

Veterinary Medicine in Afghanistan: Disaster Preparedness and Humanitarian Assistance

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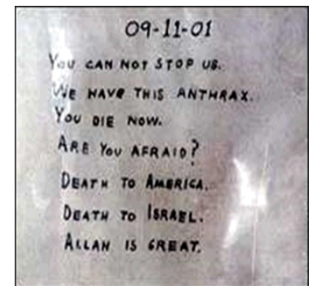
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Importance of Livestock in Low-Resource Environments

- **Livestock provide food security, economic development, socio-economic status, and utility for work and sport**
- **In developing regions, livestock contribute approximately one-third of total agricultural output**
 - In Afghanistan, approximately 80% of families rely on livestock for food and/or income and agriculture contributes to one-half of GDP
 - 45 and 25 percent of the world's poor livestock keepers reside in South Asia and Africa, respectively (*FAO 2011*)
- **Livestock are kept as individual animals or as small or large flocks/herds**
 - Nomadic pastoralists exist in many regions and comprise a large fraction of the livestock sector; the Kuchis reside in Afghanistan and Pakistan
- **Food and Agriculture Organization for the UN (FAO) anticipates that the demand for animal source food (ASF) will increase**

Veterinary Services: Disasters and Humanitarian Assistance

- **Veterinary services support humanitarian assistance through improvement of animal health and production**
 - Safeguarding the food supply
 - Promoting economic stability
 - Build independence within communities
- **Veterinary services are often involved in disaster management with a larger role in biological disasters and disasters affecting livestock production**
 - Biological disasters can result from natural or intentional release of pathogens or their toxins into the animal and/or human populations
 - The OIE highlights the importance of developing veterinary services to enhance countries' ability to prepare for and respond to biological disasters that affect humans, animals and the economy



Benefits of Improving Animal Health and Controlling Infectious Diseases

- **Improved animal health, well-being, and nutritional status will increase production capabilities and quantities, and economic returns**
- **Increased food supply and opportunities for economic development will strengthen communities and increase resilience**
- **Elimination of specific livestock pathogens will allow countries to resume international trade, and will reduce zoonotic diseases**
- **Healthy animal populations are more resilient to infectious disease outbreaks and adverse conditions**

Egypt – Dairy Directive Project (DDP) PROMOTING IMPROVEMENTS IN THE DAIRY SECTOR TO PREVENT CHILD MALNUTRITION & ILLNESSES

From 2001 to 2004, ACD/VOCA's Dairy Directive Project (DDP) worked throughout Egypt to prevent child malnutrition and the illnesses associated with contaminated and spoiled dairy products by promoting improvements in the dairy sector.



Infectious Diseases Affecting Public and Animal Health: Biological Disaster

- **Infectious diseases are the second leading cause of death worldwide and result in significant losses in livestock production globally**
- **Zoonotic diseases are becoming alarmingly more prevalent**
 - 75% of recent emerging diseases are zoonotic
 - 80% of animal pathogens are multi-host
 - 80% of potential bioterrorism agents are zoonotic pathogens
 - 60% of human pathogens are zoonotic
- **Changes in lifestyle and climate will likely increase the opportunity for zoonotic infections**



Disasters Affecting Animals: Zoonotic Diseases and Loss of Livelihoods

- **Foot and mouth disease in the United Kingdom in 2001**
 - The outbreak cost approximately £8 billion, 6.5 million animals were slaughtered, tourism was impacted, and farmers were distraught
 - Foot and mouth disease is endemic in south Asia and parts of south east Asia and contributes to on going losses in animal production
- **Highly pathogenic avian influenza**
 - Resulted in approximately 385 deaths since 2003 and significant income loss due to mass culling of vulnerable and infected chickens
 - Has spread globally to many countries in Asia, Europe, and Africa
- **Pestes des petits ruminants (PPR)**
 - Widespread in Asia and Africa and has high mortality in naïve herds/flocks
 - Contributes to significant loss of livelihoods and food security in many parts of the world

Management of Infectious Disease Outbreak: Improving Animal Health

- **Early detection of outbreaks helps facilitate rapid response**
 - Requires a well trained cadre of clinical veterinarians and laboratory diagnosticians
- **Rapid coordinated response to minimize spread and casualties**
 - Requires comprehensive national policies and coordination across sectors and ministries
 - Requires a well-trained efficient veterinary sector to carry out the response plan
- **Prevention the key to the mitigation of infectious disease outbreaks**
 - Requires comprehensive national policies
 - Requires a well trained veterinary sector to implement prevention

Livestock in Afghanistan:

Importance of Veterinary Services

- **About 80% of families rely on livestock for food and/or income**
 - Agriculture contributes to one-half of Afghanistan's GDP
- **Livestock exist primarily on small farms or in large herds/flocks managed by nomadic pastoralists**
 - In 2003 the Food and Agriculture Organization for the UN (FAO) found that there were:
 - 3.7 million cattle
 - 8.8 million sheep and 7.3 million sheep
 - 1.6 million donkeys and 140 000 horses
 - 180 000 camels
 - 12.2 million poultry
- **Animals are also used for work, sport, and transportation**



Afghanistan's Animal Health Sector

- **Afghanistan's animal health sector was privatized in the late 1980s**
 - Private sector is the first line of defense for disease outbreaks in animals
 - Private sector is divided among national and international non-governmental organizations
 - Consists of veterinarians, para-veterinarians, and animal health technicians that have fee-for-service practices
- **Public sector resides in the Ministry of Agriculture, Irrigation, and Livestock**
 - Responsible for laboratory services, response to and control of public interest diseases, disease monitoring, and oversight



Weaknesses in Animal Health System

- **Lack of national policy related to prevention, response, and control of animal and zoonotic diseases**
- **Weak and decentralized veterinary services**
- **Communication and collaboration between the private and public sectors is limited**
- **Funding and planning are not adequate to establish robust veterinary services**
- **Higher educational system is weak and lacks clinical training for veterinary professionals**
- **Poorly prepared**



Improving Veterinary Services in Afghanistan: Disaster Relief and Humanitarian Assistance

- **Building veterinary capacity to respond to infectious diseases affecting animals and humans**
 - Holistic approach to training is necessary to create a healthy more resilient animal population that can support food security and economic development in the short term
- **National policy development**
 - Critical to link private and public sectors and to establish roles and responsibilities to respond to infectious disease outbreaks and to create a healthier and more productive animal population
 - Sustainability
- **Engage higher educational institutions to build sustainable human capital**
 - Building initial capacity will be short lived

Improving Veterinary Services in Afghanistan: Challenges

- Improving veterinary services requires ground truth
- Long-term engagement to establish sustainability
- Weak higher educational system undermines sustainability
- Uncoordinated assistance
- Lack of ownership in developing and implementing national policy
- Rewards for excellent service are lacking
- Funding is poorly distributed



Potential One Health Applications in Afghanistan

- **Improve public health through collaborations with animal health professionals**
 - Brucellosis, Q-fever, anthrax, Crimean Congo Hemorrhagic fever, avian influenza, glanders
- **Improve livestock production to promote food security and enhance economic development**
 - Foot and mouth disease, PPR, sheep and goat pox
- **Promote food safety**
 - Reduce contamination of carcasses and milk
- **Delivery of joint public and animal health care**
 - Joint vaccination campaigns in remote villages and for nomadic pastoralists



Summary

- **Veterinary services play an important role in humanitarian assistance and disaster relief in areas heavily reliant on livestock for livelihoods and food**
- **Livestock are an important commodity for the people of Afghanistan, and the developing world, and improving veterinary services can support humanitarian assistance and resilience**
 - Infectious diseases are widespread and have a damaging effect on animal production, economic development, food security, and public health
- **Building veterinary services in Afghanistan requires sustained engagement to build infrastructure without forgetting to build sustainable human capital**

