

# Animal Health Care

Two major strategies predominate in small-scale livestock keeping: firstly, reducing animal mortality, and secondly reducing production losses due to poor animal health. Animal health is a complex and transdisciplinary topic. Different aspects of animal husbandry contribute to animal health. This concept note focuses on the prevention of diseases and parasites and the care of sick animals, although nutrition, breeding and animal care are also crucial towards animal health; for those, refer to the other livestock concept notes.

## Infectious diseases and parasites

Prior to start it is important to know which are the infectious diseases and parasites that cause sickness of animals. Table 1 summarises the most important diseases – divided into bacteria and viruses – that occur in Afghanistan. Fact sheets on these diseases can be found at: [http://afghanag.ucdavis.edu/c\\_livestock](http://afghanag.ucdavis.edu/c_livestock)

**Table 1: Most important diseases in Afghanistan (USDA & UC Davis, 2013 & Wikipedia, 2014)**

Cause	Animal	Type of disease
<b>Bacteria</b>		
Anthrax	Cattle, sheep, goat, camel	Zoonotic
Clostridial disease (blackleg, enterotoxaemia)	Cattle, sheep, goat, camel, horse	Infectious
Paratuberculosis (Johne’s disease)	Cattle, sheep, goat, camel	Contagious
Abortion disease (Brucellosis)	Cattle, sheep, goat	Zoonotic
Contagious caprine pleuropneumonia	Goat	Contagious
<b>Viruses</b>		
Foot and Mouth Disease (FMD)	Cattle, sheep, goat	Infectious
Rabies	Cattle, sheep, goat, horse	Zoonotic
Bluetongue disease	Sheep, (goat)	-
Contagious ecthyma	Sheep, goat	Zoonotic
Sheep pox, goat pox	Sheep, goats	Contagious
Ovine rinderpest	Sheep, goat	Contagious
Newcastle disease	Poultry	Zoonotic
Avian influenza	Poultry	Zoonotic

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

One can distinguish between internal and external parasites. For more detailed information on parasites, refer to the *Illustrated Manual on Infectious Diseases of Livestock in Afghanistan, 2008.*

Some diseases (and parasites) can be transmitted from animals to humans; these are known as **zoonotic diseases**. Infectious (transmitted via microorganisms in the air or water) and contagious (transmitted by physical contact) diseases need particular attention so as to avoid the spread of diseases among animals and to humans. Hitherto, hygiene and sanitation have played an important role in **preventing the introduction and multiplication** of infectious diseases (and parasites) as the first step in the sustainable animal health approach (see Figure 1 on the next page). The following fact sheet provides useful information about [Biosecurity](#).

## Disease prevention and control

There are two further steps in the sustainable animal health approach (see Figure 1). The second step is to provide good growing conditions – or measures in **disease prevention** - to avoid animals getting sick in the first place. Disease prevention involves proper animal nutrition, protection and sanitation

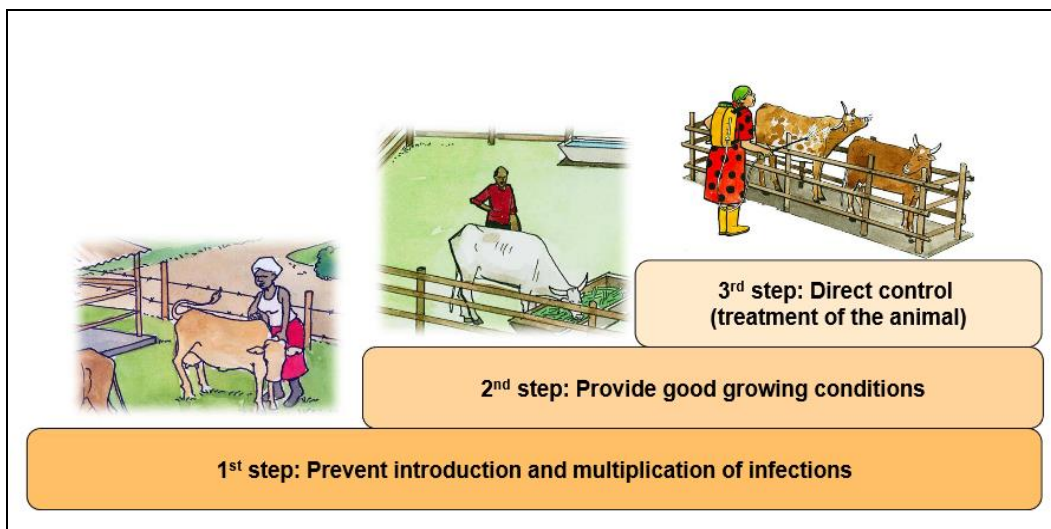


Figure 1: Three steps in the sustainable animal health approach (FiBL, 2011)

(including water), as well as the selection of suitable breeds. Vaccinations are a direct disease prevention strategy. A vaccination provides the animal with immunity against a disease, especially for diseases that are difficult to cure and cause high mortality rates. However, vaccinations are not available for all diseases. Moreover, deworming is another strategy, which can be applied prophylactically as a prevention method against parasitic infection.

The third step, **direct control**, involves treating sick animals once they have been affected by disease or parasites. This treatment mostly involves chemical drugs and antibiotics. However, direct control measures can also be of natural origin, such as those often found in ethno-veterinary systems (FiBL, 2011).

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

The major animal health care constraints in Afghanistan are:

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

## Sustainable approaches

The emphasis should be put on preventing diseases 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 available direct control measures.

### Systematic vaccinations for disease prevention

Many diseases can be controlled through systematic vaccinations. Table 2 on the next page shows the available vaccinations for some of the diseases prevalent in Afghanistan. There are different vaccination methods, depending on the type of animal as well as the vaccination itself. The vet or basic veterinary workers know the requirements for available vaccinations best.

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 lead a vaccination campaign. Operation Rinderpest Zero (ORZ) is a classic example of a systematic vaccination.

**Table 2: Available vaccinations for different animal types (USDA & UC Davis, 2013 & Wikipedia, 2014)**

Animal type	Disease	Vaccination
Cattle, sheep, goat	Anthrax	Annual vaccination, 2-4 weeks before grazing
	Clostridial disease (Blackleg, Enterotoxaemia)	2 vaccinations, 4-6 weeks apart
	Foot and mouth disease (FMD)	Serotype specific vaccination
	Rabies	Vaccination available
	Abortion disease (Brucellosis)	Vaccination available
Sheep, goat	Bluetongue disease	Serotype specific vaccination
	Contagious ecthyma	No vaccine available in Afghanistan
	Sheep pox, goat pox	Vaccination available
Goat	Contagious caprine pleuropneumonia	Vaccination before the start of cold and rainy season
Poultry	Newcastle disease	Vaccination available
	Avian influenza	Vaccination available

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 at the forefront of many EVM practices, and therefore they often include a holistic approach to animal health. EVM involves the use of local available roots, fruits, leaves, barks and so on from various herbs, vines, 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/>). Table 3 summarises the advantages and disadvantages of ethno-veterinary services.

**Table 3: Advantages and disadvantages of ethno-veterinary services (adapted from Leeuwen, 2001 and Mathias, 2001)**

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

Herders in Afghanistan use age-old EVM practices to treat animals, especially during migration periods. Rustaq District (2008) reported that 67% of 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).

However, direct control methods should be applied when an animal is sick. This [fact sheet](#) provides the best information on how to find out if an animal is suffering from a disease.

### Modern veterinary services

Veterinary services in Afghanistan are provided by **private vets, paravets and Community Based Animal Health Program (CBAHP)**. The initiative of **Basic Veterinary Workers (BVW)** of the 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. DCA gave capacity building and training to more than 100 female BVWs and more than 20 female-owned veterinary field units (see: [http://www.dca-vet.nl/?page\\_id=96](http://www.dca-vet.nl/?page_id=96)).

Modern veterinary services provide vaccinations as a preventive measure, as well as treating sick animals with modern medicines. Medicines for the various diseases may differ, but the community health worker knows best about treatment practices.

Antibiotics, for instance, treat many bacterial diseases and parasites effectively, though they are ineffective against viral diseases. Moreover, antibiotics should not be overused; intensive farms often do this for disease prevention and increased production. The excessive use of antibiotics has many health implications; antibiotics enter the human food chain via the animals and build resistance, for instance against tuberculosis drugs.

#### Box 1: Community Based Animal Health Program (CBAHP)

Gradually the animal health 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 and vaccinations.

Source: Schreuder et al., 2004.

### Further reading and references

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