Methodologies, Organizations and Networks in Endogenous Livestock Development

Learning Objectives: Understanding
- The role of livestock in integrated agricultural systems
- The endogenous development concept
- Endogenous livestock development (ELD)
- Methodologies to support ELD
- Organizations and networks engaged in ELD initiatives

Role of Livestock as Part of Integrated Agricultural Systems

The word agriculture is comprised of two parts: *agri* and *culture*. This highlights the fact that in many societies, agriculture does not simply imply the production of a crop or livestock; it is actually their way of life. This is still expressed in many rural communities today. In many developing countries, up to 95% of families receive their livelihoods from agriculture every day (Fig. 3.1). Within these societies, meat, milk and eggs are not neatly packaged in cardboard or plastic containers, and the role of livestock is not debated.

Livestock are an integrated part of the agricultural systems that stand at the basis of the farms and family life in many parts of the world. In most rural communities in Asia, Latin America, Eastern Europe and Africa, livestock are essential for draft power, organic fertilizer and transportation. They are a source of nutritional protein, wool, leather and fibres. Raising animals is also a form of security against climatic and economic risks, and a means of accumulating and maintaining financial reserves. In this sense in many cultures, animals are not only seen as a cash investment, but rather as 'wealth' in a more cultural sense. Besides money, this traditional concept of wealth includes family, land, respect, knowledge and skills, happiness, acceptability and satisfaction (van't Hooft et al., 2008).

Animals also play a significant role in cultural and spiritual life, especially linked to cultural identity (Fig. 3.2). There are countless examples of this. Many pastoral people, such as the Fulani in western Africa, have linked their myth of origin to taking care of their animals. This aspect of identity is also expressed into animals as 'totem symbols'. In many cultures, no ritual or ceremony can take place without the ritual slaughter of an animal; animals are presented as a gift during marriage or maturity rituals. Women in parts of south Asia can
Livestock are part of our lives, our survival depends upon them, without them we have no life. They provide milk, money, manure. They pay our hospital bills and education. They are like brothers and sisters to me. We use livestock to create good relationships with our family members, or to support family members that have been afflicted by a disaster. Indirectly the manure has helped us to develop a good relationship with non-pastoralist communities, because it has improved the fertility of their lands.

El Haji Eggi Sule, Mbororo pastoralist, ethno-vet healer in Niam Village, Bui division, Cameroon

We use animals for celebrating deaths, births and marriages. Also for food and manure. Since the Holstein breed is new to our society and their prices are higher, I might sell a bull and buy a local breed and reserve them for these celebrations, like the Goudali. Animals and crops are a two-way traffic. Crops provide fodder for the animals and manure supplies nutrients for the crops.

Stephan Ndonwi, dairy farmer, Akum village, Mezam, Cameroon

Box 3.1. Farmers’ voices about the diverse and complex role of animals (van’t Hooft et al., 2008).

Endogenous Development

The word endogenous means ‘growing from within’. Endogenous development as an approach evolved out of the school of action research and participatory approaches in agriculture and natural resource management in the late 1980s. During the course of the 1990s, the importance of participatory approaches and of integrating local knowledge into development interventions became broadly recognized. However, in practice, many of the approaches that had been developed experienced difficulties in overcoming an implicit ‘materialistic’ bias, where the focus was on physical and economic development.

Endogenous development seeks to overcome a materialistic bias by making peoples’ worldviews and their livelihood strategies the starting point for development. Many livelihood strategies reflect notions of sustainable development as a balance between material, social and spiritual well-being. These three dimensions are seen as inseparable (Fig. 3.3).

Endogenous development is already present in local communities. It is reflected in the communities’ capacities for self-
The aim of supporting endogenous development is to empower local communities to take control over their own development process in order to achieve their material, social and spiritual well-being aspirations. (Lammerlink and Otterloo-Butler, 2010).

In endogenous (livestock) development it is recognized that local identity, or the worldview of the people involved, underpins their use of these local resources. In these worldviews – and thus in the use of local resources – a balance is sought between three spheres of life: the human world, the natural world and the spiritual world. This is reflected in human–animal relations, and how livestock systems are built (van’t Hooft et al., 2008).

**Endogenous Livestock Development**

Endogenous livestock development (ELD) seeks to enhance livestock keepers’ own development efforts. This includes both the owners of animals and people that depend on animals and their products in other ways. ELD stands for supporting husbandry systems that are based on livestock keepers’ own innovative strategies, knowledge and resources, as well as their perception of well-being and improvement. It thus indicates the need to work in a ‘people-centred’ rather than an ‘animal-productivity centred’ way. Therefore, it is also known as people-centred livestock development.

The ELD methodology includes supporting local innovation and understanding people’s own worldviews, including their criteria for development, learning, experimenting and communication. It also addresses the ‘why’ of local practices, knowledge and existing leadership structures, and stimulates openness towards cultural practices.

Putting livestock keepers at the centre of their own development requires a basic rethink of how livestock are produced. Outsiders can facilitate that process. They can help marginalized and poor livestock keepers gain recognition and support for their initiatives. This can be done through training, research, advisory services, advocacy and networking. That is what ELD is all about.

Mary Sirri also stresses the effect of ELD on the relations between farmers and supporting organizations:

Before, Heifer used to do everything, but now we can make an action plan by ourselves. We are sharing knowledge and experiences with each other. Heifer has made us understand that we should not sit and depend only on them. We should come out with our own plan, and if Heifer comes out with something that we don’t like, we should express ourselves. This change came through the workshop. We were just depending on them. Before, we always dewormed the cows every three months. Now, the trained farmers should deworm them. Let every cooperative develop an action plan for deworming and execute it. I think more critically about my farming activities now, thinking more ahead. I think Heifer is happy with the change in us: we are now more active and critical.
Box 3.2. What is ELD?
ELD is about enhancing the capacity of livestock keepers to solve their own problems. Based on their own culture and worldview, endogenous development farmers are supported to develop technologies and skills that broaden the options available to them. In this way, a balanced interface is promoted between tradition and modernity.

Box 3.3. Farmers’ voice about the ELD (van't Hooft et al., 2008).
Endogenous livestock development means taking action yourself, starting from your own doorstep. I can start with what is within my reach before going ahead to ask from somebody. Before doing that I should think of the people who are around me, our ancestors, our children and what will become of us in the future. ELD is helping people to stand on their own feet and work together.

Mary Sirri, dairy farmer, Akum village, Mezam Division, Cameroon (Fig. 3.4)

Fig. 3.4. Mary Sirri, a dairy farmer from the Akum village in the Mezam Division of Cameroon, talking about changes brought about by working with NGOs.

According to Isaac Gabesin, government veterinary nurse, Cameroon:

endogenous development is now a blend of the two, i.e. you have a mixture of both internal and external development approaches and then you blend the two and see what is really best for the society. So we don’t over-focus ourselves on one and leave the other. We work with the people and then see which best suits the people.

(van’t Hooft et al., 2008)

Supporting Endogenous Livestock Development – in Practice

ELD activities, such as those mentioned in the last section of Chapter 2, are from different parts of the world but they have several things in common:

- They are all driven by livestock keepers and/or family farms – not by outsiders. That means that, unlike outside interventions, they address the problems that livestock keepers themselves face and understand.
- They are environmentally friendly. They use local resources, avoid pollution and conserve the environment.
- They make economic sense. They use relatively few costly external inputs, generate competitive levels of output and are profitable for the farmers involved.
- They are based on joint learning. They include a combination of local and
outside expertise. Outside expertise and resources are tested by farming families, and in the process adapted to local conditions and needs.

These and similar local initiatives deserve special recognition and support. Smallholder livestock keepers themselves should be included in decision making on issues that affect them. Those issues include the use and management of natural resources, access to land, land credit and markets, intellectual property, research and trade-priorities, and protection of rural environment (Mathias and Mundy, 2008).

Over the past few decades, many organizations throughout the world have developed people-centred livestock development approaches. These include participatory learning and action, participatory innovation development and endogenous development. In the field of livestock, these are people-centred rather than animal-productivity-centred approaches, directed at poverty alleviation through participatory, low-input livestock development. Some focus on ethno-veterinary practices, others on family poultry, smallholder farms, integrated animal agriculture, farmer field schools for innovation and diffusion of appropriate technology, pastoralism, training community animal health workers or supporting local innovations in livestock.

### The Need to Maintain Livestock Biodiversity

Local breeds are the result of centuries of purposive selection, socio-cultural influences and traditional knowledge combined with natural selection. Their value is often neglected just because of perceived lower productivity. Local breeds of animals are maintained by smallholders and pastoralist societies.

Many breeds are threatened because agriculture has changed. Modern food production now favours the use of a few highly specialized breeds selected for maximum output in a controlled environment.

**Box 3.4. NGO deputy director's voice about the ELD (van't Hooft et al., 2008):**

My attitude towards people changed. I knew that people in the communities already know things, but learning that others have already been thinking like this [within the ELD network] made it come with full force. It gave a greater push to the ideas that were already in my mind. We have to design things with people and not on our own. Before planning was done in the office, but since the past 3-4 years things are changing and the workshop gave us a push towards enhancing the participatory process. We're realizing that farmers have a lot of knowledge and when projects are planned this is now taken into consideration.

Janet Akob, former deputy country director Heifer Cameroon and coordinator gender & HIV/AIDS programme (Fig. 3.5).

![Fig. 3.5. Janet Akob (left), former deputy country director Heifer Cameroon: 'It was an eye-opener to know that improving productivity and reducing poverty does not only mean bringing things from outside. It was a strong turning point for me to realize that we can enhance what people already have. This gives a new dimension to our work.' Credit: Ellen Geerlings.](image)
animal source protein, local breeds of livestock are disregarded and many are prone to extinction.

Meanwhile, there is a growing recognition of the need to protect genetic diversity in livestock species through the *in situ* conservation and promotion of endangered breeds within the communities (Fig. 3.6). Rare or heritage breeds are kept for several reasons. One is the genetic preservation aspect. These breeds are part of the ecosystem where they were developed and represent a unique piece of earth’s biodiversity. Each breed carries a unique capability into the survival of the species and provides a solution to some challenge that may threaten its survivability in the future. A second reason for maintaining local breeds is that of adaptation to the local environments or local forages; they have the capability to do well on fewer external inputs.

Loss of any one local breed impoverishes agriculture and long-term viability of the species. Mankind has inherited a rich variety of livestock breeds. For the sake of future generations, we must work together to safeguard these treasures. Not only do they evoke our past, they are also an important resource for our future (LPP, LIFE network, IUCN-WISP and FAO, 2010).

**Passing on the Gift and Integrated Animal Agriculture**

Heifer International aims to provide quality livestock, training and related support to men, women and youth in order to assist with food security and to improve livelihoods. The approach includes the overall development of a community of families in resource constraints. The activities are implemented around strong local community groups. The community group decides on the initial receivers of the animals. The first female offspring is then passed on to another trained member of the community group. The families are supported to put integrated animal agriculture into practice. A recent study of this system in Uganda by Send a Cow (Alford and Penney, 2006) has shown the positive effects of this system, not only in terms of food security and income, but also in carbon sequestration, soil fertility and increase in fodder trees.

**Action Research Methodology**

ELD takes the best of both local and global. It supports producers to build on what they already own and do, and takes advantage of their indigenous knowledge. It draws on modern technology where appropriate. This becomes clear, for example, in the action research methodology (Box 3.6).

**Ethno-veterinary Medicine – Supporting Indigenous Knowledge of Livestock**

Ethno-veterinary medicine deals with people's knowledge, skills, methods, practices and beliefs about the care of their animals. Ethno-veterinary knowledge is acquired through practical experience and has
Box 3.5. Passing on the Gift in Vietnam (Matthews, 2007).

Heifer International encourages livestock recipients to establish an integrated farming system where crops and livestock complement each other. One example of the benefits of this system is the farm of Nguyen Buu Chau in Vietnam, developed with support from Heifer International.

Nguyen’s farm exemplifies how the integrated farming system works. A barn has been constructed to help manage the cows he received from Heifer International. A few steps away are the kitchen with a vegetable garden and the farm’s crops. Beside a canal in the back, Nguyen keeps low, brick worm bins where chickens and ducks congregate. Cows are fed concentrates and leftovers from the kitchen, as well as elephant grass on the edge of the rice field. His children help to cut and feed the grasses as a part of their daily activities. The cow manure fertilizes the crop fields and kitchen garden. The manure also helps to recycle the crop nutrients by promoting healthy microbial action in the soil.

Heifer International-Vietnam also helped Nguyen install a biogas unit below ground, which feeds methane from cow manure to the kitchen stove. The biogas unit is the primary method of cooking for the household, but provides more for the family than just a cooking source. The leftover sludge from the biogas is used as fertilizer to increase rice and corn production. Not all of the cow manure goes into the biogas unit. An above-ground compost heap is home to thousands of earthworms that turn organic waste into worm castings of concentrated nutrients, which become a natural plant fertilizer. Once separated from the castings, the worms make a high-protein feed for the chickens and ducks. The poultry in turn provide eggs, meat and insect control, and the manure from these birds is rich in nitrogen and phosphorus, further fertilizing the garden.

Participatory Innovation Development

Livestock keepers often have unique and useful ideas on how to improve their own production systems. They have numerous innovative ideas and practices, which can enrich the research and development agenda. Research and development workers can stimulate the exchange on these innovations, include them into research agendas, and build on this knowledge. In this way, possibilities can be explored jointly and new ideas can be tested. Local and external sources of knowledge can be combined to create solutions that fit local situations (Sharad, 2006). Further information can be obtained from: www.prolinnova.net.

Handing Over the Stick

Handing Over the Stick is a hands-on workshop that engages community members and teaches participants concrete approaches to planning, decision making and assessment.

Outside facilitators use participatory approaches to encourage livestock keepers to define their problems from their own points of view, and to realize their potential to solve them. Then they ‘hand over the stick’, enabling the livestock keepers to take control over the development process. His/her approach is very flexible and can imply a whole
Farmer Joseph Mboussi from Cameroon has been working with bees for a long time.

In the past, when I found a hive within a tree, I would burn it in order to get to the honey. This resulted in a very wasteful system, while the honey that resulted from it was of low quality. Then I learned about beekeeping from an organization, and that it is possible to have beekeeping husbandry, similar to sheep keeping. I started to use boxes with small panels adapted to the size, which I can take out in order to harvest the honey. I felt that it was better to do it in this way, also for the environment. I also became more aware of the risks of bushfires, the need for hygiene and how to control a moth that attacks the bees. Within my community, we have organized a group to enhance beekeeping. We felt that our production was still very low, and that it would be necessary to have more hives, in order to have more bees, get more honey and also make use of the by-products, like pollen, propolis and wax. We place empty boxes near trees with wild beehives and wait for the bees to colonize them. The three major problems we have are: there are not enough bee colonies; we need more hives; we lack pollinating plants to provide the food for the bees.

After this training, the group started to discuss ways to solve these problems. Gradually a shift was made from ‘looking for support from outside’ to looking for things to try, which they could do themselves while looking for complementary outside support. It was concluded that their development partner should not simply provide them with hives, but rather look at the beekeeping system the people have devised here, and experiment jointly with the farmers on the questions they have. The outcome of this could then also be used in other areas. So they began to do action research together to find the best hives and how to increase the number of bee colonies. Criteria set for the research included finding a balance between: (i) quality versus the quantity of the honey; (ii) the bees’ requirements and preferences versus the easiness of handling the bees; and (iii) using the colonizing versus the non-colonizing (wild) method.

The training sparked much farmer exchange. For example, one farmer showed his experience with filtering the honey, using a bucket and a very clean piece of cloth. Other contributions included ways to prevent termites, various modern and traditional ways of extracting honey, and ways to enhance the number of pollinating trees. This discussion made us aware of the importance of changing the concepts of ‘training’ (in conventional, top-down ways) into more joint action research between farmers and NGO fieldworkers. In this way, the farmers can be in the driving seat of the research. Supporting NGOs can provide the farmers with essential information they have no access to, and facilitate certain essential inputs when the need arises within the process of action research.
range of methods that can be adapted as needed. For more information, visit www.anthra.org.

**Training Community Animal Health Workers**

Many rural communities and livestock holders have many animals but few veterinarians. Even more easily accessible sedentary livestock producers find it hard to obtain the services they can afford: veterinary care, breeding stock, credit, and so on. One way to overcome this is to involve local people themselves in providing these services. Examples include training ‘para-veterinarians’ or community animal health workers to deal with simple animal health and nutrition problems, promote local efforts to conserve breeds and develop animal breeding programmes, all in the support of local institutions and self-help groups (Fig. 3.8).

A community animal health worker is a specially trained local community member who helps farmers and community groups to raise healthy animals to maximize their benefits. The community animal health workers are paid for their work in cash or in kind, by the local community or by the farmer whose animal receives treatment. The primary role of the community animal health worker is to reduce mortality and increase productivity in local livestock through the increased access to affordable, basic, animal health services (Bhandari, 2010). Most community animal health workers are using modern drugs; others are trained to combine modern drugs with medicinal plants and other ethno-veterinary practices. Many organizations are involved in these trainings, such as: www.heifer.org, www.farmafrica.org.uk, www.ahtcs.org.np, www.vsfe.org, www.anthra.org.

**Supporting Livestock Keepers’ Rights through Bio-cultural Community Protocols**

Livestock keepers rely not only on their animals; they also need grazing land, water, markets, veterinary care and information. National governments and international conventions decide on who has access to these resources, but livestock keepers, especially the poor and unorganized livestock keepers, are usually frozen out of negotiations. NGOs have been helping them to defend their rights and livelihoods. Prominent issues include the right to maintain their own animal breeds, a practice that is increasingly being

![Fig. 3.8. Community animal health worker with the Animal Health Training and Consultancy Service (AHTCS) in Nepal.](image-url)
Fig. 3.9. Bio-cultural Community Protocol of the Raika, an indigenous pastoral community living in Rajasthan, India. They have grazed their livestock for over 700 years on communal land and forests. Their traditional culture, values and livelihoods are inextricably linked with their animals and surrounding ecosystems. Credit: Ilse Koehler-Rollefson.

restricted. It also implies the use of traditional grazing lands, and maintenance of a pastoral lifestyle. Other negotiations affecting livestock keepers concern human rights, indigenous peoples, indigenous knowledge, trade, intellectual property rights (for example in the use of medicinal plants), and the right to food (United Nations Environment Programme, 2009).

A BCP is a protocol that is developed after an indigenous or local community undertakes (Fig. 3.9) a consultative process to outline their core values and customary laws relating to their traditional knowledge and resources, such as their local breed. On this basis, they provide clear terms and conditions for outsiders to regulate access to these resources. For more information, see www.naturaljustice.org.za, www.pastoralpeoples.org, www.compasnet.org.

Livestock Emergency Guidelines and Standards

The Livestock Emergency Guidelines and Standards (LEGS) have been developed as a set of international guidelines and standards for the design, implementation and assessment of livestock interventions to assist people affected by humanitarian crises. Tufts/Feinstein International Center (FIC) faculty have been instrumental in leading the coalition to develop these standards, which were published in early 2009 and are available as a free download on the LEGS website (http://www.livestock-emergency.net).

The LEGS process grew out of recognition that livestock are crucial livelihood assets for people throughout the world, and livestock interventions are often a feature of relief responses. Yet, there were no widely available guidelines to assist donors, programme managers or technical experts in the design or implementation of livestock interventions in disasters. LEGS recognizes that climatic trends are causing more frequent and varied humanitarian crises, particularly affecting communities who rely heavily on livestock. In 2009 and 2010, the FIC secured funding from the UK Department for International Development (DFID) to support LEGS awareness raising and training activities in Africa and Asia (LEGS, 2010).

Labelling for Ecological Animal Husbandry

Ecological animal husbandry is based on a vision of a sustainable society and a more sensible way of doing agriculture: animals should be part of an agricultural system that is environmentally sound, and it should be animal and human friendly as well. It calls for a holistic or integrated approach, which considers the whole system rather than only optimizing its parts.

Livestock production in developing countries often uses few outside inputs and is ecologically sound. At the same time, it is neither connected with nor can meet the standards of organic animal production in the developed world. In this way, they are cut out of the often booming eco-market.
More universal standards are needed that better fit developing country niche market situations. One solution might be a product label for pastoralists, a range-fed label that would distinguish meat coming from pastoralists' animals from large-scale producers (DARCOF, 2000).

Promoting Local Breeds through Marketing of their Products

Finding and promoting niche markets for products of local breeds is a possible way of ensuring their survival and enabling the people who keep them to earn more from their existing lifestyle. There are numerous examples of such efforts, eight of which are described in a recent publication by League of Pastoral Peoples (LPP), LIFE Network, IUCN-WISP and FAO (2010). The cases deal with products like wool, meat and milk from various animal species, and include four main types of intervention: improving animal production, processing, organization and building a value chain; www.pastoralpeoples.org. (See also Chapter 11.)

Additional National and International Networks

ELD network

The ELD network brings together various approaches and organizations working with livestock-related participatory development initiatives. The network also brings together around 450 professionals working in livestock development by means of an active e-mail exchange. For more information and to link up with the ELDev list, go to http://www.eldev.net/

Community of Practice for Pro-Poor Livestock Development

The Community of Practice for Pro-Poor Livestock Development (CoP-PPLD) is an online sharing network for practitioners, managers, researchers and other actors involved in pro-poor livestock development that want to exchange experiences, innovative approaches, best/next practices and other knowledge (including tacit) for the CoP-PPLD's mutual learning. The shared goal is to learn from and give a voice to the livestock community regarding a wide range of issues affecting the poor livestock keepers today, contributing thus to livestock development as an instrument for poverty reduction. http://www.cop-ppld.net/

Domestic Animal Diversity Information System

DAD-IS is the Domestic Animal Diversity Information System hosted by FAO. It is a communication and information tool for implementing strategies for the management of animal genetic resources (AnGR). It provides the user with searchable databases of breed-related information and images, management tools, and a library of references, links and contacts of Regional and National Coordinators for the Management of Animal Genetic Resources. It provides countries with a secure means to control the entry, updating and accessing of their national data. http://dad.fao.org/

Heifer International – Passing on the Gift

Heifer International is a global non-profit organization with a proven solution to ending hunger and poverty in a sustainable way. Heifer helps empower millions of families to lift themselves out of poverty and hunger to self-reliance through gifts of livestock, seeds and trees, and extensive training, which provide a multiplying source of food and income. Since 1944, the total number of families assisted directly and indirectly amounts to more than 70.5 million men, women and children with project communities in Africa, throughout the Americas, Asia/South Pacific and Central and Eastern Europe. www.heifer.org.
Vétérinaires Sans Frontières Europe

Vétérinaires Sans Frontières (VSF) Europe is an international non-profit organization that aims to improve the living conditions of the most vulnerable societies by supporting smallholder farmers, pastoralists and rural livelihoods. VSF Europe is a network of ten member organizations operating in over 40 countries worldwide. The main programmes include supporting community-based animal health programmes, support to local veterinary services, training animal health workers, promotion of traditional veterinary knowledge, support to market access, emergency relief, promotion of food sovereignty and income generating activities. www.vsfe.org.

Bureau for Exchange and Distribution of Information on Mini-livestock

BEDIM is the Bureau for Exchange and Distribution of Information on Mini-livestock, including rodents, guinea pigs, frogs, snails, worms and insects. This is a non-profit international organization devoted to identification, processing and diffusion of information and data concerning animal species related to mini-livestock and their products. www.bedim.org.

Smallstock in Development

Smallstock in Development is an Internet toolbox (2006) developed by NR International, managers of the Livestock Production Programme (LPP) funded by the UK’s DFID.

Livestock in general, and smallstock in particular (including sheep, goats and poultry), have an important role to play in enhancing the livelihoods of the poor.

In poor households, these animals are often kept under scavenging conditions with little or no attention paid to supplementing feed inputs, or to disease control and housing. At the same time, these animals provide products for cash sale when a need arises, and provide the household with much needed protein.

The Smallstock in Development toolbox focuses on the role and importance of smallstock in development and poverty reduction. The toolbox also aims to provide a range of practical information and descriptions of techniques or ‘tools’ to assist in increasing the efficiency of operations of smallholders and/or the productivity of their animals. www.smallstock.info

American Livestock Breeds Conservancy

Founded in 1977, the American Livestock Breeds Conservancy (ALBC) is the pioneer organization in the USA working to conserve historic breeds and genetic diversity in livestock. The ALBC mission is stated: ‘Ensuring the future of agriculture through genetic conservation and the promotion of endangered breeds of livestock and poultry’. ALBC is a non-profit membership organization working to protect over 180 breeds of livestock and poultry from extinction. Included are asses, cattle, goats, sheep, pigs, rabbits, chickens, ducks, geese and turkeys. www.albc-usa.org.

Society of Animal, Veterinary and Environmental Scientists

The Society of Animal, Veterinary and Environmental Scientists (SAVES) is an initiative founded as a Pakistani society, and has now become an international network aimed at the conservation of animal genetic resources and indigenous knowledge through the strengthening of pastoral peoples. www.researchgate.net/group/SAVES_society_of_Animal_Vet_and_Environmental_Scientists/
References and Further Reading