

Animal Health Care

Most livestock keepers in Afghanistan are involved in low-input mixed farming or transhumant pastoralist systems. The two major strategies in these systems are reducing animal mortality and production losses due to poor animal health. The eight areas contributing to animal health shown in Figure 1 are: 1. animal nutrition, 2. pasture/rangelands, 3. water, 4. infectious diseases, 5. parasites, 6. breeding, 7. protection, and 8. special care of animals. This conceptual note focuses on infectious diseases and parasites and the care of sick animals, although nutrition, breeding and animal care are also factors in animal health. Improving animal health to reduce production losses is closely related to these other aspects, as animal health is a complex and transdisciplinary topic. (www.dutchfarmerexperience.com)

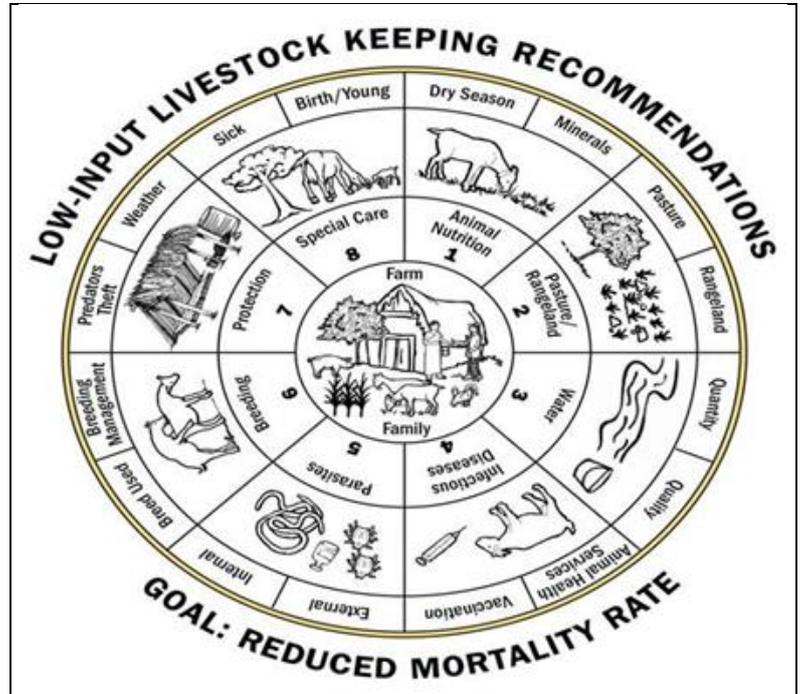


Figure 1: “The Wheel of Livestock Production and Wellbeing” with the main goal to reduce the mortality rate of livestock (www.dutchfarmerexperience.com)

Disease prevention and control

Animal health involves two steps, the first of which is **disease prevention**. Disease prevention involves proper animal nutrition, protection and sanitation (including water), as well as the selection of suitable breeds. Moreover, vaccinations are a direct disease prevention strategy, especially for diseases that are difficult to cure and cause high mortality rates. On the other hand, **direct control measures** involve the treatment of sick animals, mostly with chemical drugs and antibiotics. However, direct control measures can also be of natural origin such as those often found in etho-veterinary systems (Fibl, 2011).

Major animal health care constraints in Afghanistan are:

- A lack of information and proper diagnosis of diseases (in the broad sense, including parasites etc.);
- A lack of quality control in the input supply chain for medicines, vaccines and chemotherapeutics;
- Inadequate cold chain management for vaccines, which renders these ineffective;
- Inadequate acceptance of vaccinations by herders;
- Absence of epidemiological approaches;
- Indiscriminate use of antibiotics;
- Inadequate animal nutrition, breeding and care management.

Despite the progress made by livestock health projects (e.g. Veterinary First Aid Units) in recent decades, livestock keepers still perceive animal diseases to be one of the most serious problems affecting their animals directly and their livelihoods indirectly (Schreuder et al., 2004).

Present challenges

Thomson (2006) reported that livestock keepers were often confused about which diseases actually affect their animals despite their apparent knowledge of certain diseases. Herders also appeared to confuse vaccinations as a prophylactic/preventive measure with the use of medicines to treat diseases once the symptoms appeared.

One example was the use of anthelmintic to “vaccinate” for suspected infection by endo-parasites such as nematodes (roundworms) and trematodes (liver flukes). In another reported case, an anthelmintic which can also kill ecto-parasites such as ticks and lice was believed to be a vaccine because it was applied by injection. The presence of multiple agencies providing inputs like vaccines, anthelmintic and antibiotics and rendering veterinary services is limited to certain projects and out of the reach of many livestock keepers. Access to health services are poor in rural places, especially for nomadic pastoralists. Moreover, it is expensive to get sick animals treated, as most disease treatments are very dear.

Table 1 summarises the most important diseases in Afghanistan. Fact sheets for these diseases can be found on: http://afghanag.ucdavis.edu/c_livestock

Table 1: Most important diseases in Afghanistan (USDA&UC Davis, 2013)				
Disease name	Animal	Type of disease	Vaccination	Human
Anthrax	Cattle, sheep, goat, camel	Bacterial, zoonotic	x	x
Clostridial disease (Blackleg, Enterotoxaemia)	Cattle, sheep, goat, camel, horse	Bacterial		
Echinococcosis	Cattle, sheep, goat, camel	Parasital infection (tapeworm)		x
Foot and Mouth Disease (FMD)	Cattle, sheep, goat	Virus, contagious	x	
Paratuberculosis (Johnes disease)	Cattle, sheep, goat, camel	Bacterial, (zoonotic)		(x)
Rabies	Cattle, sheep, goat, horse	Virus	x	x
Abortion disease (Brucellosis)	Cattle, sheep, goat	Bacterial, zoonotic	(x)	x
Bluetongue disease	Sheep, (goat)	Virus	x	
Contagious ecthyma	Sheep, goat	Virus	x	x
Sheep pox, goat pox	Sheep, goats	Virus, contagious	x	
Peste des petite ruminants (PPS)	Sheep, goat	Virus	x	
Contagious caprine pleuropneumonia	Goat	Bacterial, contagious	x	
Newcastle disease	Poultry	Virus, zoonotic	(x)	x
Avian influenza	Poultry	Virus, zoonotic	x	x
Coccidiosis	Poultry	Protozoan parasite		

For many others refer to: Illustrated Manual on Infectious Diseases of Livestock in Afghanistan, 2008.

Sustainable approaches

The emphasis is on disease prevention through proper animal nutrition, housing and breeding. Vaccinations are also an effective method of disease prevention. However, once an animal contracts a disease, the focus should shift to identifying the disease and performing all available direct control measures. Antibiotics, for instance, treat many bacterial and parasital diseases effectively, though they are ineffective for viral diseases. Moreover, antibiotics should not be overused; this is particularly the case on intensive farms for disease prevention and increased production. The excessive use of antibiotics has many health implications, the antibiotics enter the human food chain via the animals and build resistance, for instance against tuberculosis drugs.

Systematic vaccinations for disease prevention

Many diseases can be controlled through systematic vaccinations based on occurrence patterns. Whereas disease diagnosis and treatment is a reactive approach that benefits the affected animals and their owners, diagnosing and understanding the pattern of the disease and supplying the livestock keepers with appropriate vaccines (based on their seasonality) is a **proactive approach** that contributes to herd health and in turn to public health. This approach makes it possible to understand the behaviour of the diseases, their patterns and their sources, which can be mapped and used as planning tool to make appropriate vaccines available well in advance and vaccinate animals in a campaign mode. *Operation Rinderpest Zero (ORZ)* (see: <http://www.fao.org/docrep/003/w3246e/W3246E06.htm>) is a classic example of a systematic vaccinations

campaign. In addition, campaigns often throw light on vector control and sanitary measures, which have synergies for disease prevention and control.

Ethno-veterinary services for disease treatment

Ethno-veterinary medicine (EVM) consists of local people’s knowledge, dealing with folk beliefs, skills, methods and practices pertaining to animal health care and production. The balancing of human, natural and spiritual well-being is to the fore in many EVM practices, and they therefore often include a holistic approach to animal health. EVM involves the use of local available roots, fruits, leaves, barks, etc. from various herbs, creepers, plants and trees. Most of these medicines are used as topical applications and/or oral feed. A large list of ethno-veterinary medicines used for traditional healing has been documented and validated by ANTHRA India (<http://www.anthra.org/>).

Herders in Afghanistan use age-old EVM practices to treat animals, especially during migration periods. Rustaq District (2008) reported that 67% households treat animals on their own, 18% take them to veterinary clinics and 15% approach local healers (Aga Khan Foundation and Terre des Hommes, 2008). BAIF, a local NGO in India, compared local practices with scientific practices and concluded that herbal anthelmintic are potent and cost-effective for parasite control (Sapplapp, 2012). Table 1 summarises the advantages and disadvantages of ethno-veterinary services.

Table 2: Advantages and disadvantages of ethno-veterinary services (adapted from Leeuwen, 2001 and Mathias, 2001)

Advantages	Disadvantages
<ul style="list-style-type: none"> • Simple to apply, usually topically or orally • Cheap and readily available medicine • Livestock keepers are familiar and know how to use it • Locally available • Less reliance on expensive, distant outside professionals • Acts for longer and more holistically than conventional medicine • Natural, no residues • Avoids antibiotic resistance • Can be used without veterinary supervision and as a good first aid • Works well against common diseases and more chronic conditions (colds, worms, wounds, etc.) 	<ul style="list-style-type: none"> • Some treatments are ineffective • Some practices are harmful • Traditional diagnosis may be inadequate • Dosages are uncertain and remedies are not standard • Not as fast-working and potent as conventional medicines • Less suitable to control and treat epidemic and endemic infectious diseases and acute-life threatening bacterial infections • Offers little against acute viral diseases • Not always practical on a large scale: may require considerable amounts of remedies • Availability of resources is deteriorating • Some remedies are inconvenient to prepare and use • Variability in the availability of remedies • Sometimes very time-consuming

Modern veterinary services

Veterinary services in Afghanistan are provided by **private vets, paravets and CBAHP**. The initiative of **Basic Veterinary Workers (BVW)** of Dutch Community for Afghanistan (DCA) - covering both men and women - not only enhanced access to veterinary services for livestock keepers, but also contributed to reduced mortality and morbidity. Through its capacity-building DCA trained more than 100 female BVWs and more than 20 female-owned veterinary field units (see: http://www.dca-vet.nl/?page_id=96).

One health approach

Makerere University School of Public Health (www.ohcea.org) defined the “one health approach” as a collaborative, multi-disciplinary approach used to address complex health challenges in an increasingly interconnected and interdependent world. The challenges posed by emerging and re-emerging diseases, food safety, poverty and famine are too complex for any single discipline/approach/perspective to address. Essentially these challenges need to be addressed by multidisciplinary platforms. Thus the “one health approach” (see: http://www.onehealthglobal.net/?page_id=131) recognises such challenges for what they are, and looks for holistic, multifaceted solutions through collaboration, cooperation and partnership.

Afghanistan has an “Animal Health and Veterinary Public Health Act” with the main objectives:

- Protection of animal health and public health,
- The prevention and control of animal diseases, including zoonosis,
- The regulation of veterinary diagnostic laboratory services,
- The import and export of animals, animal products and biological material,
- The safety and quality of products of animal origin destined for human or animal consumption and commercial purposes,
- Animal welfare act.

Due to high incidence of **zoonotic diseases** in the country, Afghanistan has established veterinary public health laboratories to conduct tests for milk, meat, all food products, feed and potable water. As a food safety measure, all animal-based food products should be regularly inspected for quality check and certified for sale.

The act has provisions to build the capacities of livestock keepers, veterinary personnel and processing plants regarding zoonotic diseases, their potential risks and safety measures in the wider interest of public health.

Box 1: Community Based Animal Health Program (CBAHP)

In Afghanistan most of the trained animal health professionals have fled the country and lower-level veterinary personnel was trained to render emergency treatment and vaccinations. Gradually this programme has developed from an emergency-oriented approach to a more development-oriented process, resulting in a Community Based Animal Health Program (CBAHP). Livestock owners are paying for services like treatments, deworming, vaccinations, etc.

Source: Schreuder et al., 2004

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