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The progeny history data collection technique: a case study from Samburu District, Kenya

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• Introduction

This article focuses on the use of progeny histories to collect information on aspects of livestock production. The Intermediate Technology Development Group (ITDG) has used this technique extensively in studies carried out to develop community-based animal health care programmes in various parts of Kenya.

In 1989, Oxfam requested the help of ITDG in developing the animal health component of their livestock and restocking programme in Samburu district. Samburu district is located in the semi-arid rangelands of northern Kenya. Livestock are the primary means of livelihood for the majority of the pastoralists living in this region. They provide food, household commodities, a source of cash and perform numerous social functions.

As a first step, we carried out a study to determine the following:

- The nature of animal health problems in the area;
- Existing levels of veterinary knowledge amongst pastoralists; and,
- Animal health services already available, both indigenous and Western veterinary services.

This was done using both formal and informal techniques. The formal techniques consisted of wealth ranking, a short household questionnaire, an ethnoveterinary question list and a progeny history question list. The informal techniques included discussions with pastoralists and government staff, use of key informants, observation of husbandry practices,

and a review of relevant literature. The progeny history technique was therefore used in conjunction with a variety of other data collection methods.

Progeny history: methodology

Progeny histories can be used to collect information on a large number of animals in a short period of time. The technique is relatively straight-forward and easy to carry out. In the Samburu study pastoralists enjoyed talking about their livestock during the interviews, and were quite happy to provide the required information.

Progeny histories are essentially livestock genealogies, which describe the fate of all the offspring of a given female animal. They provide quantitative data on the fate of animals that have left the herd or flock. This includes information on voluntary offtake, such as number of animals sold, exchanged, given away as gifts and slaughtered for food, as well as animals that have died as a result of disease, drought, predators or other causes such as theft.

Background information required

Before using the progeny history technique it is essential that certain background information is known. This is essential to ensure that the data collected is relevant and accurate. This will require the assistance of both a veterinarian/livestock production specialist and a social scientist. Also critical to the process are dialogue and participation with the livestock owners themselves. Background information should be collected on the following:

- *Local disease knowledge.* A list of diseases and disease syndromes recognised by livestock owners living in the area should be compiled in the local language. Attempts to translate these into Western veterinary equivalents for the purposes of the interview can be problematic and is best avoided. This is because pastoralists frequently categorise disease according to observable signs rather than causal agents, as is the case with western veterinary medicine. During the interview diseases should be recorded in the vernacular to avoid confusion and to ensure accuracy.
- *Local age categorisation.* Pastoralists like the Samburu rarely age their animals in years. Instead livestock are categorised according to maturity, physiological state, reproductive history and potential, and barter value (Table 1). Such systems are detailed and accurate but often complex and must be clearly understood. To ensure accurate data collection and to avoid errors brought about by translation, age categories reported by respondents should be recorded in the vernacular language during interviews. The categories can be later simplified (for example into years and weights) for analysis.
- *Important local events.* The names and dates of recent events in history, such as droughts and major ceremonies, can be compiled in order to date out-breaks of disease, and assist in determining the age of animals.
- *Social organisation of the community.* The sample of people interviewed should be representative of the community as a whole so that the results of the survey can be applied generally to that population. This requires some method of stratifying the community. In the Samburu study the wealth ranking technique was used. Communities were stratified according to wealth, which is defined by pastoralists as the number of animals owned. Wealth is known to effect factors such as animal husbandry practices, offtake and response to disease outbreaks (Iles, 1990). For the progeny histories, pastoralists from poor, middle and wealthy households were interviewed. Use of the wealth ranking

technique requires some knowledge of the social organization of the community.

The progeny history question list

The technique involves conducting an interview with the owner or herder using a structured question list, illustrated in Box 1. The informant is first asked to select from the herd or flock, an adult female animal that has given birth. Interviews are best conducted at the homestead near to the livestock corral so that the animal under discussion can be seen. The informant is then asked the questions listed in Box 1. Responses are recorded systematically in a notebook. It is important that they are written clearly in a predetermined format for ease of coding. Analysis is straightforward and may be carried out by hand or computer.

From this, detailed information on exactly what diseases (as defined by pastoralists) animals are dying of can be determined. The precise diseases affecting certain ages and classes of livestock can also be quantified, and this information can be used to determine mortality rates. The progeny history technique also provides data on herd and flock structure, and from this information on fertility can be derived. An advantage of progeny histories is that they provide data over an extended period of time (approximately 5-10 years), compared to other single interview techniques, such as questionnaires, which often only provide information over a short time frame. Information from progeny histories can be used to illustrate patterns in the fate of livestock over time so that trends can be identified. Unexpected, irregular events such as droughts and major disease outbreaks can be taken into account.

The type of questions asked during progeny history interviews can be varied depending on the objectives of the study. For instance, if disease incidence and transmission is the focus of interest, then probing questions on disease classification, age/sex specific disease impacts, symptoms and treatment can be explored. However, if livestock functions are of more interest, then more probing can be invested in exploring the motivation behind sales, the

contexts for animal purchase etc. (B. Grandin, pers. comm.).

Table 1. Samburu cattle production categories

Livestock	Samburu	Nearest English Equivalent	Translation/Comment
Female	Nkashe Lelerie	Calf	Young calf
	Nkashe Pus		Grey calf
	Nkashe Botor		Big/senior calf
	Nkarami	Weaner	Full grown
	Ntawo	Heifer	
	Ntawo e Laigoni	Cow	Heifer of bull
	Mtawo e Laong'o		Heifer of steer, birthed 1 or 2 times
	Nkiteng		Mature cow, birthed 3+ times
Male	Lashe Lelerie	Calf	Young calf
	(castrated) Lashe Pus		Grey calf
	Lashe Botor		Big/senior calf
	Larami	Weaner	Full grown
	Laong'o le sile	Steer	Steer of debt
	Laong'o le laugot		Steer of Leugot ceremony
	Surnash	Castrated Bull	
	Laong'o le ntawo	Steer	Steer of heifer
	Laong'o le Lashau Okuni		Steer of 3 calves
	Laong'o le Ong'uan		Steer of 4 calves
(entire)	Lashe Lelerie	Calf	Young calf
(castrated)	Lashe Pus		Grey calf
	Lashe Botor		Big/senior calf
	Larami	Weaner	Full grown
	Lpole	Young Bull	Not mounted
	Lponos	Bull	Young but mounted
	Laingoni	Bull	Mature bull

Source: Sperling, 1987 (where further information on goats, sheep, donkeys and camels can be found).

BOX 1

THE PROGENY HISTORY QUESTION LIST

First explain to the livestock owner that the point of this exercise is to find out what problems he/she has with his animals. If he/she only tells us about the good ones, then we won't know what the problems are. We need to find out about good, average and poor animals so that we can plan the programme.

Write the person's name, *manyatta* name, and card number down, then:

1. Ask the livestock owner to give the names of six bloodlines¹ of animals and from this ask him/her to choose two good ones, two average ones and two poor ones. Pick an adult female animal in his/her *boma* which has had calves, kids or lambs. Write them down. If he/she has less than six lines, just write down the ones he has.
2. For one good animal, write down the name and ask:
 - Where did it come from?
 - How many pregnancies?
 - How many abortions?
 - If still in herd, is she pregnant, dry or barren?
3. Then for each birth ask:
 - Was it a single or a twin? (record twins separately)
 - What happened to it?
 - Why?
 - Age now, or age when left herd?If it was female and is still in the herd and has given birth, then write its name down as the mothers name -1. For subsequent ones, number them sequentially.
4. When you have finished all the births of the original animal, repeat questions two and three for each of the female offspring which gave given birth².
5. Repeat questions two and three for at least one average and one poor animal, and time-permitting, for the other three animals. If the owner does not have that many lines in his herd, then do all the lines that he/she has.

Source: Iles, 1990.

¹ In Maasai this translates literally as 'house' (B. Grandin, pers. comm).

² Barbara Grandin reports that it was possible to go back in time to cover the progeny history of the 'mothers' of each live female. One woman went back 30 years to the animals she was given on her wedding day! This gives a much longer time frame for information than just using animals in the herd. This is particularly important for exploring episodic events and long-term cyclical impacts (Grandin, pers. comm.).

Case study: progeny histories in Samburu District

In the Samburu case, the interviews were carried out in the vernacular language by Oxfam staff who were themselves pastoralists. The responses were recorded in English. Elders

made up the majority of the people who were interviewed.

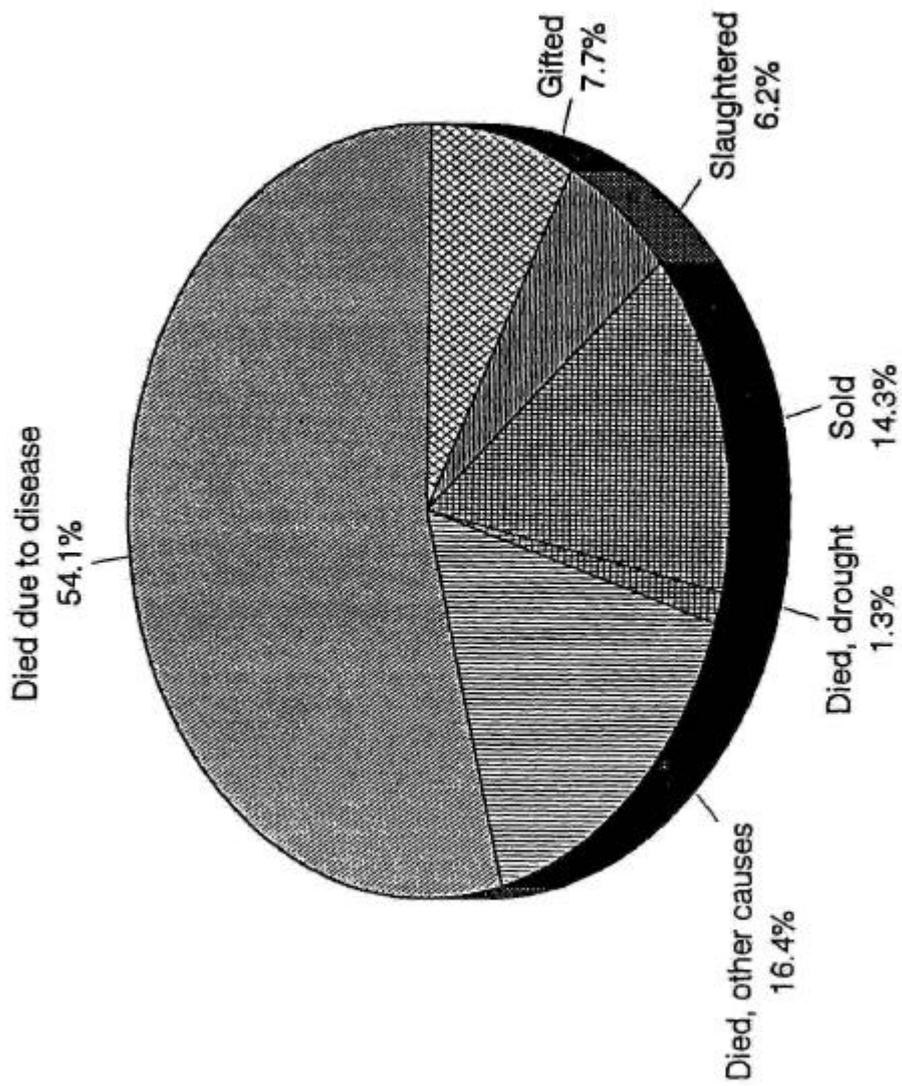
Table 1 and Figure 1 illustrate examples of the type of data collected in Samburu district. For example, 66 per cent of cattle born into the herd remain in the herd (Table 2). Of the goats and sheep that left the herd 54.2 per cent died as a result of disease (Figure 1).

Table 2. Overall fate of offspring, Samburu District

Fate	Camels (n=42)	Cattle (n=144)	Goats/Sheep (n=121)
Still in the herd	61%	66%	60%
Died: disease	23%	12%	22%
Died: drought	1%	4%	1%
Died: other causes	5%	4%	7%
Sold	4%	9%	6%
Slaughtered	2%	2%	2%
Exchange/gift/loan	4%	3%	3%

Source: Iles, 1990.

Figure 1. Fate of Smallstock Leaving the Flock (as percentage of total leaving)



Source: Iles (1990)

• Lessons learned

Progeny histories are limited in that they do not provide information on such topics as livestock owners' attitudes (for example towards traditional medicine), or data on chronic, non-fatal diseases which may nevertheless be important from the pastoralists' point of view. Progeny histories should therefore be used in conjunction with other data collection techniques such as ethnoveterinary question lists, informal interviews and sentinel herd studies, if a wider understanding of the constraints to livestock production is required. Other lessons learnt during the study are discussed below.

Interviewing

Experience from Samburu illustrates the critical role that interviewers play in the collection of data using the progeny history technique. The interviews can be carried out by extension workers, as was the case in the Samburu study. However, it is important these interviewers are given training in interview techniques and have ample practice in asking questions and recording the responses accurately and systematically. Training should also provide them with a clear understanding of the purpose for the questions and to what use the data will be put. Interviewers should have a knowledge of and respect for the local culture and traditional livestock practices. If not, their lack of understanding will inevitably be conveyed and pastoralists are unlikely to provide detailed and accurate information, or even be willing to devote much time to the interview. The interviews are best carried out by people fluent in the vernacular language, who will also be aware of how questions can be asked in a way that is appropriate to the culture.

Adapting questions to the local culture

Testing the technique before it is used as part of a larger study is essential to ensure that the questions themselves are culturally appropriate. For example, in the Samburu case there was a problem over the question about the number of abortions an animal had had (Box 1). The Samburu tended not to regard these as a pregnancy, so that the number of pregnancies

for a single animal could potentially be under reported. The interviewers overcame this problem by broaching the question through discussion.

The size of the data set

Even though information can be collected rapidly through progeny histories, the coding and entering on computer of this data can be time consuming, especially if a large number of animals are involved (3000 in the Samburu case). To avoid wasting time and resources, the number of animals on which data is required should be calculated, and from this the number of interviews carefully planned.

• Conclusion

The progeny history technique is an extremely useful method for collecting accurate information in a culturally sensitive way. It compliments other data collection techniques, in particular providing quantitative information to verify qualitative data gathered through discussions.

Progeny history techniques work best with more important, valued species. Everywhere cattle data has been better than for smallstock species. Largestock give birth less often, rarely twin and so histories are easier to remember.

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