

Chapter Five

Constraints to Fodder Development

Land availability and damage by wild boar are the most frequently cited constraints to fodder development (RNR-RC Jakar 1996c). Similarly, Roder (1998b) reports that the question, "Why are you not planting more improved fodder" was most frequently answered with the argument that there is insufficient land available (Figure 60).

Although land limitation is frequently cited as the single most important constraint to fodder development activities, a closer analysis shows that the main constraints are more complex. The success of fodder and livestock development is impaired by the rules and legislation, the social customs and traditions, competition for other land use, a lack of available technologies, and inadequate processing and marketing facilities.

Land availability

The non-availability of land is generally mentioned as the single most important limitation to fodder development (RNR-RC Jakar 1996c; Roder 1998b). The recent survey, however,

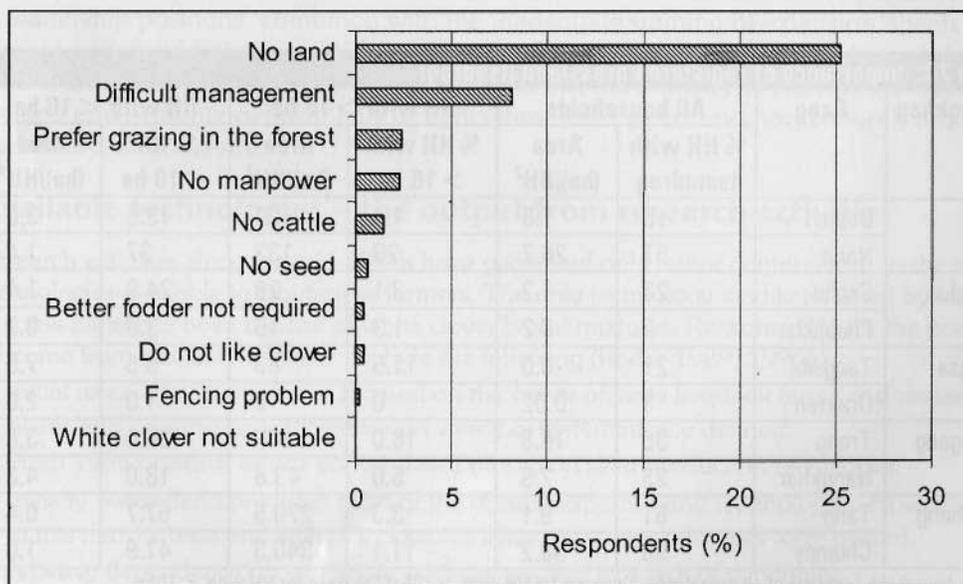


Figure 60: Why farmers are not planting more fodder

showed no relationship between the average size of landholding in a particular block and the response to the question whether land is limiting the extent of area used for fodder production (Table 73).

The response "not enough land" could also mean that, despite having a sufficient area, the land is too far from the house. Farmers generally like to have improved fodder growing near to their settlement. Most of the fodder areas developed on tsheri land in eastern Bhutan have reverted to weeds because of the difficulties in management caused by their distance from settlements.

Equally, "lack of land" should not be taken literally as the over-riding constraint for fodder development; it should rather be interpreted as fodder cultivation having less priority than field or horticultural crops. This lower priority results largely from animals not being productive enough to respond to better feed, and the technologies offered often being inappropriate. Government policies, subsidy structures and marketing support structures all favour rice production and the production of cash crops such as apple, potato, cardamom, and oranges. Farmers' reluctance to devote more land to growing fodder shows that they give more priority to field crops and horticulture (Table 73, last chapter). This priority may, however, change as smallholder farmers come to own more milking cows.

Rules and legislation

The resolution of uncertainties regarding the ownership of grazing lands has been pointed to as a prerequisite to improving Bhutan's grasslands (Gyamtsho 1996; RGOB 1997; Roder 1981a). However, discussions aimed at generating suitable rules and policies have continued over two decades without any tangible results (RGOB 1997).

In some areas the proportion of households with tsadrog is quite high (Table 74). Yet as a result of the uncertainties in rules and regulations the interest in improving these grasslands is generally low. Furthermore, the registered grassland areas are often far from homesteads and only migrating cattle herds can benefit from them. Less than 5% of the respondents who

Table 74: Importance of registered grassland (tsadrog)

Dzongkhag	Geog	All households		HH with > 10 ha		HH with < 10 ha	
		% HH with tsadrog	Area (ha)/HH ²	% HH with > 10 ha	Area (ha)/HH ³	% HH < 10 ha	Area (ha)/HH ⁴
Paro	Dopjari	15	1.8	1.4	100	13.6	3.0
	Narja	57	26.7	20	133	37	1.4
Wangdue	Sephu	28	1.2	3.1	28	24.9	1.4
	Phubjikha	5	0.2	1.3	15	3.8	0.7
Trongsa	Tangsibi	21	8.0	11.5	63	9.5	7.5
	Drakten	1	0.02	0	0	1.0	2.0
Zhemgang	Trong	36	16.8	16.0	100	20.0	3.8
	Nangkhor	23	2.9	5.0	43.8	18.0	4.3
Bumthang	Tang	61	9.1	3.3	270.5	57.7	0.4
	Chumey	53	38.2	11.1	340.3	41.9	1.0

¹ HH = household; ² average of all households; ³ average for HH with > 10ha; ⁴ average for HH with < 10ha

Source: Unpublished survey data, RNR-RC Jakar 1998

expressed interest in additional fodder development are planning to use tsadrog lands for this (RNR-RC Jakar 1998).

Fodder grown on cropland and tree fodder planted by farmers on registered land of any class are new systems that are not covered under the existing Land Act.

Social customs and traditions

In Bhutan the socio-religious taboo that forbids the killing of any kind of animal makes it very difficult or even impossible for farmers in many areas to cull their unproductive animals. The large number of unproductive animals in most cattle herds substantially dilutes the positive effect of increased dry matter produced and improved fodder quality.

Other socio-economic factors that depress the possible impact of fodder development and livestock production include

- the concentration of large cattle herds with a limited number of better-off families, with many less well-off farmers having no milking animals;
- cattle migratory systems, which reduce the potential for cross-breeding programmes because crossbred animals are often unsuitable for walking long distances;
- the traditional, successful cross-breeding programme with mithun: this system, although resulting in immediate benefits, reduces the overall milk production potential of the cattle population and makes it difficult or impossible to make any advances by selective breeding (Burgeois-Luethi 1998).

Human resource development

The Ministry of Agriculture lacks personnel trained in fodder agronomy, the management of permanent grassland, and grassland ecology. Similarly, the curricula of the sole institution that trains extension personnel - the Natural Resources Training Institute (NRTI) - does not include appropriate instruction on fodder agronomy and the management of permanent grasslands. Fodder resource development is generally given secondary importance within the livestock extension activities due to the lack of professionals in leadership positions, combined with the inadequate training of extension agents. The present system of training in NRTI and implementation of extension activities at the district level simply follows the old system in which the Ministry of Agriculture was divided into separate departments of agriculture (field crops and horticulture), animal husbandry, and forestry.

Available technologies – the output from research activities

Research activities since the mid-1980s have generated only minor contributions to the set of technologies available to Bhutanese farmers. The only technology readily adopted by farmers in some areas has been the use of white clover based mixtures. Reasons cited for the poor outcome from research activities include the following (Roder 1989, 1996a).

- Initial research activities were focused on the needs of large livestock farms and research needs and opportunities for extension were not systematically defined.
- From 1986 onwards efforts concentrated mostly on seed production techniques.
- Initially Switzerland provided most of the outside expertise and technologies. However, due to this narrow base and lack of innovative ideas many opportunities were missed.
- A heavy dependence on expatriate advisors resulted in a lack of continuity.

- Meaningful inclusion of farmers in the research process was not given enough attention. No farmer participatory methods were used and insufficient on-farm work was carried out.
- Insufficient emphasis was also paid to institution building. Initial work was carried out in a project attached to the Ministry of Trade and Industry. A research centre established in 1982 (GAFRC) was changed to a seed multiplication centre after only four years.
- Some long-term crop rotation and agroforestry experiments had major design flaws and absorbed researchers' time over many years without giving any tangible results.

Processing and marketing

Except for a few pockets, milk producing farmers process the milk themselves using traditional systems. The processing of a few litres of milk into cheese and butter is very time consuming and reduces profitability (Figure 61).



Figure 61: Traditional butter making