



No. 5.1 Livestock Programmes: Types of Livestock Systems

Why do we need to classify livestock systems?

Poverty remains largely a rural phenomenon, and livestock is an important part of the livelihoods of rural poor people. Worldwide, it is estimated that livestock forms a component of the livelihoods of at least 70 percent of rural poor people.¹

As some of the communities most vulnerable to weather-related shocks are those that generate livelihoods from livestock, it is important that Oxfam GB emergency food security and livelihoods (EFSL) staff have an understanding of the different types of livestock management systems, to help guide livestock-based humanitarian interventions.

There are different ways of classifying livestock systems, but the most common one is according to land exploitation.

This document presents four main types of systems: **range-based livestock systems** (which includes the

pastoral system), **agro-pastoral**, **crop-based livestock**, and **landless systems**.²

Further details of specific livestock-based emergency responses can be found in the EFSL Livestock Program Rough Guides, referenced at the end of this document.



Fig. 1: Pastoralism is important to the livelihoods of the Maasai in Tanzania (Credit: Ami Vitale/OXFAM)

What are range-based livestock systems?

Also called '**grassland-based systems**' or '**extensive grazing systems**', range-based (or **pastoral**) systems are those in which more than 90 percent of dry matter fed to animals comes from rangeland, pastures, annual forages and purchased feed, and less than 10 percent of the total value of production comes from non-livestock farming activities.

A '**pastoral system**' is a production system in which 50 percent or more of gross household revenue comes from livestock or livestock related activities. Some forms of pastoralism can be nomadic, but actually few pastoralist societies could be considered strictly nomadic.

Box 1: Pastoralism—a way of life

The nature of pastoralism is much broader than the extensive herding of livestock. *Pastoralism is a particular type of cultural identity, an economic way of life, and a set of societal norms and behaviours.* Worldwide, it is estimated that there is 200 million pastoralists and over two thirds are considered to be poor. As such, *pastoralist populations are among the world's most vulnerable citizens.*

Terms like '**nomadism**', '**semi-nomadism**' and '**transhumance**' are used depending on the regularity of migration and the extent to which the household maintains a home base. However, such terms fail to capture the complexity of migration strategies and are now used less than they were (see Box 1).

The term '**ranching**' refers to systems where large areas of rangeland are the private property of individuals, small groups or companies.

What are agro-pastoral systems?

Agropastoralism defines a system in which more than 50 percent of household gross revenue comes from farming, and 10–50 percent from pastoralism. In practice 'agro-pastoralism' is used to describe mixed-crop livestock systems found over large areas with extensive grazing and a low level of integration between livestock and crop systems.

There are two main movements amongst agropastoralists: one represents a diversification from settled agriculture, while the other is a relatively stable adaptation of pastoralism. In fact, agropastoralists are often former pastoral communities who have adopted agriculture as a coping strategy.

What are crop-based livestock systems?

Crop-based farming systems refer to **the integration of crops and animals on the same farm**. This type of farming forms the backbone of smallholder agriculture throughout the developing world. In global terms, these systems provide over 50 percent of the output of meat and 90 percent of milk. These systems are especially dominant in both the irrigated and non-irrigated areas in humid and sub-humid environments. The traditional small farm scenario is characterised by low capital input, limited access to resources, low economic efficiency, diversified agriculture and resource use, and conservative farmers with limited access to/knowledge of new technologies, living on the threshold between subsistence and poverty.

Mixed farming systems provide farmers with an opportunity to diversify risk from a single commodity, to use labour more efficiently, to have several sources of cash for purchasing farm inputs and to add value to crops or their by-products. Combining crops and livestock also has many environmental benefits, including the maintenance of soil fertility by recycling nutrients, and providing entry-points for practices that promote sustainability, such as the introduction of improved forage legumes. Mixed farming systems maintain soil biodiversity, minimise soil erosion, conserve water, and make the best use of crop residues that might otherwise be burnt, leading to carbon dioxide emissions. Feed resources provide a direct link between crops and animals and the interactions between the two dictate, to a large extent, the development of the systems.

What are landless livestock systems?

Landless systems are those where less than 10 percent of the dry matter consumed is produced on the farm where the livestock are located, and where annual average stocking rates are above 10 livestock units. Landless livestock systems can be distinguished as either rural or urban/peri-urban:

- **Urban and peri-urban** landless systems are based on a long tradition of recycling waste for agricultural uses. The scale and intensity of production are often a response to increasing urbanisation, market opportunities and strong private sector participation. Urban livestock production is a large industry, involving many small-scale farmers and some large agri-businesses. The systems are diverse. A whole range of livestock is kept in cities: the choice will depend on traditional food preferences and capital availability, as in rural areas, but also on availability of space.
- **Rural landless systems** are spread all over the world. They include poultries, pigs but also grazing animals. For grazing animals these systems are based on grazing of the roadsides, hired land with forage or leguminous trees to harvest leaves and pods.

Where can I find further reading and more detailed information?

Oxfam EFSL Rough Guides on Livestock Programmes: <ul style="list-style-type: none">– 5.2 Vaccination– 5.3 De-stocking– 5.4 Re-stocking	Information on livestock health: <ul style="list-style-type: none">– The World Organisation for Animal Health www.oie.int– Vet Aid www.vetaid.org
Livestock Emergency Guidelines and Standards (LEGS): www.livestock-emergency.net	CIRAD – Agricultural research for developing countries http://epitrop.cirad.fr

Who can I contact for more information and guidance?

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References:

1. Livestock in Development. 2000. *Livestock in poverty-focussed development*. LID, Somerset.
2. Devendra C. et al. 2005. 'Livestock systems' in Owen et al. (Eds.) *Livestock and wealth creation: improving the husbandry of animals kept by resource-poor people in developing countries*. Nottingham University Press, Nottingham. See also **ILRI 2002**: Mapping Poverty and Livestock in the Developing World, which has a table that describes and provides examples of the various livestock systems: www.ilri.org/Infoserv/webpub/Fulldocs/Mappoverty/media/17.htm (Accessed March 2010)