

The British Government's recent White Paper on International Development (2000) has committed Department for International Development (DFID) to achieving International Development Targets¹ in poverty reduction. This has important implications for DFID's investment in livestock (and other) research. A 'sustainable livelihoods (SL)' approach (Carney, 1998) has been adopted, with a focus on people, rather than production, and on understanding the factors that shape poor people's livelihoods. Given a wider focus on poverty reduction, there is an urgent need for all research and development agencies to reconsider how best to operate in ways that will benefit poor people.

There are various fundamental questions that need to be answered if livestock research and development activities are to contribute effectively to the goals of organisations such as ILRI and DFID. For example:

- How do livestock contribute to the livelihoods of poor people?
- Where are significant groups of poor livestock keepers located?
- What other features characterise these groups of poor people?
- How are these populations likely to change in size and location over time?
- How are their physical environments expected to change in the future?

In general, our ability to answer such questions satisfactorily is very patchy, both spatially and temporally. In-depth study of communities in terms of the sustainability and vulnerability of their livelihoods can provide extremely useful information at a case-study level (see, for example, Thorne and Tanner, 2001). However, there is an urgent need for poverty assessments at the national, regional and even continental

level to assist in targeting research and development activities that would have a positive impact on large numbers of poor people. Such assessments cannot use case-study methods (although the latter can be used very effectively for validating broader approaches) but must rely on other approaches.

Thus, the objective of this study was to produce sets of maps locating the significant populations of poor livestock keepers in the world, and to assess in very broad terms how these populations are likely to change over the next 3–5 decades (the Terms of Reference of the study are included as Appendix 1). The outputs were to include a map illustrating the global distribution of poor livestock keepers, and a more detailed map of livestock and poverty in East Africa. The project was to make use of existing data and spatial data layers, together with information from the literature and the opinion of appropriate experts.

In this report, we outline the sources of data used and the assumptions made, present and annotate the maps produced and give guidance on potential locations where livestock research efforts could profitably be focused in the future. The report also contains a brief section on the limitations of the current outputs and work that could be done in the future to improve them (see Appendix 3).

1.1 Overview of the analysis

The general flow of data is shown in Figure 1. The central element is a global livestock classification based on that of Seré and Steinfeld (1996). For the purposes of this project, the classification is defined primarily in terms of climate and human population density, in ways that are described in Section 2. We developed population scenarios to 2050. These, together with other work from CIAT and ILRI that has resulted in climate surfaces to 2050 (incorporating what is currently known about the likely effects of climate change; Jones and Thornton, 2002), enabled us to map livestock system changes to the middle of the present century by 'rerunning' the livestock system classification with population densities and climate variables that may be indicative of conditions at that time.

1. These include:

- A reduction by one half in the proportion of people living in extreme poverty by 2015
- Universal primary education in all countries by 2015
- A two-thirds reduction in infant and under-fives mortality rates and a three-fourths reduction in maternal mortality rates by 2015.



