanisms</i>	Studies of the microbiology of pathogenic agents, how they function and how they cause disease in animals as well as humans are essential skills during a foreign animal disease emergency response.
<i>Introduction to One Health</i>	The One Health concept forms the foundation of the interconnected relationship between animal, human and environmental health, which is directly incorporated into the KAERC.

3.3 OVERALL EXPERIENCE AND CAREER GOALS

The Kansas Department of Agriculture provided me with an incredible, one-of-a-kind experience. I felt part of the KDA family from day one. Being able to have the opportunity to apply the knowledge and education I have gained in the Master of Public Health curriculum only solidified what I have always known; I have a true passion and devotion for this field, animal health, infectious disease and overall public health. I was privileged to be asked to stay working for the KDA for as long as I wanted. I do hope to always be a part of the KAERC and its efforts, and I know that the relationships I have made in my short time here will be some of the strongest I make in my professional career. While working on this project, I gained a newfound respect for emergency management, as well as a background that will guide me through many different applications in the field of public health. I genuinely loved what I did through this project, with the opportunity to create something that will have a significant impact on the future of animal and public health. I wanted to walk away with this degree knowing that I had a purpose and that I made a difference, and this field experience allowed me to do exactly that.

My future goals would be to ultimately hold a position in the Centers for Disease Control and Prevention, possibly in Emergency Management, or to work for the World Organization for Animal Health. As I continue to learn of the many opportunities available to me in having a public health background, I find it more difficult to narrow down exactly what I would like to do with my education. I am currently pursuing opportunities as a public health specialist for the city, an epidemiologist or a vaccine researcher. I have left the doors and my

mind open to any challenge that may present itself, confident that this program has adequately prepared me for this field.

References

- American Veterinary Medical Association. (n.d.). Human-Animal Bond. Retrieved from <https://www.avma.org/kb/resources/reference/human-animal-bond/pages/human-animal-bond-avma.aspx>
- Anelli, J. F. (2006). The National Incident Management System: a multi-agency approach to emergency response in the United States of America. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.127.9187&rep=rep1&type=pdf>
- Blake, A., Sinclair, T. M., & Sugiyarto, G. (2003). quantifying the impact of foot and mouth disease on tourism and the UK economy. In *Tourism Economics* (9th ed., pp. 449-465). Retrieved from <http://dx.doi.org/10.5367/000000003322663221>
- CMDART Inc. (n.d.). Central Massachusetts Disaster Animal Response Team. Retrieved from www.cmdart.org/
- Daszak, P., Cunningham, A. A., & Hyatt, A. D. (2000). Emerging Infectious Diseases of Wildlife Threats to Biodiversity and Human Health. *Science*, 287(5452), 443-449.
doi:10.1126/science.287.5452.443
- Department of Agriculture: Animal and Plant Health Inspection Service. (1997). 9 CFR Importation of Animals and Animal Products. Federal Register, 62(208), 56000-56026. Retrieved from <http://www.gpo.gov/fdsys/granule/CFR-2006-title9-vol1/CFR-2006-title9-vol1-part92>

FEMA. (2008, January). ESF #11 - Agriculture and Natural Resources Annex. Retrieved from <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-11.pdf>

FEMA. (2008, January). ESF #8 - Public Health and Medical Services Annex. Retrieved from http://www.fema.gov/media-library-data/20130726-1825-25045-8027/emergency_support_function_8_public_health_medical_services_annex_2008.pdf

Hall, M. J., Ng, A., Ursano, R. J., Holloway, H., Fullerton, C., & Casper, J. (2004). Psychological Impact of the Animal-Human Bond in Disaster Preparedness and Response. *Journal of Psychiatric Practice*, 10(6), 368-374. doi:10.1097/00131746-200411000-00005

Hodges, C., & Michigan State University. (n.d.). State and Federal Disaster Planning Laws and Pets | Animal Legal & Historical Center. Retrieved from <https://www.animallaw.info/intro/state-and-federal-disaster-planning-laws-and-pets>

Honhold, N., Douglas, I., Geering, W., Shimshoni, A., Lubroth, J., & Food and Agriculture Organization of the United Nations. (2011). *Good emergency management practice: The essentials : a guide to preparing for animal health emergencies*. Retrieved from <http://www.fao.org/docrep/014/ba0137e/ba0137e00.pdf>

Indiana State Board of Animal Health. (n.d.). SAVE: Are the Animals in Your Community Prepared for a Disaster. Retrieved from <http://www.in.gov/boah/2440.htm>

Kalthoff, D., Globig, A., & Beer, M. (2010). (Highly pathogenic) avian influenza as a zoonotic agent. *Veterinary Microbiology*, 140(3), 237-245. doi:10.1016/j.vetmic.2009.08.022

Kansas Department of Agriculture. (2012). Food and Agriculture Incident Annex. Retrieved from <http://agriculture.ks.gov/docs/default-source/em-handouts/kansas-food-and-agriculture-incident-annex.pdf>

Kansas Department of Agriculture. (2014). Kansas Animal Health Reportable Disease poster. Retrieved from <http://agriculture.ks.gov/docs/default-source/rc-ah-large-animal/reportable-disease-poster.pdf>

Kansas State Animal Response Team. (n.d.). KS SART. Retrieved from http://www.kssart.org/about_us/

Library of Congress. (2006, October 6). Pets Evacuation and Transportation Standards Act of 2006 (2006; 109th Congress H.R. 3858) - GovTrack.us. Retrieved from <https://www.govtrack.us/congress/bills/109/hr3858>

Murphy, R. G., Pendell, D. L., Morris, D. L., Scanga, J. A., Belk, K. E., & Smith, G. C. (2008). Review: Animal Identification Systems in North America. *The Professional Animal Scientist*, 24(4), 277-286.

NAHEMS. (2010, February). NAHEMS Guidelines: Biosecurity. Retrieved from [http://agr.wa.gov/FoodAnimal/AnimalHealth/docs/FAD-PReP_NAHEMS_Guidelines_Biosecurity_2Mar2010%20\(2\).pdf](http://agr.wa.gov/FoodAnimal/AnimalHealth/docs/FAD-PReP_NAHEMS_Guidelines_Biosecurity_2Mar2010%20(2).pdf)

National Alliance of State and Agricultural Emergency Programs. (n.d.). NASAAEP. Retrieved from <http://nasaaep.org/>

Nebraska Department of Agriculture. (n.d.). Livestock Emergency Disease Response System. Retrieved from <http://www.nda.nebraska.gov/animal/ledrs/index.html>

One Health Global Network. (2011). What is One Health? Retrieved from

<http://www.onehealthglobal.net/what-is-one-health/>

Red Rover. (n.d.). Animal Response Teams. Retrieved from <http://www.redrover.org/animal->

[response-teams](http://www.redrover.org/animal-response-teams)

Schaffer, C. B. (n.d.). Human-Animal Bond Considerations During Disasters. Retrieved from

http://virginiasart.org/wordpress/wp-content/uploads/2012/05/Human-animal_bond_considerations_during_disasters_-_schaffer_caroline.pdf

State of Massachusetts Animal Response Team. (n.d.). SMART. Retrieved from

<http://smartma.org/>

The Center for Food Security & Public Health (CFSPH). (2010). Introduction to Animal

Emergency Management. Retrieved from <http://www.cfsph.iastate.edu/Education-Training/introduction-to-animal-emergency-management.php>

The University of Arizona. (n.d.). The Arizona Livestock Incident Response Team. Retrieved from

<http://www.cals.arizona.edu/ans/alert/whatisALIRT.html>

USDA APHIS. (2014, February). APHIS Foreign Animal Disease Framework Roles and

Coordination: FAD PReP Foreign Animal Disease Preparedness & Response Plan Manual.

Retrieved from

http://www.aphis.usda.gov/animal_health/emergency_management/downloads/documents_manuals/fadprep_manual_1.pdf

USDA APHIS. (2015, January). History of APHIS. Retrieved from

www.aphis.usda.gov/wps/portal/banner/aboutaphis/!ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjzOK9_D2MDJ0MjDzdgy1dDTz9wtx8LXzMjb2dzlAKIoEKDHAARwNC-sP1o_Aq8TKHKsBjRUFuhEGmo6liAGnYppE!/?1dmy&urile=wcm%3apath%3a%2FAPHIS_Content_Library%2FSA_About_APHIS%2FSA_APHIS_History%2F

USDA APHIS. (2015, February). National Animal Health Emergency Response Corps.

Retrieved from

www.aphis.usda.gov/wps/portal/aphis/ourfocus/animalhealth/sa_emergency_management/!ut/p/a1/rZJNc4lwEIZ_i4ceMTFBCEf8BAXt1GkVLkykAdJCgoBS_32D46UHRZ_1pbrvz7O67-waEYAdCQU88pQ2XguZdHBrRYu2gwQgid76xptBdvc184pl47egKCBQwntuObnoQQp0g6E5GzsS0fAhd47f6LQhBGLumbDIQ0DLjdRRL0TDRRDnfV7Q6P8GaRvJYRYmMj_UloI0XNI8yRvMmu2RYwaqUifgcFVTQVIWi6TqXMX8HgR5jjNGAaJYBqaYji2gEI6hRTE1kmbqZUHLdBN54Nnxokx_lfDpSyMx7NpcLBjfdK3DvWBfgjoZAiTRvqrB0sPnj1osHDEaVP_ZT1ZY2mcZFIsHu1skVzT8Oh9BWpnY2fqNUP7uqfKe53KvPuR2DcP28GhhtN9cWe0yUyoolrGJVP5O1Gt62bT-VMs1ZP5YFKlvXguCz9vLCIB7mJy_xeWv3et-W1iO1/?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_animal_health%2Fsa_emergency_management%2Fct_naherc

Wenzel, J. G., & Nusbaum, K. E. (2007). Veterinary expertise in biosecurity and biological risk assessment. *JAVMA-journal of The American Veterinary Medical Association*, 230(10), 1476-1480. doi:10.2460/javma.230.10.1476

Yuba Sutter Domestic Animal Disaster Assistance. (n.d.). Documents. Retrieved from

<http://ysdada.org/documents.html>

Zogby International. (2005). Americans: Make Disaster Plans for Pets, Too! | HumaneSpot.org.

Retrieved from <http://www.humaneresearch.org/content/americans-make-disaster-plans-pets-too#more2498>

Appendix A



DEVELOPMENT OF A FOUNDATION FOR A KANSAS AGRICULTURAL EMERGENCY RESPONSE CORPS (KAERC)

A White Paper of Roles and Responsibilities

A rapid and efficient response to a foreign animal disease emergency is critical to the safety and security of human health, animal health and of the nation's food supply. These preparedness and management protocols are a community effort. For this reason the foundation for an agricultural emergency response corps has been developed to call upon the multitude of skills the public possesses as a whole that would be utilized during a crisis. The vision for the KAERC is a multi-disciplinary, multi-agency, all-encompassing team of professionals with the purpose of planning and responding to animal health emergencies in the state of Kansas. The hope is to develop a corps that extends past the realm of strictly veterinary science to include a variety of career specialties that are beneficial in biosecurity and emergency response. Outlined here is a general list of roles and responsibilities that could be serviced in a time of crisis, as well as in times of management. Our mission is to keep you, the public, thoroughly involved both as active volunteers and positive spokespeople.

Priscilla De Los Santos

March 2015



Development of a Foundation for a Kansas Agricultural Emergency Response Corps (KAERC)

A White Paper of Roles and Responsibilities

The KAERC will manage a wide-ranged and highly multidisciplinary volunteer base which will support the KDA in planning and responding to incidences of foreign animal disease in Kansas. While the primary focus is the response to foreign animal disease, this volunteer group will be trained and available to respond to a wide range of agricultural emergencies. The initial action in building the framework of such a team is to determine which individuals can be recruited to handle all the roles and responsibilities in the event of an emergency.

INTRODUCTION

The safety, health and well-being of animals are critical to the safety, health and well-being of humans. Agricultural emergencies may result in the loss of large numbers of livestock and agricultural products, a decrease in food quality and security and potentially result in devastating human health consequences affecting the community, particularly those involving a foreign animal disease (FAD). For these reasons, it is important to implement the use of an agricultural emergency response team. This project is the foundation for a well-rounded team of volunteers, the Kansas Agricultural Emergency Response Corps (KAERC), who will be trained to respond quickly and efficiently to an agricultural emergency. The Kansas Department of Agriculture is looking to utilize the skills of the community to fill in the gaps that the limited state and federal staff cannot cover during large-scale emergency management efforts. The objective of the KAERC is to create an all-encompassing staff with a wide range of expertise to tackle various aspects of an animal health emergency. The KAERC would be the responsibility of the Kansas Department of Agriculture.

“Most countries focus on what needs to be done, but not who needs to do it.” –
U.S. National Animal Health Emergency
Management System (NAHEMS)

IDENTIFYING THE PROBLEM

The present framework for an animal response in Kansas is a non-profit, 501(c)(3) organization initially created by the Kansas Veterinary Medical Association as a multi-agency response effort to local disasters. This team, known as the Kansas State Animal Response Team (KS SART), is dedicated to companion animal evacuation and sheltering, as well as public education regarding how to include pets in family evacuation plans. There is, however, a need for a multidisciplinary framework to respond to animal health emergencies in Kansas, specifically involving foreign animal disease. The accomplishments and limitations of other animal emergency response efforts were surveyed through a best practices questionnaire developed and distributed to various groups across the nation. The results of this survey consistently noted the requirement for a strong relationship and mutual respect among already established emergency management services. ** It would be beneficial to network with other state and Federal agencies, including, but not limited to:

State Departments

- Kansas Department of Agriculture
- Kansas Division of Emergency Management
- Kansas Department of Health and Environment
- Kansas Department of Transportation

Federal Agencies

- Farm Service Agency
- Federal Emergency Management Agency
- Food and Drug Administration
- National Guard and Reserves

Non-Governmental Organizations

- Community Emergency Response Teams
- Emergency Medical Services
- Kansas Veterinary Medical Association
- KS SART
- Red Cross

Volunteer recruitment and retention is a primary limitation in maintaining an active volunteer structure. The KAERC will attend various fairs, advertise through flyers and newsletters, give talks on emergency management at community events, and hold public hearings to recruit a qualified group of individuals to remain active and engaged in the many opportunities the KAERC will offer. Retention will rely on community outreach efforts and continuing education on improving emergency management protocols.



A SOLUTION TO THE PROBLEM

The guidelines of the U.S. National Animal Health Emergency Management System (NAHEMS) state, “Most countries focus on what needs to be done, but not who needs to do it,” regarding emergency management and preparedness. Below is a general list of projected job descriptions, their role in the emergency response as well as the required skill sets that will be utilized in each role. These volunteer roles will be under the direct supervision of the KDA. All volunteers will fall under the regulatory authority of the KDA and therefore the department will have full jurisdiction to make all decisions regarding volunteer roles and responsibilities. In addition to these responsibilities, the KAERC will also assist with community outreach programs to provide public education on emergency preparedness and management as well as encourage the training and cross-training of volunteers. Volunteers are to be an extension of the KDA staff. They will have the same expectations required of them as is expected of KDA employees. The KDA understands that volunteers may have other obligations and that personal emergencies may arise, so a volunteer’s time commitment will be determined by their availability. Volunteers will be reimbursed as necessary and training will be provided for specific tasks. The KDA wants volunteers to enjoy their work with the KAERC, which is why volunteers will be able to select roles they are comfortable in. Detailed position descriptions will be available on the website in the near future, along with application forms, training sessions and scheduled drills.

Projected Volunteer Responsibilities	Role in Emergency Response	Preferred Skillsets
Appraiser	Aids KDA in assessing livestock animal value for indemnity purposes	Knowledgeable in livestock judging, appraisal training provided by KDA
Communications	Assists the KDA Planning Section in regards to communication among responders via cell, satellite, radio, etc. and ensures all information is getting to the correct place. Maintains communication between animal and human health agencies on current events and management efforts	Good personal communication skills. Knowledge of various communication devices and their use. Ability to work in a team environment on complex issues
Community Liaison	Assists KDA communications team in attending to the public, media and other outlets to calm outrage and express concern. Helps to build public trust and promote the use of preparedness plans and may help maintain or develop Memorandums of Understanding with other local and state emergency personnel	Strong public speaking ability, making positive first impressions, well-versed and strong presence in the community
Clean-up and Disinfection	On-site to prevent the spread of the emergency hazard to surrounding areas by proper disinfection	Must demonstrate proper use of Personal Protection Equipment, completion of disinfection training provided by the KDA
Data Entry/Record Management	Enters data regarding the emergency in the response database and keeps accurate records of information and volunteer staff	Organizational skills, accurate record keeping ability
Disease Surveillance/Reporting	Support the Operations Section in tracking any and all possible infectious disease threats or possible emergence due to public health emergency situation. Communicates the need for reporting of all foreign animal disease cases	Good personal communication skills. Knowledge of local area and livestock populations
Epidemiologist	Statistically evaluates disease impact and maintains an animal health information system of current disease statuses, incidence and prevalence	Training in epidemiology and statistical analysis
Finance/Accounting	Assists the KDA Financial Section in tracking funds and requests for compensation of necessary resources, supplies and personnel and assists in writing grants for additional funding	Training in accounting for financial management. Grant writing skills would be ideal
IT	Helps troubleshoot technology issues as they arise	Technology (computer, printer, fax, etc.) repair, set-up, and support skills

Mapping (GIS)	Assists KDA staff in tracking incident sites, resource utilization, management efforts etc.	Geographic Information Systems training and use. Ability to use mapping technology and systems
Physical Laborer	Runs errands, assists when and where needed, gets supplies, etc.	Driver's license required (some tasks may require a Commercial Driver's License), ability to accomplish tasks in a timely manner
Psychologist/Behavioral Health Specialists	On call to respond to victims to help cope with loss of pets, loved ones, livestock, etc.	Psychology or mental health background and have Psychological First Aid training,
Public Educator	Provides meetings, literature and information on how the public can protect themselves, others and the animal populations from the emergency at hand as well as educating the public on emergency preparedness plans and attending drills	Public speaking ability, well-versed on emergency response and preparedness
Resource Allocation	Assists KDA Logistics Section in managing resources during an emergency response	Organizational and tracking skills. Knowledge of local resources.
Risk Analysis	Assists the KDA in assessing, managing and communicating the risk involved with the emergency situation	Risk analysis training and experience
Scientists and Laboratory Technicians	Performs laboratory techniques with speed and accuracy to determine necessary results of emergency situation	Proficient in laboratory skills, knowledgeable in appropriate testing protocols and reporting procedures.
Slaughter and Culling	Aids in slaughter response. May be asked to prepare supplies, and to transport animals for disposal	Large animal handling experience, knowledge of standard slaughter procedures, commercial driver's license may be required
Traffic Control/Security	Helps to set up and man traffic control points, provides support and delivery of supplies	Volunteer law enforcement or security experience, driver's license would be required
Training Officer	Helps provide training to the public and other volunteers on necessary procedures needed to handle the emergency situation	Ability to quickly and efficiently share information with others, and be able to assess that the information provided has been understood
Transportation	Assists in the transport of animals when needed	Commercial Driver's License required
Volunteer Manager	Helps the KDA manage and track volunteer relief workers. Helps recruit and retain volunteer staff base as well as promote public involvement	Human resource management training and experience. Experience in volunteer management and retention.
Warehouse Management	Assist KDA Logistics Section in setting up and running a warehouse for emergency response supplies.	Organizational and tracking skills. Warehouse management and organization experience

While this list gives a good overview, it is by no means exhaustive. Only by putting these plans into effect will it be determined what other positions could contribute to and strengthen the group.

CONCLUDING REMARKS

Emergency preparedness and management are necessary inconveniences. It is something that always needs to be in place, ready to deploy at any moment, and updated frequently but something we hope never has to be utilized. Management begins with prevention. Establishing a national emergency planning committee is a necessary best practice in preparedness and an important core function of animal health services. While most local animal emergency response teams focus on companion animal evacuation and sheltering, this response corps will be primarily used in response to foreign animal disease threats to livestock and food supply animal populations in overlap with current emergency management and response teams which focus on human and companion animal relief. This initiative is unlike any other response program in the nation, which allows for the opportunity to be a template for other programs. As the KAERC develops, the KDA wants the public to be a part of building this framework through transparency, open dialogue and suggestions.

REFERENCES

- FEMA. (2008, January). ESF #11 - Agriculture and Natural Resources Annex. Retrieved from <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-11.pdf>
- Hodges, C., & Michigan State University. (n.d.). State and Federal Disaster Planning Laws and Pets | Animal Legal & Historical Center. Retrieved from <https://www.animallaw.info/intro/state-and-federal-disaster-planning-laws-and-pets>
- Honhold, N., Douglas, I., Geering, W., Shimshoni, A., Lubroth, J., & Food and Agriculture Organization of the United Nations. (2011). *Good emergency management practice: The essentials : a guide to preparing for animal health emergencies*. Retrieved from <http://www.fao.org/docrep/014/ba0137e/ba0137e00.pdf>

**Thank you to North Valley Animal Disaster Group, Yuba Sutter Domestic Animal Disaster Assistance, National Animal Health Emergency Response Corps, Louisiana State Animal Response Team, Indiana State Animal Response Team, State of Massachusetts Animal Response Team and U.C. Davis Veterinary Emergency Response team who participated in a best practices questionnaire created to collect insight that was incorporated in the development of the KAERC framework. We thank you for your contribution to this initiative!

Appendix B

► Position Description



Title: Volunteer Manager

Reports To: Resource Unit Leader

Summary of Position

This individual will be the most involved in managing of the volunteers for an emergency response. The Volunteer Coordinator is responsible for managing and overseeing all aspects of volunteer participation, including recruitment, just-in-time training, and deployment. They should have strong communication skills in conversing not only with the volunteer base, but also with the established Incident Management Team.

Duties and Responsibilities

- Maintain list of current active volunteers and make notifications as requested
- Work with Resource Unit Leader to assign tasks to available volunteer recruits
- Provide briefings on roles and responsibilities
- Provide situational updates to volunteers that are on “stand-by”
- Keep a detailed activity log
- Provide information to the Incident Public Information Officer

Qualifications

Must demonstrate strengths in communication and leadership and/or management. Must be well versed in volunteer management.

Desired Skills

- Strong leadership ability
- Organizational skills
- Communication and public speaking
- Ability to multi-task and problem solve
- Software: Microsoft Word, Excel, and Outlook

► Position Description



Title: Training Officer

Reports To: Animal Health Commissioner

Summary of Position

The Training Officer will oversee training and public education efforts. They will be responsible for ensuring compliance of volunteers to complete required training and participate in continuing education in order to be prepared to any emergency response. They will also be in charge of creating training programs.

Duties and Responsibilities

- Enroll volunteers in required training courses
- Provide continuing education opportunities
- Develop relevant training material on emergency management and preparedness as well as on foreign animal disease
- Schedule public outreach education events in the community and encourage attendance
- Ensure proper training compliance
- Aid Incident Command Director in briefings of correct response protocols
- Keep record of trainings required and completed by volunteer base

Qualifications

Ability to demonstrate teaching ability in educating volunteers and the public on emergency management and preparedness. Be able to encourage volunteers to be cross-trained in multiple disciplines.

Desired Skills

- Preferred background on foreign animal disease
- Strong organizational skills and record keeping
- Proficient in PowerPoint

Appendix C

List of Interview Questions for Current State and Federal Agencies:

- 1) What is the major scope of your program and its best practices?
- 2) What kinds of events have you responded to and what was the outcome?
- 3) What kind of support do you receive from local, state or federal governments?
- 4) How do you fund for compensation and supplies?
- 5) Being a volunteer program, how do you recruit and retain volunteers?
- 6) What public education/outreach efforts do you participate in during times of non-crisis?
- 7) What kind of roles are in place for individuals of your team?
- 8) Is there a written EOP of your preparedness plan (provide link if possible)?
- 9) Please describe any limitations to your program.
- 10) Are there any unique strengths to your program that you feel set you apart from other animal emergency response teams?
- 11) Are there any changes you would make or are looking to make to improve your initiative?
- 12) What is your relationship to a One Health collaborative?
- 13) Any recommendations you would give to someone looking to develop a similar program?

List of Active State and Federal Animal Emergency Response Teams that were contacted:

- Alabama State Agricultural Response Team
- Colorado Rapid Response to Agriculture and Livestock
- Florida State Animal Response Team
- ★ Indiana State Board of Animal Health
- Kansas State Animal Response Teams
- ★ Louisiana State Animal Response Team
- National Alliance of State Animal and Agricultural Emergency Programs
- ★ National Animal Health Emergency Response Corps
- Nebraska Department of Agriculture Livestock Emergency Disease Response Team
- ★ North Valley Animal Disaster Group
- Southern Agriculture and Animal Disaster Response Alliance
- ★ State of Massachusetts Animal Response Team
- ★ UC Davis Veterinary Emergency Response Team
- ★ Yuba Sutter Domestic Animal Disaster Assistance

★ = Indicates a team that responded to the interview questions.

Thank you to North Valley Animal Disaster Group, Yuba Sutter Domestic Animal Disaster Assistance, National Animal Health Emergency Response Corps, Louisiana State Animal Response Team, Indiana State Animal Response Team, State of Massachusetts Animal Response Team and U.C. Davis Veterinary Emergency Response team whose responses aided in the development of the KAERC framework. We thank you for your contribution to this initiative!