AFGHANISTAN: LIVESTOCK

Improved stable conditions boost livestock productivity

Figure 1: An improved stable with ventilation, light, well-drained floor, raised feed trough and limewashed walls.

Livestock are important to almost all rural households in the highlands of Central Afghanistan. They are the main disposable asset of most households, and the sale of young animals is a primary source of income. They also provide nutritious food for the household—particularly in the form of dairy products. In most cases, in summer, households graze their animals on the rangelands, often bringing them back to stabling at the homestead each evening. Throughout the six-month winter, they keep them permanently housed indoors. Productivity of the animals, particularly the average number of live offspring per dam (ewe), is very low.

Traditional practices

CRS conducted a descriptive research study from August 2014 to July 2015, funded by CAFOD, to understand the livestock production systems and possible reasons for low productivity in Ghor Province, Afghanistan. During regular visits to over 300 targeted households throughout the year, it was clear that animals were frequently stressed by poor stable conditions, particularly during the long winter. Stress may affect animals both directly, such as through appetite suppression and metabolic changes, or indirectly, such as through weakening of the immune system and increased susceptibility to pests and disease. All may affect productivity, morbidity and mortality. Similar unfavorable stable conditions have been observed in many other Middle Eastern and Central Asian countries.

The primary stress factors were (a) poor ventilation that allowed high ammonia levels to build up in the stable, causing respiratory ailments and particularly pneumonia; (b) poor lighting that can influence the physiology and behavior of animals; (c) uneven and/or wet floors causing foot rot and hypothermia when lying down; (d) uneven walls harboring ectoparasites; (e) a lack of readily available water, causing extreme thirst, and suppressing appetite and digestive processes; and (f) feed troughs contaminated with fecal matter.

Highlights

- Lamb and ewe losses were halved, equivalent to a 30 percent rise in income/ asset accumulation
- Veterinary expenses were reduced by up to 50 percent
- Only one to three of seven potential behaviors were trialed by farmers at any time, notably: improved roof ventilation, window enlargement and mud-plastering of the walls of stables
- Farmers selected behaviors that gave fast, significant, observable results
- The demonstration stable was complemented by focused, succinct messaging that served as a catalyst for discussion and testing

Figure 2: Tradition stable with poorly drained floors and rough walls, lacking in adequate feed and water troughs, ventilation and light.

Behavioral approach

In its agricultural livelihoods programming in Middle Eastern and Central Asian countries, CRS has been introducing a flexible behavioral approach based on social behavior change and industry-wide best practices developed in the health sector. Simple, responsive, low-cost, low-risk practices capable of giving a measurable (30+ percent) increase in productivity are identified and promoted through short, timely trainings.[1] Since many potential improvements were identified that met these criteria, the team introduced a package of improvements consisting of seven simple behaviors, each addressing a different stress factor, and each exhibited in a modified demonstration stable hosted by a community member. Each behavior was independent of the others and would have a beneficial effect even if adopted alone. Farmers could choose the behaviors they felt suited their situation.

Recommended changes

The recommended changes were to (a) insert vents, using 10 mm diameter pipes, in the roof or upper walls; (b) enlarge or insert windows; (c) cement the floors and add adequate drainage channels; (d) mud plaster the walls; (e) limewash the walls; (f) install permanent water troughs with water available throughout the day and night; and (g) raise the level of feed troughs to at least 30 cm. A training on potential stable modifications, open to all households, was held in each community in late spring or early summer to give households sufficient time to make modifications to their stable before winter. A male and a female member of each household was encouraged to attend, since both are involved in animal care, particularly during winter. The training was designed so that each behavior or improvement was clearly linked to the effect that it would have on animal comfort and stress, and the benefits that would accrue from it. The training was less than an hour long, for minimum disruption to daily household routines. No other messaging was given, although community members were free to ask questions on any related topic.

Outcomes

A series of farmer feedback sessions was held 12 to 18 months after the trainings. In all cases, most of the community members present, whether they had attended the trainings or not, had visited the demonstration and discussed it with the host farmer and neighbors. They were aware of the recommendations and the potential improvement in animal welfare, and related these to their own situation, demonstrating the power of a demonstration combined with strategic messaging; both in content and timing.

1. See Agricultural Behavior Change Introduction: *Introducing social behavior change to agricultural development*

Figure 3: A farmer's improved roof ventilation

Replication was widespread. No farmer selected all of the improvements. Most tried between one and three; notably, improved roof ventilation and window enlargement, followed by mud-plastering of the walls. These three key behaviors were practiced by over 90 percent of the farmers who had made improvements to their stables. Only two farmers improved their floor drainage. The other practices were rarely mentioned. A lack of time or the availability of labor, rather than finance, were consistently mentioned as the prime reasons for non-adoption.

Participants frequently reported that the atmosphere in the demonstration stables and their own modified stables was fresher and drier, and that animals breathed better with less coughing from respiratory infections. A reduction in ectoparasite infestation and fewer foot problems, such as foot rot, were also noted. All focus groups mentioned that their veterinary bills had fallen significantly since the introduction of the changes. Women in two villages mentioned that the animals were cleaner and said this assisted milking.

Farmers estimated that before the modifications, they could expect between 15 and 30 percent of their ewes and lambs to die and that this had now almost halved to between 10 and 15 percent. For an average flock of 25 breeding ewes, this results in 2 or 3 (10 percent) more ewes surviving the winter, and the average number of lambs surviving to sell rising from 18 to 21; equivalent to an approximate 30 percent rise in income/asset value.

Lessons learned

- From a recommendation involving multiple behaviors, farmers will elect those that are most relevant to their situation. This has implications where behaviors are interdependent.
- Farmers relate most to behaviors that give significant observable results: fresh air and reduced ectoparasite infestations and foot rot. These should be the entry point for the other behaviors at a later date.
- Time and labor availability were major factors influencing adoption; factors frequently mentioned in other interventions.