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Livestock, livelihood and drought: a PRA exercise in Botswana

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This note is based on a PRA training exercise conducted with the villagers of Mapoka, Zwenshambe and Nlaphwane in the north-east district of Botswana and the participants of a PRA workshop. The workshop was arranged by the FAO Farming Systems Programme, Gabarone, Botswana in June 1992. Some interesting aspects of livelihood emerged from the exercise and are described below.

• **Background**

The climate of the north-east district of Botswana is semi-arid, with a rainy season generally lasting six months, although there are marked variations in annual rainfall. It is a region largely inhabited by the Bakalanga people.

A substantial part of the district consists of freehold land containing commercial farms. The remainder is communal land, where the PRA was conducted. Here there has been considerable out-migration of young males to nearby towns, leaving more than half of the households headed by women.

The training exercise was conducted whilst the villagers were experiencing one of the worst droughts of the century. This was inflicting tremendous pressure on the farmers' livelihoods through:

- Crop failures;
- Shortage of pasture; and,
- Livestock mortality (leading to loss of draft power and manure, further reducing capacities to grow crops).

Livestock, although few in number at the time, play a critical role in the subsistence economies in the north-east district of Botswana. They are used primarily as a source of draft, manure, income and food.

• **Participatory methods**

Some PRA methods were used to learn more about the relationship between the villagers and their livestock. This paper presents a selection of livestock issues which came to light during the exercise.

Matrix scoring

Preferences for different types of livestock were expressed by the villagers of Zwenshambe using a matrix scoring exercise. The outcome is shown in Figure 1. They chose four types of animals: cattle, goats, poultry and donkeys. These were then ranked according to the following six attributes: numbers kept; utility; hardiness; security; ease of acquisition; and ease of marketing. The animals were given scores for each of the six attributes. The scores were assigned using seeds and other materials.

Figure 1. Matrix scoring of livestock: Zwenshambe village, Botswana (Village analyst: Matopote)

ATTRIBUTES	CATTLE	GOATS	DONKEY	POULTRY
NUMBERS	3	10	5	9
UTILITY	9	18	7	14
HARDINESS	5	6	13	10
SECURITY	10	7	7	6
ACQUISITION	2	4	3	6
MARKETING	2	5	3	7

Source: courtesy of the Kudus Group, PRA Training Workshop, 15-20 June 1992, FAO, FSP, Francistown, Botswana.

Semi-structured interviews

The following topics were discussed during informal interviews:

- The existing agricultural management system;
- Levels of household livestock ownership;
- Patterns of labour;
- Land ownership; and,
- The main constraints on crop cultivation (quality of land, variable rainfall, shortage of draft power and inadequate supply of manure).

The importance of livestock in the local agricultural system was emphasised during the

interviews. Manure provides the main source of crop nutrients, fertiliser being too expensive to use on a large scale. Some farmers own too few animals to produce adequate amounts of manure to fertilise all their fields, while others possess no livestock at all.

Draft power is also a limiting factor in the local agricultural system. Farmers without animals commonly hire them for cultivation in exchange for their own labour in the lenders' fields. Villagers did not consider tractors to be a viable alternative to draft power. One farmer observed that tractors plough deep, encouraging the spread of unwanted couch grass which has deep roots.

Seasonal food calendar

The villagers of Nlaphwane prepared a seasonal food calendar to illustrate the type and quantity of food available during a drought-free year (Figure 2). This shows the importance of livestock products in the villagers' diet at times when the staple crop foods are less abundant. The preparation of the calendar provided an opportunity to discuss livestock marketing and survival strategies during the dry season or in times of drought. Goat meat is consumed during the period of diminishing food crops and *biltong* (dried beef) is eaten during food shortages. In times of drought, goats will be sold or exchanged in the market for staple foods. Cattle are rarely sold but provide milk, meat and draft power.

Preference ranking

Many farmers grow fodder crops on their farms to supplement the diets of their herded animals. Wild trees are also an important source of fodder. These were the focus of a ranking exercise in Nlaphwane. The trees were scored and ranked according to their suitability as animal fodder.

• Conclusion

The PRA exercise highlighted a range of different aspects of village livestock and livelihood. The issue of livestock was so integral to the village economies that it was referred to time and time again in discussions about different aspects of livelihood. The visual PRA methods brought to the surface hidden problems, priorities, preferences and uses of livestock and helped in deeper probing of issues important to the villagers.

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