

# Livestock Welfare, Care and Water

Livestock performs optimally under ideal health, welfare and care management. Livestock care includes all animal-related activities, such as feeding, watering, stable management, breeding, health care, and milking. Livestock care also involves sanitation and hygiene measures to avoid diseases from spreading among animals and to humans. Water is not an essential element in livestock production, and needs special attention at a time of limited resources, contamination and climate change. Animal well-being includes minimising pain, stress, suffering and deprivation, while also providing for physiology and behavioural needs. For instance, keeping poultry in cages disrupts their natural behaviour patterns. For instance, hens need space so that they can stretch, preen their feathers, flap their wings and move around; hens also like to choose where they spend their time - space, perches, litter and nesting boxes.

## Animal welfare

When people keep animals they are responsible for the animals' well-being. This means minimising suffering, stress and pain, and preventing diseases. It also means providing for the animals' needs, such as enough space, company, rest, feed and water. An animal might be healthy but uncomfortable, which implies that certain of the animal's needs are not fulfilled. Many countries have animal welfare laws to protect animals from mistreatment. The World Animal Health Organisation (OIE) first identified animal welfare as a priority in the OIE's 2001-2005 Strategic Plan. OIE member countries, which include Afghanistan, mandated the organisation to take the lead on animal welfare internationally and, as the international reference organisation for animal health, to draw up recommendations and guidelines covering animal welfare practices, reaffirming that animal health is a key component of animal welfare. The Islamic religion teaches that Allah has given humans power over animals; hence to treat animals badly is to disobey Allah's will. Muslims believe that the world belongs to Allah and that people answer to Him for how they behave towards animals<sup>1</sup> (Szücs et al. 2006).

## Animal care

**Daily livestock care** includes activities such as watering, feeding, milking and stable management, which are performed on a daily basis. **Special livestock care** includes activities at certain animal reproduction stages or when farm animals are sick, respectively pre- and post-foaling management, the treatment of sick animals, etc.; see the summary in Table 1, below.

**Table 1: Livestock care in Afghanistan: the roles and responsibilities of different family members**

	Daily care	Special care
Sedentary animals	<ul style="list-style-type: none"> <li>• Animal grazing (FC, MC)</li> <li>• Feeding and watering (MA, MC)</li> <li>• Milking (FA)</li> <li>• Stable management (FC)</li> <li>• Backyard poultry (FA)</li> </ul>	<ul style="list-style-type: none"> <li>• Vaccination (MA)</li> <li>• Care of sick animals (FA, MA)</li> <li>• Calf/lamb/kid care (FA, MC, FC)</li> <li>• Non-dairy reproductive management (MA)</li> </ul>
Migratory animals	<ul style="list-style-type: none"> <li>• Animal grazing, feeding and watering (MA, MC, FC)</li> <li>• Milking (FA, FE)</li> </ul>	<ul style="list-style-type: none"> <li>• Buying/selling animals (MA)</li> <li>• Social organisation (MA)</li> <li>• Vaccination (MA)</li> <li>• Calf/lamb/kid care (MA, MC, FC)</li> <li>• Shearing wool (FA, MA, MC, FC)</li> </ul>

Note: FA = Female Adult; FE = Female Elder; FC = Female Child; MA = Male Adult; ME = Male Elder; MC= Male Child

Table 1 also shows that women play an important role in livestock management in Afghanistan. They are involved in many activities around livestock keeping, especially in milking, and milk and wool processing. Moreover, the labour-intensive work is mainly done by women and children, whereas men exercise full control

<sup>1</sup> Consequently, it is wrong to hunt merely for pleasure, to sue its skin, to cause animals to fight each other, to incite them to act unnaturally, or to molest them unnecessarily.

over the marketing and selling of animals and animal products, and they are the sole decision-makers in the household. Yet, women control milk and milk products (cattle, goats) and poultry. Moreover, all work requiring physical strength and most work outside the home is performed by men (grazing and fodder collection) (AKA Foundation and Terre des Hommes, 2008).

### Care for newborns (or newly hatched chicks)

The better newborns are taken care of, the higher the productivity of the adult animals. Thus when a female calf has stunted growth due to poor care, it will never become a good milk producer. It is therefore better to rear one calf properly than to keep four without being able to provide the necessary care. The young animal is vulnerable to disease from birth. It is completely dependent on the mother for food and if the mother dies the orphan will need a foster mother to survive. However, chicks can be raised in a brooder, and calves and kids can be separated from the mother so as to allow milk off-take for consumption. It is very important that kids, lambs and calves drink enough of the mother's first milk within the first 48 hours. This milk is called colostrum and contains antibodies that make the newborn resistant to prevalent diseases. The development/growth stages (newborn until maturity) of the different farm animals are crucial and so the necessary husbandry practices must be carried out during each stage (feed, housing, protection, disease prevention, etc.).

### Appropriate animal housing

Animal housing is an important, though often overlooked aspect of animal care. Sedentary farmers in Afghanistan overwinter their cattle, sheep and goats inside stables. Cattle, sheep and goats are usually kept in separate stables (AKA Foundation and Terre des Hommes, 2008). Stables offer adequate shelter at night and from the harsh winter weather. A stable should be easy to manage with regards to manure and urine, as well as allowing the animals as much free movement as possible (FiBL, 2011). Ventilation, for example via a window, protects animals from damp and cold conditions. Moreover, sanitary and hygiene measures are crucial to animals' health and well-being. Last but not least, access to fresh and clean quality water is crucial. Appropriate animal housing gives (Rahim et al. 2012):

- Proper space for animals,
- Ventilation allowing fresh air and light to enter,
- Bedding providing warmth, insulation and comfort,
- Water availability, in cold winter warm water may be provided.

### Manure management

Farmyard manure represents an important fertiliser input in mixed farming systems, but in Afghanistan cattle dung in particular is often collected and used as fuel.

However, manure management in the stable is crucial for health and hygiene and includes the following measures:

- **Animal bedding with litter:** Wheat straw or other crop residues not only substantially improve animal housing and also absorb manure and especially urine. Animal manure can be easily collected in a stable if it is absorbed by the litter. A high proportion of litter gives more solid manure, whereas water and little litter result in more liquid manure (slurry). Chopped and mashed straw is the most absorbent litter.
- **Protection and improved decomposition for better farmyard manure:** Manure is either stored in the stable itself or outside the stable in heaps or pits. One simple rule is to avoid sun, wind, rain and stagnant moisture. A roof or tree provides good protection. Moreover, it is preferable to choose a site on a slight slope. This allows the liquid manure to flow out and be caught in a slurry pit. The best surface is compressed soil (clay) or concrete (see SSMP; ICIMOD 2008).
- **Introduce urine collection:** Urine is a good source of nitrogen and it should therefore be collected in the stable, either by a urine pit or drum (see SSMP; ICIMOD, 2008).



Figure 1: Traditional cattle stable (above) compared to an improved cattle stable (below) (Pictures: DCA)

Appropriate housing and manure management contribute directly to animal health and well-being - and indirectly to human health and well-being. A stable has to be kept clean. This involves proper manure and urine management, as well as managing any excess feed and fodder. Moreover, the water source has to be kept clean so as to avoid water being contaminated with manure and urine.

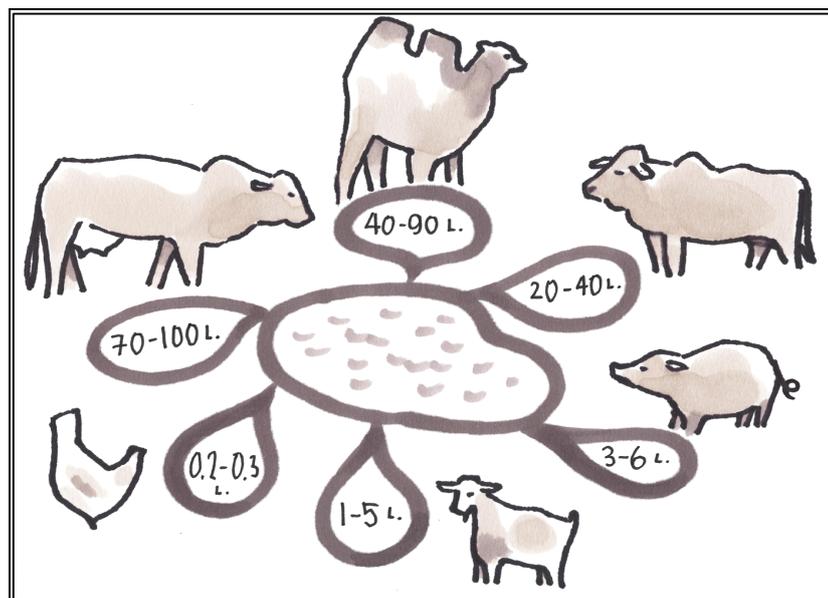


Figure 2: Water requirement of livestock (ILEIA, 2010)

### Water and livestock care

Water is an essential part of animal production, as it is the most basic feed ingredient, but is nonetheless often forgotten. The water requirements of different farm animals are shown in Figure 2. However, the exact amount of water varies with the animal breed, the climate, feed resources, the development and reproductive stages, and the functions the animal performs. Ideally, animals should have unlimited access to water at all times. Yet this is very difficult to achieve, especially in dryland areas (ILEIA, 2010). In Afghanistan access to water is often one of the most limiting factors in livestock production.

Streams and ponds are the main sources of water in rangelands, along with lakes and groundwater through

deep wells. The decisive characteristic is the high seasonal variety in water availability (rainfall, snow and glacier melt, etc.). Animal ponds in rangelands are often trampled and contaminated with manure, making them a source for animal diseases. **Water pond management** is crucial for achieving better hygiene and sanitation. The same is true of water sources near the homestead, especially for sources shared by humans and livestock.

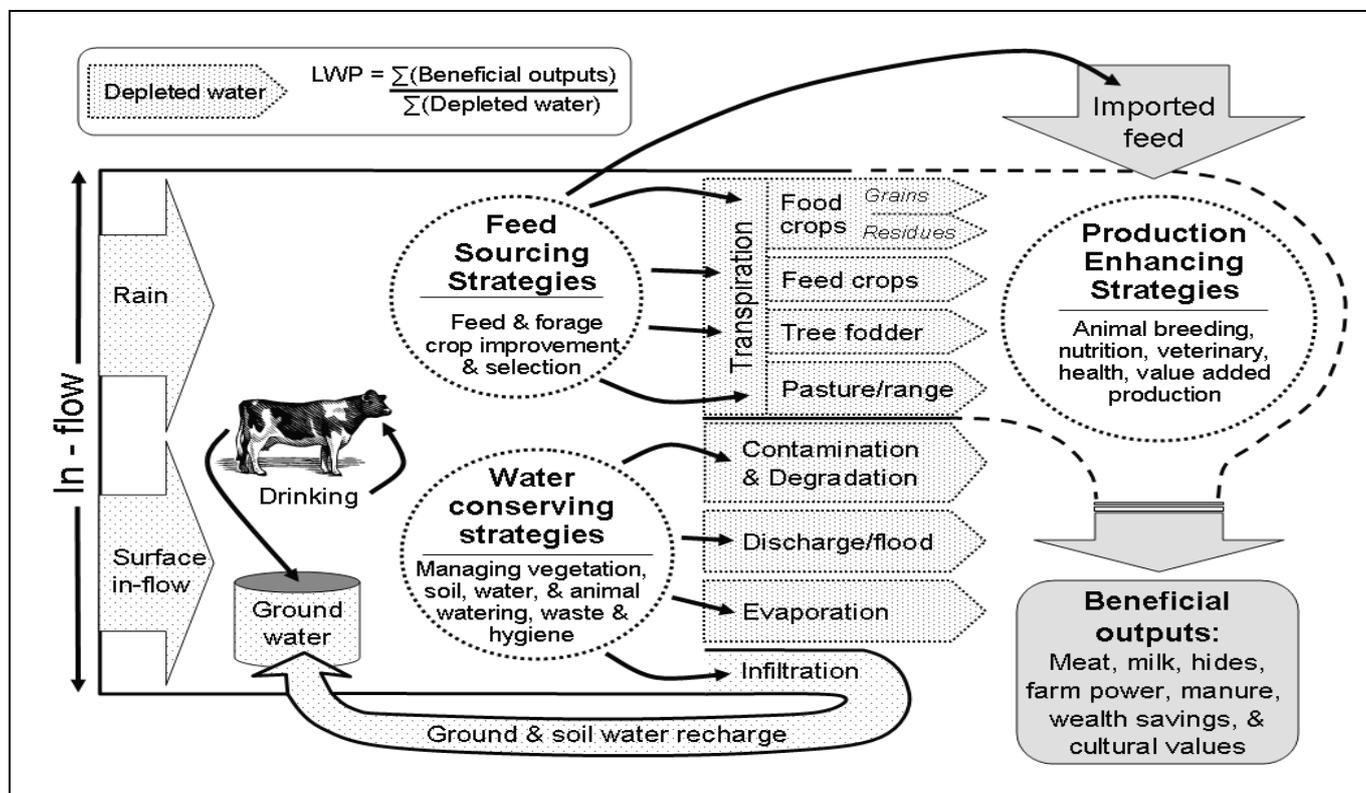


Figure 3: LWP depends on water accounting principles and helps identify opportunities for more effective water use (Peden et al., 2012)

## Livestock and Water Productivity

The Livestock Water Productivity (LWP) framework reflects the ratio of net beneficial livestock products and services to the amount of water depleted in producing these products and services (see Figure 3). The LWP can be increased directly by improving feed sourcing, water conservation and production-enhancing strategies. Feed and fodder sources can be improved through the use of more water-efficient food crops. Water-conserving strategies aim to avoid the contamination and degradation of water resources, whereas production-enhancing strategies lead to water-efficient production (see Box 2). The optimal spatial distribution of animals, drinking water and feed resources helps to improve the Livestock Water Productivity (Peden et al. 2012).

The LWP framework is especially true where livestock keepers depend on access to common resources. These strategies need to be incorporated into the management of common resources, especially to develop strategies that cope with aspects of climate change adaptation.

### Box 1: Livestock Water Productivity (LWP)

#### Feed sourcing strategies

The prime strategy is the use of crop residues or by-products of food production, as little or no additional water costs are involved. In contrast the use of irrigation water to produce feed and fodder (e.g. Alfalfa production) impairs high costs of water.

#### Water conserving strategies

Involves measures that reduce water run-off and increase water infiltration. In addition, vegetation strips around water sources limit water degradation (e.g. contamination with pathogens).

#### Production enhancing strategies

Provide continuous quality water, select and breed livestock for increased feed conversion efficiency, provide animal health to reduce animal mortality and morbidity, and add value to livestock products are the main production enhancing strategies.

Source: Peden et al., 2012

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