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## Livestock Breeds and Genes on the Move: Exchanges Between North and South

EVELYN MATHIAS

*League for Pastoral People and Endogenous Livestock Development, Germany*

### Abstract

Drawing especially on data about Germany, this paper summarises the findings of a study on the exchanges of livestock and poultry breeds and their genetic materials between the North and the South in recent history. Particular focus is given to smallholder keepers in the South because they have been crucial to breed development in non-temperate climatic zones and millions of them depend on livestock for their livelihoods. Data were collected through literature searches, the analysis of statistical information, and informal interviews. The findings indicate that in the 20<sup>th</sup> century the quantity of gene flows from South to North appears to have been smaller than the number of animals, semen, embryos and eggs shipped from the North to the South. However, despite the extensive flows, impact in the South has remained limited and benefits mostly by-passed pastoralists and poor livestock keepers. Examples from the North indicate that it may not need large amounts of genetic materials to establish breeds that can make an economic difference. Factors determining the outcome of a breeding programme include how it is planned and implemented, whether a breed is suited for the new environment and fits in with the goals and strategies of the producers; and whether a country is offering institutional and legal support to its producers. Unfortunately governments in the South tend to favour livestock industrialisation at the expense of smallholder producers. International agreements regulating agricultural trade are likely to enhance such trends and increase gene flows to the South. Furthermore, with progressing intensification and industrialisation breeding decisions are increasingly taken out of the hand of farmers and herders. However, their involvement remains crucial for the continuation of the development of breeds adapted to natural environments and for the maintenance of breed diversity. To support smallholder keepers, governments in the South need to recognise the smallholders' contribution to breed development and secure their access to grazing and water, services and education. Governments also need to ensure that the access and free exchange of genetic materials do not become restricted by patents on animals, genes and breeding strategies.

**Keywords:** Agrobiodiversity, animal genetic resources, breed exchanges, breed movements, crossbreeding, gene flows, livestock development, pastoralists, smallholder producers