

Summary

The British Government's Department for International Development (DFID) is considering new initiatives to support livestock research. These must be underpinned by a better understanding of how livestock contribute to the livelihoods of poor people and by identification of significant groups of poor livestock keepers that the initiatives may target. This study has produced a set of maps and tables that locate significant populations of poor livestock keepers and has broadly assessed how poor livestock keeping populations are likely to change over the next 3–5 decades. The outputs of the study are based on innovative analyses using new global data sets:

- Mapping a global livestock production system classification, using definitions based on agroclimatology and human population density.
- Mapping human population growth scenarios to 2050 for sub-Saharan Africa (SSA), Central and South America (CSA), and Asia.
- Development of climate surfaces for Africa to 2050 as predicted from the downscaling of results from coarse-resolution global climate change models.
- Mapping the livestock system classification for Africa to 2050 as driven by predicted changes in human population and climate.
- Mapping district- and province-level poverty data for Kenya, Tanzania and Uganda as an example of high-resolution poverty data for more effective targeting of development assistance.

Major conclusions of the analyses include the following:

1. Numbers of poor (and numbers of poor livestock keepers, as far as this analysis can be taken) are greatest in South Asia (SA), particularly in the mixed irrigated and rainfed agricultural production systems of the region, and in SSA, particularly in the mixed rainfed systems. Because relatively large numbers of scientists in SA are working on livestock issues, it appears that SSA affords more general scope for livestock-related research and development interventions for the poor.
2. Population growth and climate change will produce substantial changes in livestock production systems over the next 3–5 decades.

There are indications that the magnitude of these systems changes, and the consequent need for adaptation and mitigation work, will be particularly large in SSA.

3. Poverty and household survey data for East Africa in general, and Kenya in particular, indicate that many poor households keep cattle and have access to land for grazing them. Thus, these results show that large livestock are not solely the prerogative of richer households. The results further indicate that the poorest people in East Africa with significant livestock populations live in dry pastoral areas.
4. Considerably more work is required to better inform donors and the research and development community of where hotspots of change are located, who is likely to be affected and how. More collaborative assembling of global data sets is indicated, together with high-resolution poverty mapping based on small-area estimation techniques, collation of geo-referenced household surveys and better understanding of poverty–resource degradation links.
5. Poverty mapping information is key to any convincing framework for livestock-related research and development priority setting. A consensus on appropriate criteria is needed, together with an action plan to fund and carry out the collection and maintenance of crucial baseline data.

