

# Livestock services and the poor

## A global initiative

Collecting, coordinating and sharing experiences

Livestock services and the poor



Nearly one billion livestock are kept by more than 600 million small farmers and herders in rural areas around the world. Livestock keeping can help alleviate poverty in many developing countries – especially as the demand for animal products such as milk and meat continues to rise. Still, most livestock keepers – about 95 percent – live well below the poverty line, and cannot even afford to buy their own livestock products.

This book demonstrates how present-day livestock policies and practices overlook the needs of rural smallholders, essentially stopping them from taking advantage of new market opportunities, and offers strategies to help provide rural livestock keepers with the tools they need to overcome their poverty.



Livestock & Rangeland Systems  
Technical Advisory Division  
International Fund for  
Agricultural Development  
Via del Serafico 107, Rome, Italy  
Tel.: +39 06 5459 2455  
Fax: +39 06 5459 2018  
Email: a.sidahmed@ifad.org



DANIDA

Agriculture, Forestry and Fisheries  
Royal Danish Ministry  
of Foreign Affairs  
2, Asiatick Plads  
DK-1448 Copenhagen K., Denmark  
Tel.: +45 33 92 00 00  
Fax: +45 32 54 05 33  
Email: Jorhen@um.dk



THE WORLD BANK

Agriculture and Rural  
Development Department  
The World Bank  
1818 H Street, N.W.  
Washington, D.C., 20433, USA  
Tel.: +1 202 473 0347  
Fax: +1 202 522 3308  
Email: Cdehaan@worldbank.org



THE WORLD BANK

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## FOREWORD

About 900 million of the world's 1.2 billion extremely poor people live in rural areas. Most of them rely on agricultural activities for their food and income, but they often lack the resources necessary to their success. Land and water sources are frequently scarce, roads can be impassable, financial services may not be available, and new technologies are often beyond their reach.

Worse yet, subsistence farmers are often at the mercy of their environment. A sudden flood can carry away their assets, a single drought can destroy their only means of income.

Livestock keeping is crucial for rural poor people. Nearly one billion head of livestock are believed to be held by more than 600 million poor smallholders. Livestock not only carry heavy loads, help cultivate fields and provide transportation, they also represent an important asset for rural people. Livestock are a form of currency, often given as loans or gifts, and their sale can provide quick cash in times of need. Income from livestock and their products enables poor families to put food on the table, improve their nutrition, send their children to school and buy medicine for themselves and their animals.

Given the importance of the livestock sector to rural poor people, in 2001 IFAD teamed up with the Danish International Development Assistance

(DANIDA), the Danish Agricultural Advisory Service (DAAS), the University of Reading and the World Bank to create this report and to facilitate the planning of more efficient livestock services in order to help the rural poor. This partnership is continuing in 2004, joined by the United Kingdom's Department for International Development (DFID), the Pro-Poor Livestock Policy Initiative of the Food and Agriculture Organization of the United Nations (FAO), and the United States Agency for International Development (USAID). The various agencies will explore long-term approaches to addressing the lack of access of rural poor people to vital services and technologies.

It is important to understand that offering livestock services to farmers does not simply mean providing them with feed grain, veterinary supplies and farm implements. Livestock services must also serve to empower the rural poor and help them contribute to reducing their own poverty. They need to be given a voice in local organizations and cooperatives that offer livestock services, and a role in determining the services and technologies that best suit their needs.

The rapidly growing demand for meat and milk in the developing world presents a great opportunity for millions of rural livestock holders. As the international community seeks ways to meet the Millennium Development Goals and reduce levels of extreme poverty, we encourage greater attention to this important sector and particularly to the significance of improved livestock services. With improved access to productive breeds, veterinary care, tools, credit systems, training, technologies and markets, IFAD believes that many poor farmers can take steps towards overcoming poverty.

Lennart Båge  
President of IFAD

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## EXECUTIVE SUMMARY

The world community has agreed to reduce the level of global poverty by half by 2015 and to improve the livestock-related livelihoods of the estimated 600 million poor livestock keepers who can make an important contribution towards this goal. The rapidly growing demand for livestock products in the developing world is opening up opportunities for poverty reduction led by economic growth, provided the appropriate policies and institutions are in place.

This document assesses the possibilities available for poor livestock keepers to benefit from these market opportunities for livestock products. Access to quality livestock services will be one of the most critical avenues for the exploitation of this market potential. This document seeks to inform decision-makers about the design and implementation of more efficient pro-poor livestock services. First, it provides a profile of poor livestock keepers and then describes past experiences with various service providers and types of services for poor livestock keepers. It concludes with a plan of action. The information and analysis in the document are based on a study of the available literature and case studies from Bangladesh, Bolivia, Denmark, India (the state of Orissa) and Kenya.

## POOR LIVESTOCK KEEPERS

The analysis in Chapter 1 concludes that livestock can be an indispensable part of the livelihood systems of many poor rural and urban populations in developing countries, that it can play a crucial role in farming systems and that it can decrease the vulnerability of households. However, current national and global policies, as well as existing livestock services, often favour large-scale production. The enhancement of livestock development alone will therefore not necessarily contribute to poverty reduction. On the contrary, without proper targeting, livestock development might contribute to the crowding out of poor livestock keepers. The root causes of poverty and wider needs related to health, education and housing in livestock-based communities must be addressed if livestock interventions are to produce a widespread and substantial reduction of poverty. Livestock services can contribute through empowerment and increased income, as seen in poverty-focused projects aimed at, for example, India dairy production and Bangladesh poultry. Livestock services, however, will not be able to address all the issues connected to poverty.

It is therefore crucial that inclusive and effective poverty reduction strategies be adopted at a policy level, including 'enabling' policies that address the root causes of poverty and enhance the development of pro-poor livestock services.

In addition, Chapter 1 provides an analysis of the role of livestock development in the livelihoods of women and other vulnerable groups such as HIV/AIDS-affected households.

A gender focus is necessary

Women play important roles in livestock keeping, and experience shows that, in the provision of livestock services and the design of livestock development programmes, a targeted approach improves the overall impact in terms of poverty reduction. Efforts to secure women's access to and control of productive and natural resources such as land, livestock and credit are strengthening women's influence and social empowerment.

## HIV/AIDS

AIDS-affected households have specific needs for livestock services. The impact on poverty and livestock production is severe in areas affected by HIV/AIDS, particularly in sub-Saharan Africa. It is therefore essential that livestock sector development programmes address the consequences of HIV/AIDS for services, as well as the specific needs of the affected households. Many of these needs are similar to the general needs of poor households, but households and communities should focus especially on the training of orphaned youth in livestock production and the associated technologies, which yield a high output relative to the labour investment.

## DELIVERY OF LIVESTOCK SERVICES

Delivery systems must empower the users

Chapter 2 discusses various delivery systems and the strengths and weaknesses of different types of service providers. Depending on the degree of private benefit, poor users are willing and able to pay for services. These payments are critical in ensuring the user ownership of service delivery systems and hence the sustainability of the systems. The overall conclusion is:

Delivery systems that make service providers responsible to their users and give users a free choice among providers enhance the negotiating power of the users and increase the quality and sustainability of the services.

Public and private-sector roles must be clear

The division of responsibilities between the public and private sectors in the delivery of services is shifting towards an increased role for the private sector in direct service delivery, while the role of the public sector is becoming concentrated on quality oversight, particularly for services that have an effect on areas of interest for the 'public good', such as market failure, moral hazards, or externalities. Chapter 2 provides several examples of ways in which public sector involvement in the direct delivery of services hinders the development of the private sector. On the other hand, poverty reduction is a public good, and, while the implementation of poverty reduction measures might be entrusted to private actors, ensuring an appropriate enabling

environment and the targeting of funding on poverty reduction activities in infrastructure, education and research remains a public sector responsibility.

Different actors can provide livestock services, but, if relevant and effective services are to be provided to the poor, poor livestock keepers must be the main decision-makers on the scope and content of services. A more effective integration of poor livestock keepers in the policy debates surrounding the poverty reduction strategy papers is essential if the voices of these producers are to be heard. Participatory methodologies alone are not enough. They are often biased towards the concepts and experiences of the facilitators. Thus, the main conclusion here is that:

The enhancement of community institutions, small private enterprises and producer organizations is the most important tool in the poverty reduction process.

## POVERTY FOCUS OF LIVESTOCK SERVICES

Enabling the rural poor to take action

Chapter 3 looks at the focus of livestock services and shows that livestock services that enable the rural poor to reduce their poverty also enable them to take action. The chapter uses IFAD's Strategic Framework of enabling the rural poor to overcome their poverty (IFAD, 2002a). Livestock services are thus analysed according to their ability to:

- strengthen the capacity of the rural poor and their organizations;
- improve the equitability of access to productive natural resources and technology; and
- increase access to financial services and markets.

The following summarizes the conclusions in this chapter.

Organizations that include the poor should be strengthened

Small-scale producers can gain from efforts to organize and work together to identify their needs, consolidate demand and achieve economies of scale in service delivery. Producer organizations that are truly owned and controlled by producers have the potential to empower farmers and facilitate the

delivery of services that respond to their needs and meet required quality standards. However, the reality is that public sector involvement has often led to top-down, undemocratic and non-inclusive organizations and that poor livestock keepers are usually not members or have only little influence in these organizations. There are many problems and constraints attached to the weak position that the poor hold in terms of rights, education, knowledge and political influence.

It is therefore essential to build the capacity of organizations that include poor livestock keepers and are genuinely established from the 'bottom up'.

The development of livestock advisory services is urgently needed

Livestock advisory services such as the supply of information on fodder production, the delivery of low-cost technologies and the development of husbandry and management skills are a major need of poor livestock keepers. These services have received limited attention in the past. The concept of livestock advisory services for the poor must therefore be shaped almost from scratch. A focus on knowledge and learning systems that strengthen the capacity of livestock keepers to seek and organize information, training and advice from efficient sources should be central to these advisory services. Farmer-to-farmer systems and integrated crop-livestock systems need to be tested. These can provide an opportunity to combine development and recent, new initiatives within relevant agricultural extension services.

Equitable access to scarce land and water resources must be ensured

The existence of equitable access to land and water resources and secure land-use systems that are also appropriate for pastoral livestock systems is a determining factor in the future prospects of many poor livestock keepers. The increasing scarcity of land and water has wide implications in terms of the prioritization of livestock production systems in various places and among groups of poor people. The development of production and farming systems that rely on fodder production or use alternative resources and also take into consideration the labour and land constraints on poor farmers is an important intervention.

Poor livestock keepers must be involved in the generation of technology. Efforts to improve the technology employed by poor livestock keepers must first aim at the stabilization of production systems and should therefore focus on low-risk and low-input technologies. More attention should be paid to the animals poor livestock keepers own (often small livestock), the areas they occupy (often marginal and remote areas) and the products they sell (milk, eggs and home-processed products). One essential way to ensure that the technologies generated respond to the priority needs of the poor is to involve the poor in determining the priorities and monitoring the research in livestock technology.

Access to animal health services is essential

The private sector can play an important role in the provision of animal health services, and private service systems also have the potential to serve poor livestock keepers. However, because conventional veterinary services are not economically viable in marginal areas, it is necessary to strengthen low-cost systems. Community animal-health worker systems represent an example of such systems. These are being implemented in many areas. Preventive medicine and vaccine systems can be used in a community setting for the benefit of poor livestock keepers.

Appropriate breeding strategies are needed

Many of the traits of local breeds, such as hardiness, disease resistance and multi-purpose use, are very important for poor livestock keepers. However, as production systems and markets change, there is scope for the development of alternative breeding strategies targeted at the needs of poor livestock keepers. The approach must involve the participation of these livestock keepers in the determination of priorities and in the formulation of strategies, as well as in the planning and implementation of breeding programmes. Community-level selection systems, combined with nucleus elite herds or flocks managed by associations of breeders, offer interesting opportunities.

Access to financial services is a precondition in increasing livestock production

Appropriate savings and credit systems that address the particular needs and constraints of the poor are a precondition for increasing livestock production. Poor people often lack access to financial services, but in the few cases where

access to credit has been available, it has been greatly appreciated and mostly well utilized. The vulnerability of the poor, however, is a special challenge for credit institutions.

#### Microcredit schemes make capital available to poor households

The success of the microcredit schemes provided through non-governmental organizations (NGOs) in Bangladesh is remarkable. The success of these schemes is probably linked to their group approach and to the development of the necessary support services. However, despite the great achievement in supplying credit to poor families, the fact remains that the 'ultra poor' – meaning the poorest 10 to 15% of the population – do not benefit from microcredit schemes. The reasons for this apparent exclusion should be identified, and special tools developed to reach these groups. The membership of the poor in well-established producer organizations with solid assets might help in the integration of the poorest of the poor because such organizations can supply collateral so that their members are able to obtain bank loans for livestock investments.

#### Access to markets is another precondition for livestock development

Economic growth among poor livestock keepers will depend on their level of access to markets for their livestock produce. National market liberalization in the context of a global market that is distorted by the existence of production subsidies and export restitution in developed countries would have disastrous results for the poor. The distortions must be removed so that poor producers can expand their production. Producer organizations are a necessary tool in efforts to advocate for and strengthen the competitive position of poor livestock keepers within a liberalized market.

#### Financing systems can empower users

Financing mechanisms for livestock services can be a powerful tool for the empowerment of livestock keepers and their organizations and communities if they are designed appropriately. Whenever it is necessary to cofinance or fully finance services using public funds, the identification of financing models that channel funding through livestock keepers or their organizations is important. This will ensure that users can choose their favourite service provider.

## RECOMMENDED ACTIONS

Chapter 4 concludes that the policies and practices involved in the provision of livestock services appropriate to the poor should be changed and recommends several actions to induce this change. First, there must be a better understanding of the areas where livestock development can most efficiently contribute to the reduction of poverty through the most strategic application of the limited resources. Second, the lack of the inclusion of the poor in development and in political processes must be remedied. New forms of organization and participation in service delivery, as well as in the wider debate on public policies, need to be identified, tested and scaled up.

The Chapter also recommends a number of focal points in terms of the development of livestock services according to the conclusions in Chapter 3. The particular areas of need within categories of production systems should be identified.

For more effective pro-poor livestock development, the following are required:

- an understanding of areas containing the groups and production systems with the most potential for livestock development;
- information on the impact of livestock services on poverty reduction;
- tools for the coordinated, pro-poor monitoring of impacts;
- a common framework for project design and implementation; and
- the collection and sharing of the lessons learned.

### Establish a global network

A global network of stakeholders in the livestock sector and other relevant sectors should be established in order to strengthen efforts to redirect policies and practices so as to provide livestock services to the poor. The network would act as a catalyst for advocacy and innovation and as a knowledge base for the exchange of experiences by collecting lessons learned and testing novel field approaches both within existing programmes and through new pilot projects to be implemented across different livestock production systems.

A fund should be created to implement this network. It should be managed by a small secretariat under the supervision of a steering committee. This global, pro-poor fund would be the primary means for the support of the proposed learning and knowledge management system and the coordination of the collection and distribution of information among a wide variety of livestock development agencies and practitioners.



## INTRODUCTION

The fight against poverty is a major global concern

The world community has agreed to cut global poverty in half by 2015. An estimated 75% of the poor live in rural areas, and 600 million of these people keep livestock. Livestock-related livelihoods must therefore be a key focus of any effort to achieve this ambitious goal. Access to quality livestock services can be critical in the attempts of families that depend on livestock to escape the poverty trap.

This document is meant to inform decision-makers about the design and implementation of efficient pro-poor livestock services so that the livestock sector can be used as a more effective tool in the fight against global poverty. It provides a profile of poor livestock keepers and describes past experiences among different service providers and types of services.

Demand for livestock products is rapidly increasing

The global livestock sector is undergoing rapid transformation. Growing urbanization and rising incomes are creating a dramatic increase in the demand for meat and milk in the developing world. This is leading to a

concentration of smallholder-based production in larger commercial units, especially in pigs and poultry (Delgado et al., 1999). These trends are being reinforced by the shifting role of livestock in several parts of the developing world from multi-purpose to single-commodity livelihoods. Thus, the increasing demand and changing structure of the sector offer opportunities for economic growth for smallholders, but at the same time present a significant danger that the poor will be crowded out, the environment eroded and global food security jeopardized (de Haan et al., 2001).

This increasing demand for livestock products poses not only challenges, but also opportunities for the reduction of poverty among poor households with a good potential in livestock production.

Livestock development has thus been assigned the dual role of satisfying the rapidly rising demand of the expanding global population for meat and milk, and helping to meet the Millennium Development Goals in poverty reduction. However, the performance of livestock development projects in the efforts to reduce poverty has been mediocre at best. A recent review by Livestock in Development (LID, 1999) concluded that the majority of animal health projects are not having the intended impact on the poor because project design and implementation have lacked a proper focus on poverty.

Over the last five years, however, there have been significant improvements in the design of pro-poor service delivery systems. This document seeks to summarize this experience. It presents a selection of the extensive literature and uses field surveys and dialogue with poor livestock keepers, service providers and decision-makers in Bangladesh, Bolivia, Kenya and Orissa to examine the issues raised in the literature.

The poor can decrease their vulnerability through livestock production

For the poor, livestock can be an important means to achieve potential, but it is not the only means. The sale and consumption of animal products can decrease the vulnerability of households to seasonal food and income deprivation, fulfil wider food security needs and enhance the nutritional status of the most vulnerable, especially women, children and the elderly.

Keeping livestock can also shield households from shocks such as drought and other natural disasters. Animal ownership may raise the ability of households and individuals to meet social obligations and enhance cultural

identity. Livestock is also a key source of collateral for the poor and enables many households to obtain access to capital and business loans. Thus, livestock is an important capital asset, which, with careful tending, can propel households out of abject poverty and into the benefits of market economies.

The root causes of poverty must be identified

Any attempt to address poverty must be based on a solid understanding of the causes and consequences of poverty. The underlying causes of poverty in livestock-related livelihoods are many and differ according to local conditions and production systems. Livelihoods are deteriorating in many production systems as a consequence of declining or degrading land or water resources. This is due to shrinking farm sizes, deforestation and erosion, declining soil fertility and, in heavily populated areas, the degradation of water and land.

As populations grow, many livestock-based systems are coming under pressure. For example, the global study *World Agriculture: Towards 2015/2030* (FAO, 2002a) recently published by the Food and Agriculture Organization of the United Nations (FAO) estimates that, in the next 30 years, developing countries will need an additional 120 million hectares of land for crop production. The scramble for arable land in the East African highlands is leaving millions of households with too little land to survive, and sedentary farmers on arable land are rapidly marginalizing pastoral populations throughout Africa and Central Asia. Millions of poor livestock keepers are being left landless in South Asia because of the increasing privatization of common lands. Finally, natural resource conservation programmes, designed according to the paradigm of a conflict between human and natural land use, are displacing communities.

While the globalization and liberalization of markets promote overall growth, the related changes can affect the poor negatively if they are not accompanied by adequate safeguards. Smallholders in developing countries will face serious constraints in gaining access to world markets as long as developed countries heavily subsidize their own livestock products or protect their own farmers through unfounded standards of sanitation. Moreover, by dumping their own excess production on the global market, the developed countries are competing with small-scale producers on unfair terms even in the home markets of these producers. Finally, current policies, accompanied by poor environmental enforcement and import regimes that are favourable to large-scale industrial production systems, are biased towards large units

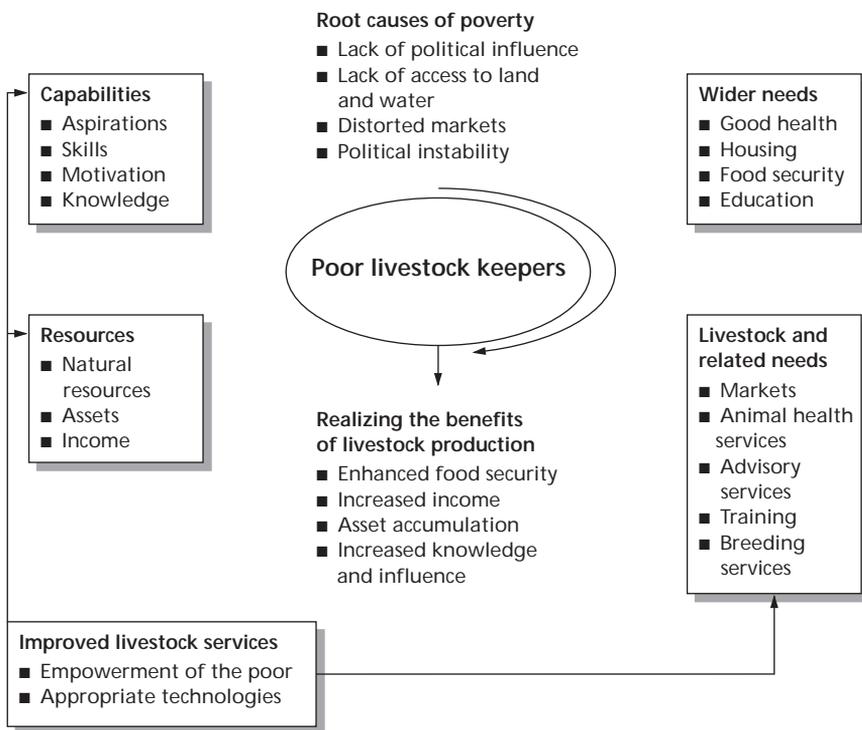
and crowd out the poor livestock keepers who rely on small-scale production units.

Beneath these apparent root causes often lies the more deeply rooted political and organizational marginalization of the groups and individuals that are suffering from poverty.

The 'poverty cycle' describes the condition of poverty

Figure 1.1 illustrates the relationship among root causes, the condition of poverty, and the requirements and opportunities necessary so that the poor can escape poverty. The figure places the root causes within a 'dis-enabling' environment that surrounds poor livestock keepers. Poor livestock keepers may have resources and capabilities, however limited, but these are not

Figure 1.1: The poverty cycle among poor livestock keepers



adequate for livestock production. As long as needs are unfulfilled and capabilities and resources are not enhanced, the poor will remain caught up within the vicious circle of poverty. Improved livestock services can, however, satisfy livestock-related needs, enhance access to resources and strengthen the capabilities of the poor.

General needs must obviously be secured at the same time that livestock-related requirements are addressed. This means that, for poor livestock keepers to emerge from the poverty cycle and realize the benefits of livestock production, attention must be paid to enhanced livestock services, as well as general advances in services that satisfy more general needs.

Enhance the capability of the poor and address the root causes of poverty:  
the way out of the poverty cycle

This document analyses various opportunities to intervene at the level of livestock services that can enhance the capabilities of the poor and thereby enable them to increase the benefits of livestock production according to their aspirations. However, unless the root causes of poverty are effectively confronted, such interventions will not have a substantial impact.

Poverty reduction strategies require enabling policies that are wide-ranging but that also have an impact at the point of intervention so as to address root causes and thereby enhance the development of pro-poor livestock services.



## POOR LIVESTOCK KEEPERS

Poverty has many faces, but, despite this diversity, there are also many commonalities. Most of these revolve around limited access to rights, assets, or services.

The poor have:

- no voice in the formulation of policies and the structure of services;
- limited access to education and consequently high illiteracy rates;
- inadequate access to health services;
- limited access to land and water or insecure resource rights;
- scarce access to assets;
- low household incomes;
- little access to credit, extension services and other agricultural services;  
and
- limited access to markets.

Poor livestock keepers form an extremely diverse group. They depend on a wide variety of livestock products and services. In some households, livestock accounts for only a small portion of the economic activities, while, in others, livestock is the only source of livelihood (Heffernan and Misturelli, 2000).

Attempts to categorize poor livestock keepers by the number of animals owned or the level of household dependency upon off-take or products may therefore be misleading. For example, poor livestock keepers include a rancher in Central America with 25 cattle, a small mixed farm in the highlands of Ethiopia with only one ox, and a woman subsistence farmer in Bangladesh who may own only a couple of chickens. A farmer with a small herd of work-oxen for the cultivation of his own farm and for hire to neighbours might be quite wealthy, while a Sahelian pastoralist with the same number of animals might be living in extreme poverty.

The degree of poverty among livestock keepers is therefore determined not only by the number of stock and the ability to meet basic needs, but also by the wider social and economic dimensions of the amount of access to resources and capital assets, the capacity to cope with risk and vulnerability and the degree of political marginalization (Heffernan and Sidahmed, 1998; World Bank, 2000). This report uses the following definition.

Poor livestock keepers are those livestock keepers who are economically or socially at risk and politically marginalized and whose animals, at most, provide subsistence or the minimum augmentation of daily nutritional requirements (see Heffernan and Sidahmed, 1998; World Bank, 2000).

Thus, by definition, poor livestock keepers do not benefit sufficiently from their livestock to meet basic subsistence needs in a sustainable manner, yet considerably depend on the benefits of their livestock.

*Poor livestock keepers do not obtain enough benefits from their livestock to meet subsistence needs*

There are two reasons that justify a special focus on livestock keepers rather than a broader focus on the general population of the rural and peri-urban poor. First, development interventions can yield greater impacts if the needs of livestock keepers are properly addressed. Second, poverty reduction goals are more likely to be achieved if attention is focused on specific outcomes, for example, increasing incomes from livestock keeping.

On the other hand, there is the risk that other groups among the poor will be missed (for instance, displaced or AIDS-afflicted households, poor subsistence farmers with arable plots, or the peri-urban poor) who may have lost their livestock, or who may never have had access to livestock, but who could benefit from livestock production. Finally, there are also poor livestock keepers for whom livestock is not an option in the effort to reduce poverty because they lack the necessary resource base, motivation or markets. For these people, exit strategies need to be defined.

## NUMBER OF POOR LIVESTOCK KEEPERS

To understand the potential role that livestock can play in poverty reduction, one should attempt to estimate the number of the poor who own livestock and, in particular, the number of the poor for whom livestock can become a means to reduce poverty. The approach used most widely for achieving such an estimate involves calculating the approximate number of inhabitants within specific livestock production systems and then refining this number by utilizing poverty criteria to identify the poor component. This method was first applied in LID (1999) (Table 1.1).

**Table 1.1: Number and location of poor livestock keepers (millions)**

Agro-Ecological Zone	Category of Poor Livestock Keepers		
	Extensive graziers	Poor mixed farmers	Landless livestock keepers
Arid or semi-arid	63	213	
Temperate (including tropical highlands)	72	85	156
Humid, subhumid, and subtropical		89	
<b>Subtotal</b>	<b>135</b>	<b>387</b>	<b>156</b>
<b>Total</b>		<b>678</b>	

*LID (1999).*

Based on the classification of the world's livestock production systems by Sere and Steinfeld (1996) and the total number of the poor in production systems calculated in Thornton (2001), it appears that 556 million livestock keepers are living below the poverty line.

*600 million poor  
livestock Keepers*

Based on Table 1.1 and the above estimation, a total figure of about 600 million seems a reasonable estimate and is the one used in this document.

*There is a need to  
improve knowledge and  
enhance accuracy*

These figures should, however, be treated with caution. The estimates assume that poverty is equally distributed among regions and production systems. This means that some production systems may be left out, such as urban livestock keepers and livestock traders, and that the share of poor livestock keepers in other systems may be overestimated. To improve our knowledge and enhance the accuracy of the estimated number and distribution of poor livestock keepers and other poor people who can potentially gain from livestock production, two actions are required. First, additional data should be obtained from ongoing household surveys and qualitative assessments of poverty such as those derived from participatory poverty assessments. On a country-by-country basis, these qualitative and quantitative data may help refine and further inform efforts to determine both the nature and the location of poor livestock keepers. Second, these production systems and regions should be identified that contain poor livestock keepers who have the potential to break out of the poverty trap through livestock development or who are so poor that they will need another livelihood.

## LIVESTOCK PRODUCTION SYSTEMS OF THE POOR

Poor livestock keepers often have only a minimum of resources. As defined above, they have too few livestock and too little resources to sustain production. Table 1.2 describes a simple

typology based upon three broad types of livestock producers – pastoralist, smallholder mixed farmer and urban dweller – and some of the key characteristics of each production system. The intention behind this table is not to define each of the different characterizations strictly, but rather to offer an initial framework that differentiates some of the subgroups. The table shows that poor livestock keepers stock a wide variety of species and rely on a number of husbandry methods. Where the poor differ greatly from more well off producers is in their lack of access to inputs and resources for livestock production.

*The poor differ greatly from the better off in access to inputs and resources*

The poor may also be differentiated because of their vulnerabilities. Each production system is subject to a variety of factors that can affect more well off producers negatively, but, for the poor, can be devastating. For example, a poor pastoralist will be led to destitution by drought much more quickly than would a pastoralist with a larger herd. Box 1.1 describes how resources such as irrigation facilities and land determine the livestock production system.

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### **Box 1.1: Livestock systems in Koraput district**

In Koraput district, the Orissa case study found that the resource base in the village had a strong influence on whether people kept small or large ruminants. The decision to keep large ruminants is positively influenced by factors such as the availability of:

- irrigation for intensive agriculture;
- land for cultivation; and
- fodder/crop residues.

The villages which benefit from irrigation thus have a larger proportion of people with cattle and buffalo and fewer people keeping small ruminants. On the other hand, the villages which have no irrigation facilities show a higher proportion of people keeping small ruminants. In a village where people have no resources such as land and where they depend completely on a daily wage for survival, fewer people keep small ruminants.

*Orissa case study.*

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**Table 1.2: Typology of poor livestock keepers**

Producer	Main Characteristic	Location	Livestock Species	
Pastoralist	More restricted access to natural resources such as grazing and water, lack of access to markets, non-viable herd sizes, suboptimal age/sex ratio of the herd/flock.	Rural	Cattle, goats, sheep, camelids, yaks	
		Peri-urban	Mainly goats, sheep	
Smallholder farmer in crop-livestock (mixed) systems	Smaller land sizes, land rental, lack of resources (labour and land).	Rural	Cattle, buffalo, goats, sheep, pigs, poultry	
		Peri-urban	Dairy cattle, poultry, pigs	
Urban	Landless, less access to services.	Urban slums	Poultry, goats, sheep, buffalo, cattle, pigs	

## ROLE OF LIVESTOCK FOR THE POOR

The development of the sustainable livelihoods approach has led to an increased interest in the role and impact of livestock in the livelihoods of the poor. In this approach, livestock is viewed as a form of financial, social and natural capital (McLeod and Wilsmore, 2001). Furthermore, livestock can enhance human capital and play a critical role in reducing malnutrition. These roles are detailed below.

### Forms of Capital

#### *Financial, social and human capital*

- Financial capital is defined as the financial resources that are available to people – savings, credit, insurance and pensions – and that provide them with different livelihood options (Carney, 1998).
- Social capital is defined as the “features of social organization, such as trust, norms and networks, that can improve the efficiency of society by co-ordinated actions” (Putnam, 1993).

	Main Production Service	Herdong/Husbandry Patterns	Vulnerabilities
	Milk, fibre	Migratory	Drought, terms of trade, political instability, poor access to markets, technologies and innovations.
	Meat	Absentee owners, herding by relatives, hired labour	Lack of access to productive resources of animals, theft.
	Power, fertilizer, meat, eggs	Tether, cut-and-carry, range	Drought, cost of inputs, access to services, population pressures.
	Milk, meat, eggs	Stall-fed, cut-and-carry, roadside	Cost of inputs.
	Meat, milk, eggs	Roadside, rubbish foraging, purchased fodder	Space for animals, legal framework, human health, access to water.

*Heffernan et al. (2002).*

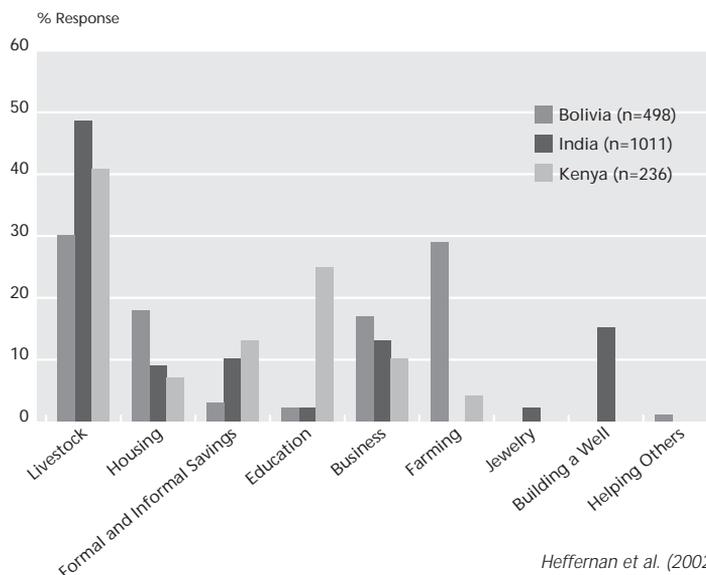
- The 'enhancement' of human capital is here defined as the enlargement of people's choices (Martinussen, 1996) through increased knowledge, income and empowerment in terms of decision-making.

Livestock is first and foremost financial capital

For many poor households, livestock is the primary form of savings. As an investment, few other resources can match livestock as a means of capital growth. Animal sales may allow poor households to generate cash quickly during times of need. Moreover, livestock, including manure, is often a key source of income. In a comparative study of poor livestock keepers in Bolivia, India and Kenya, Heffernan, Nielsen and Misturelli (2001) asked households to rank the best form of investment (Figure 1.2). Livestock outranked business and housing in the responses in all three countries.

*For many poor households, livestock is the primary form of savings*

Figure 1.2: Rank of best investments

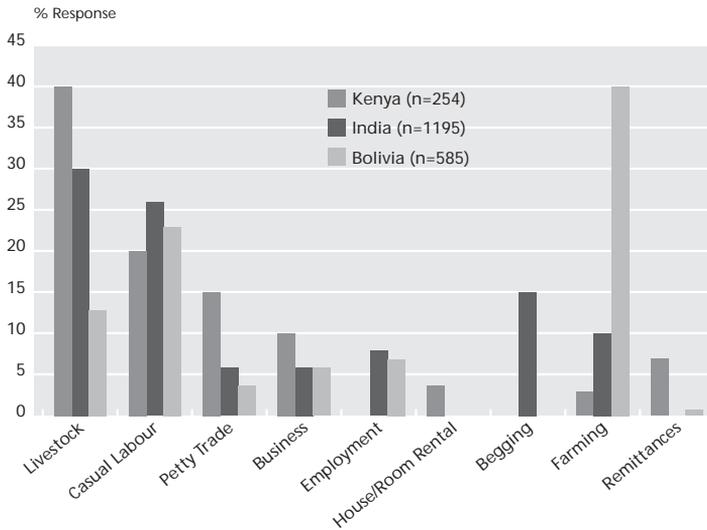


Herders and farmers were asked to rank the income sources most important to the household. Despite the large number of different activities, livestock ranked first in importance in terms of household income among the majority of households in India and Kenya. Naturally, there were differences at the country level. For example, in the mixed farming systems of Bolivia, crop sales figured highly; this would probably not be the case in the Bolivian highlands. The outcome might also be different among the crop-based systems of Kenya (Figure 1.3).

*Production risks are greater among poorer producers*

However, despite the benefits, livestock rearing is also risky for the poor. Because poor households have limited disposable incomes for the purchase of inputs, the production risks are greater among poorer producers, especially because they are unable to control mortality. Furthermore, some livestock-related income has seasonal peaks, which may negatively affect the poor. Poorer households have year-round needs and must generate income for food and other basic requirements, and they

Figure 1.3: Rank of income sources



Heffernan et al. (2002).

therefore may not be able to benefit from seasonal produce and price increases (Box 1.2).

### Box 1.2: Lucia, a widow in western Mexico

“When my cow gives birth to a calf, I have to struggle to keep it at least for a year, so I can obtain a bit more cash from its sale. If it can survive until the rainy season, the calf will have fed on fresh grass and can weigh more. But often sickness or other emergencies come up, and I have to resort to my calf. By the time I sell it, I am up to my neck in debts.”

Villarreal (2001)

Livestock is also social capital

Livestock is important in supporting social relationships. Loans and gifts of livestock contribute to bonding, bridging and linking in social capital relationships, and livestock is one means by which family and household social capital may be measured.

*Loans and gifts of livestock contribute to bonding, bridging and linking in social relationships*

**Table 1.3: Place of livestock in income of the rich and poor**

Country	Wealth/Poverty Indicator	Stratum	Household Income from Livestock (%)
Ethiopia	household income	very poor	6
		poor	24
Egypt	landholdings	landless	63
		largest landholding	14
Kenya	household income from dairy business	lowest 1/5	63
		highest 1/5	38
Pakistan	household income	lowest 1/5	25
		highest 1/5	9
Philippines	household income	lowest 1/5	23
		highest 1/5	10

*Delgado et al (1999).*

*Livestock can help cement social networks*

A study by Woodcock and Narayan (2000) classifies social capital into three types: bonding, bridging and linking. Bonding social capital is the tie among immediate family members, while bridging social capital refers to the weaker relationships among persons of differing geographic location, ethnicity, or occupation. Linking social capital describes the relationships between poor people and formal institutions such as NGOs or governments. For example, in many poor households, livestock is shared or loaned among relatives and friends or reared for absentee owners (Beck, 1994; Heffernan and Misturelli, 2000). These arrangements can vary widely, from straightforward rental agreements to more complex loan arrangements in which the duration of the payback may be intergenerational. Animals may also be given as gifts, and, in this manner, livestock can help cement social networks and community-level obligations among households (Lesorogol, forthcoming).

However, not all livestock-share arrangements are based purely on social networks. For example, poor farmers in Bolivia often participate in *Al-Partido*, a commercially based livestock share-rearing arrangement. Most livestock 'credit-in-kind'

programmes (de Haan et al., 2001) are based on a commercial principle of “passing on” one or more animal offspring to other members of the community.

In eastern Africa pastoralist societies, livestock loans are generally less common than livestock gifts (Heffernan and Misturelli, 2000). Moreover, both loans and gifts tend to be less commercially oriented and more dependent on social capital arrangements. As such, gifts and loans are transacted both formally and informally (Heffernan and Misturelli, 2000). For example, in many societies, dowry and bride wealth are paid in livestock, and livestock is often given in direct response to the emergency needs of friends and neighbours. On the other hand, herders in Western Africa tend to spread their herds among several relatives so as to share the risks of drought and disease. In the Sahel, livestock can also be loaned for herding either on a shared-offspring basis, or on a commercial cash basis.

For pastoralists in Eastern Africa, traditional restocking mechanisms occur both at the community and individual levels. For instance, wealthier individuals among the Boran tribe are expected to donate livestock to poorer tribe members on a yearly basis that is determined by sitting groups of elders, thereby contributing to the social security of community members. Likewise, land and water, as well as livestock, are traditionally part of complex common property systems among Maasai pastoralists. These systems act to assure access to important resources by all community members and thereby fulfil the important functions of social security and conflict resolution (Loft, 2002).

However, the use of livestock as social capital may become less frequent as the role of livestock slowly becomes a more productive-oriented and commercial one. In a study among pastoralists in Kenya, for example, Heffernan and Misturelli (2000) found that the formal role of livestock in inheritance, bride wealth and other ceremonies is now much more important than the informal role in gift giving.

*Traditional livestock distribution systems can act as a form of social security*

*The use of livestock as social capital may become less frequent*

*Integrated livestock and crop production can increase farm productivity*

Livestock can help maintain natural capital

The integration of livestock in crop production can enhance the sustainability of farming systems because the use of livestock provides draught power and transport, improves soil fertility and increases the productivity and income opportunities for poor households, while helping households finance the purchase of farm inputs.

Recent studies report examples in which the integration of livestock and crop production has improved farm productivity and income by from 50 to over 100% (Lekule and Sarwatt, 1996; Rangnekar, 1997; Ogle, 1996; Zerbini and Larsen, 1996). Gryseels (1988) found a positive correlation between livestock ownership and yield per hectare if the cash generated by livestock sales is used to purchase crop inputs. Box 1.3 provides an example where the integration of goat manure in crop production significantly increased grain yield in farming systems.

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**Box 1.3: Introduction of zero-grazed dual-purpose goats on farms in the United Republic of Tanzania**

Manure was collected and employed in crop production. The use of goat manure significantly increased overall soil pH and nutrients, and this greatly enhanced crop production. Maize grain yields rose from 450 to 1 450 kg/acre, sorghum from 380 to 900 kg/acre and millet from 370 to 780 kg/acre. Moreover, the cash income obtained from vegetable production increased by 206% per year.

*Shirima (2001).*

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*Common lands for grazing are shrinking*

However, while livestock can contribute to the maintenance of natural resources, a general reduction in the availability of natural resources such as common lands for grazing can negatively affect poor livestock keepers. Many poor farmers rely on common lands to graze their livestock. These resources, however, are constantly being diminished because of the increased pressure on land exerted by growing populations and

by other development interventions. For example, Jodha (1992) found that common property resources in various states of India declined by between 31 and 55% over 1951-81. Commercial development sometimes accelerates this process. LID (1999) found several examples of commercial livestock developments that benefited wealthier farmers who then privatized common lands and thereby excluded poor neighbouring farmers. Livestock development that does not also consider poverty can crowd out poor livestock keepers.

Livestock keeping by poor people in densely crowded urban slums constitutes a particular threat to natural resources. The animals compete with humans for the scarce water resources, and the animal waste causes environmental and human health hazards through both the pollution of land and water and the transmission of disease between animals and humans.

The role of livestock in environmental management is discussed in the publications of a global network, Livestock, Environment and Development (de Haan et al., 2001), which describes the situation and the environmental impact of livestock production worldwide.

Livestock can enhance human capital and reduce malnutrition. Livestock production can enhance human capital in several ways. The Bangladesh and Orissa case studies provide examples of how poor people have increased their knowledge and status both in the community and in families through livestock production and organization in community and producer groups.

In a study of the impact of a smallholder livestock development project in Bangladesh, Nielsen (1996) found that all participating women had increased their incomes. The extra income was used to buy more food, send children to school and augment assets such as land. The women also enhanced their participation in decision-making at the household level. These findings have been confirmed in a recent impact study of the Bangladesh Semi-Scavenging Poultry Model. The women said that poultry production boosted their influence on financial matters in the family and raised their status in society (Lund, 2002).

*Livestock production  
can empower  
vulnerable groups*

*Livestock can improve the nutritional status of poor families*

Livestock can also improve the nutritional status of poor families. Malnutrition often results from a combination of a lack of access to food, a lack of nutritional knowledge and inequality in the distribution of resources within families. The extra regular income derived from livestock production therefore has the potential to increase access to food within the family. At the same time, enhanced knowledge and status among women significantly reduce malnutrition among the women and their children. Eklund (2002) describes how nutritional development projects in Nepal demonstrate that malnutrition among children is substantially reduced if mothers raise the level of their education and add to their status.

*Animal source food plays a particular role in child nutrition*

The consumption of even small amounts of food processed from animals can significantly improve the diets of children in the developing world. Several studies show that the intake of animal products positively affects the physical and cognitive development of children, and the added value of even very small amounts of supplementary animal food by children in poor families is underestimated (Neumann and Harris, 1999). Poor families often consume very little animal food, however, but rely mostly on cereals or roots for food even if they produce animal products. Studies of the nutritional impact of poultry projects in Bangladesh have confirmed this. Animal produce was usually sold for cash to purchase other foods such as rice, fruits and fish. Nonetheless, the impact of the poultry projects in terms of improvements of nutritional status among children and mothers was still substantial (Roos et al., 2002). This shows the importance of livestock production in terms of nutrition, even if the livestock products are not consumed directly by the families.

## LIVESTOCK AND ESPECIALLY VULNERABLE GROUPS

Women play an important role in livestock production

Women are a particularly vulnerable group among livestock keepers. From a gender perspective, it is evident that women are subject to constraints more often and to a higher degree than are men in raising livestock. At the same time, women play a very important role in livestock production in almost all developing countries.

Women in African communities are generally responsible for agricultural work and the caring of livestock (Curry, 1996). Asian women in poor segments of communities also care for livestock (Rangnekar, 1998; Ramdas and Seethalakshmi, 1999). Because this role mainly involves poor women, it may remain unnoticed or at least not appreciated.

In recent decades, the relationship between gender and livestock production has been investigated thoroughly. A variety of authors have attempted to adapt existing frameworks to systematize the study of gender and livestock (Tangka, Jabbar and Shapiro, 2000; Asian Development Bank, 2000). The majority of the analyses focus on the division of labour, ownership and control, and access to resources (Bravo-Baumann, 2000; Tangka, Jabbar and Shapiro, 2000; Asian Development Bank, 2000). However, according to Curry (1996), frameworks that centre purely on male-female labour allocation and dominion over livestock resources do not account for the role of other members of the household, nor for the wider dynamics involved in the roles of men and women in decision-making about livestock. Traditional representations of gender in livestock ownership suggest that men have control over the large animals, whereas women tend to own only small livestock and poultry (Bravo-Baumann, 2000). Nonetheless, control over livestock and livestock products is often determined by the economic function that specific animals have within the household. In areas where the rearing of small livestock, poultry and pigs is an important source of income for the family, the management of herds and flocks is often turned over to the man household head.

*Control over livestock is often determined by the economic function of the livestock within the household*

Therefore, any framework for the exploration of gender and livestock needs to consider the role of livestock at both the productive and household levels.

Perceptions about livestock differ according to gender. Attitudes and values about livestock often differ according to gender. For example, Thomas-Slayter and Bhatt (1994) noted that men in a Nepalese village regarded the acquisition of buffaloes as an investment, whereas women were more troubled about the management issues involved, such as the increased workload. Heffernan, Nielsen and Misturelli (2001) also found gender differences in the perception and role of livestock among poor households (Table 1.4).

**Table 1.4: Reasons for keeping livestock in Bolivia, India and Kenya**

Role of Livestock	Kenya		Bolivia		India	
	Men	Women	Men	Women	Men	Women
Number in sample	125	120	348	209	606	410
Food security	36%	60%	30%	30%	19%	17%
Income	8%	15%	45%	38%	59%	63%
Purchasing food	12%					
School fees	16%	5%				
Investments	16%	10%	11%	19%		
Traditional life style		10%	4%	3%	6%	6%
Dowry	4%					
Credit	4%					
Ceremonies			2%	1%		
Social status				1%	2%	
Draught			4%	2%	4%	2%
Fuel, manure					2%	1%
Hobby			1%	2%		
Other	4%		3%	4%	8%	11%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Heffernan, Nielsen and Misturelli (2001).*

As the table illustrates, the majority of women in Kenya viewed livestock primarily as a means to ensure food security for the family, whereas men perceived livestock as a means to meet present needs, such as food and school fees, and as a form of investment.

The responses did not show the same profile in Bolivia. In Bolivia, both men and women consider livestock to be a source of income and a guarantee of future food security. However, men value livestock highly as aids in the performance of agricultural activities such as ploughing, which confirms the traditional division of labour in Bolivia, where men hold the main responsibility for the preparation and ploughing of fields.

In India, both men and women highlighted the role of livestock in income generation and food security. Interestingly, few men said that livestock ownership confirmed a household's social status.

The differing perceptions can lead to work-related conflicts within the household. For example, in India, women often voiced resentment over the additional workload that livestock ownership demanded. Similarly, a group of women in a Mexican village complained about the labour demand represented by the cattle belonging to their husbands. They saw cattle as unproductive assets that they have to tend only because their husbands perceive cattle as the basis of status and authority in the local community. In contrast, the Mexican women consider poultry readily accessible capital for meeting daily consumption needs and pigs as a sound investment that can be readily capitalized in times of need (Villarreal, 2001).

#### Ownership and control of livestock

The traditional view is that women may own the livestock in their care, but that they have little control over it. For example, women in pastoralist and agropastoralist societies in Eastern Africa generally obtain livestock through culturally formalized ceremonial events, but rarely via the marketplace. Livestock is given to woman in marriage either through bride wealth, or through allocation by the husband or the men family members (Joekes and Pointing, 1991; Watson, 1994; Smith-Oboler, 1996). Women also inherit

*Women may own the livestock, but have little control over it*

livestock; however, their share is usually less than that of their male relatives (Joeke and Pointing, 1991; Talle, 1988). Talle (1988) notes that, among the Maasai, women own animals 'in name only', but do not have any real control over off-take. The limitations affect both cattle and small livestock herds. Even in exceptional circumstances where the husband is not present, women need to consult a male relative prior to the sale of stock. On the other hand, Smith-Oboler (1996) found that Nandi women exert a strong influence in decisions about cattle even when the animals formally belonged to men. Different products are often allocated to different gender groups. For example, Fulani women sell all the milk and can use the revenue, whereas the men have the right to the proceeds from the sale of the animals.

The concepts of ownership and control are often confounded partly because the border between the actual and the de facto ownership of livestock is often blurred. Agarwal (1998) points out that gender equality in the legal right to own property does not guarantee gender equality in actual ownership, nor does ownership guarantee control. The study consequently defines true ownership as an ownership regime in which the livestock keeper has a direct say over both the animal and its products via sales and management decisions.

Nevertheless, strict conceptions of ownership as established in the West may be misplaced among many of the livestock keepers in the developing world. Smith-Oboler (1996) thus notes that, in indigenous African property systems, no single individual has the rights over cattle that are implied when a person in the West talks about "owning" something. In the case of most cattle, the rights of control possessed by any individual are constrained by the rights on the same animal held by other individuals. Few studies have accounted for these wider notions of ownership. The majority of the literature has focused on the degree of freedom that women have to sell individual animals or the products deriving from the animals.

*Women often have  
a particular role  
in relation to poultry*

Finally, despite the earlier reservation about the close connection between the roles of men and women and the economic role of the livestock, the ownership of poultry often

presents an exceptional case. The birds and their produce are widely recognized as the rightful possession of women, who can manage and control them as they wish.

Women contribute a great deal of labour in caring for livestock

Women contribute a considerable part of the labour involved in caring for livestock in most production systems, although there is some variability in the scope and level of specific gender-related responsibilities. In general, women have the greatest role in mixed farming production systems and carry out the majority of the tasks related to livestock. Women in South Asia contribute 70 to 80% of the livestock-related labour (Rangnekar, 1998; Tulachan and Karki, 2000).

In traditional pastoral societies, women spend less time on livestock-related duties than they do on other activities. For example, Bekure et al. (1991) estimated that women spend an average 2.5 hours per day caring for livestock, compared to six hours performing domestic chores. Nonetheless, tasks and workloads are clearly divided according to gender. Women are traditionally responsible in the domestic sphere, whereas men are the actors in the public arena (Talle, 1988). Women are responsible for milking animals and caring for the young stock and any sick animals, while men are primarily the managers and supervisors. They are responsible for gathering information on range conditions, water availability and markets and then making the subsequent herding decisions (Bekure et al., 1991). Men often oversee watering and supervise herding. Likewise, men household members make the majority of the decisions about the sale and slaughter of animals. From a very young age, children are involved in herding. Girls mostly herd the small stock, and boys and young men are responsible for cattle (Bekure et al., 1991; Laswai et al., 1999). On the other hand, the Bolivia case study describes a different picture in the mixed farming systems of the Andean highlands, where women and girls are mainly responsible for all livestock activities, including the herding of cattle and small livestock.

### Women can lose strategic roles

When livestock production becomes more commercial, gender roles can change, and women can lose control of the income generated through livestock that they may have previously controlled. In the worst cases, women are transformed from producers to labourers in commodity production (Box 1.4).

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#### **Box 1.4: Nandi people of Kenya**

Among the Nandi people, cattle form part of traditional household property. Traditionally, men inherited and controlled livestock. Women gained access to livestock products through their position as household managers and their obligation to provide food. When married, a woman would have cattle assigned to her house to provide milk for her and her children. Men could not dispose of these cattle. Men and boys would receive the morning milk, and women and girls the evening milk.

With the increasing commercialization of dairy production, the large herds of Zebu cattle are being replaced by a smaller number of cross-bred cattle. These are usually purchased with the husband's money and are therefore considered his property. Women's rights to the milk from specific cattle are gradually disappearing. Because the morning milk is now often sold, the entire household consumption must be covered by the evening milk.

*Huss-Ashmore (1996).*

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### Livestock and AIDS

*HIV/AIDS increases  
the poverty and  
vulnerability of poor  
households*

The HIV/AIDS pandemic has strong implications for livestock production because it increases the poverty and vulnerability among poor livestock keepers. Nonetheless, livestock production represents, at the same time, a means for the affected households to deal with the crisis. It is therefore essential that development programmes within the livestock sector address the specific needs of poor AIDS-afflicted households.

AIDS is a reality and a major threat in sub-Saharan Africa, where it is leading to a huge rise in poverty, and is becoming very important in Asia and Latin America. Over time, HIV/AIDS

changes, amplifies and deepens the way poverty is manifested. Yet, almost all features of poverty promote the vulnerability to infection and aggravate the impact of AIDS (Topouzis and du Guerny, 1999). In rural areas affected by AIDS, households lose labour time in agricultural activities. In Ethiopia, labour losses have thus reduced the time spent on agriculture from 33.6 hours to between 11.6 and 16.4 hours per week in AIDS-affected households (Loewenson and Whiteside, 2001). This leads to falling agricultural production, shrinking incomes and rising food insecurity. Households with sick members must meet the extra costs, such as the expenses for medical care, for special food for the sick and, eventually, for funeral and mourning ceremonies. These costs are often met by selling livestock.

If a family member contracts the disease and dies, the spouse is also likely to be infected and will leave the household, which will now become a group of orphans and perhaps elders without the strength and skills to produce adequate food or earn income. Furthermore, traditional inheritance customs in many areas require that widows and orphans must give up assets such as housing, land, capital and livestock. Cattle and perhaps small livestock may be confiscated by other family members, thereby consigning the household to the poverty trap (Engl and du Guerny, 2000; Barnett, 1994).

The ownership of livestock can reduce the vulnerability of the household to HIV/AIDS. Livestock can be used to generate a regular cash income, or it can be sold to cover the costs of medical care, funerals and so on (Barnett, 1994). Meanwhile, work oxen can reduce the labour needs in the fields, and families with oxen have the possibility to exchange oxen for labour in times of need. Small livestock play a particular role in households affected by HIV/AIDS. Women have, in many cases, more well established rights over small livestock such as poultry in the case of a husband's death, sometimes even goats and sheep. Moreover, it often seems easier for women to manage small livestock in times of crisis when they lack land for grazing and labour for herding (Haslwimmer, 2001).

There is a strong linkage between vulnerability to AIDS and gender inequity, according to several authors, for example,

*Orphans may lose assets like land, capital and livestock*

*The ownership of livestock can reduce the vulnerability of the household to HIV/AIDS*

*Enhancing gender equity may reduce vulnerability*

Loewenson and Whiteside (2001). It seems valid to say, therefore, that strengthening a woman's position in society and in her family, as shown in some poverty-focused livestock programmes, may help reduce the vulnerability to AIDS in poor communities.

While many problems cut across all groups of vulnerable and poor livestock keepers, some specific problems connected to HIV/AIDS need particular attention in order to enable the households to participate in livestock development. First, the male bias in the provision of many services means that, if a household loses an adult man, it may also lose access to services.

*The need for attention on woman and child-headed households  
Specific training of orphaned youth*

If these households are to gain a foothold in livestock production, they need to be specifically targeted. This means that more attention must be given to woman and child-headed households. These households have the additional disadvantage of having lost a portion of their knowledge and skills in livestock husbandry, so they need specific training or organized transfers of knowledge and skills from other members of the community.

The specific needs of AIDS-affected families are:

- targeted delivery of livestock services to woman and child-headed households;
- transfer of knowledge and skills among generations;
- secure legal and traditional rights of inheritance (now often conflicting);
- access to credit so as to avoid the sale of livestock or to restock where necessary; and
- technologies that help increase labour output:
  - the integration of livestock into crop farming systems;
  - a focus on small livestock; and
  - access to draught animals.

*Build community awareness about the laws of inheritance*

There is a need for inheritance laws that can secure the access to land and livestock for widows and orphans. However, traditional and legal practices are often conflicting, which means that a law alone may not help. Communities must become more aware so that they can change inappropriate practices.

Access to small loans and credit facilities is very helpful for families in times of crisis. If they have access to credit, the affected families need not sell their productive assets, such as livestock, when they need cash. Furthermore, small loans for the purchase of livestock can facilitate restocking in situations where households have been forced to sell their animals or the animals have died because of problems in management.

*Credit facilities  
would be helpful*

Labour often becomes the major constraint in AIDS-affected households, and the returns to labour need to be raised. For example, it became evident during a study in the United Republic of Tanzania (Barnett, 1994) that ox-owning households are less vulnerable to AIDS than are households with no oxen. Access to work oxen reduces labour needs and secures sufficient planting and weeding, which increase productivity. Families with oxen also have the possibility of exchanging oxen for labour in times of need. It should be remembered that women are especially vulnerable and face great difficulty in prioritizing their labour since they carry most of the burden of caring for the sick and also perform the main roles during mourning. A number of cases are mentioned in the literature in which widowed and orphaned households have engaged in the small-scale production of livestock, such as poultry and pigs, and even beekeeping as a means of survival. The labour required for the production of small livestock is more limited, and the investment and risk are at a level that vulnerable groups can manage.

*Labour-saving  
technologies*

## SERVICE NEEDS OF LIVESTOCK KEEPERS

The service needs of poor livestock keepers should be defined in the broader context of total service delivery and multiple service needs. Too often, issues are analysed as if economics, politics, technical services and social structures can be isolated from one another.

The following section draws from what is known about the wider concepts of poverty and the more specific livestock-related

concepts of poverty among livestock keepers to determine how these may constrain the poor from taking advantage of the opportunities that livestock production offers.

#### Problems related to livestock

The poor face a variety of constraints to sustainable livestock production. LID (1999) classifies the problems of the poor into three basic categories:

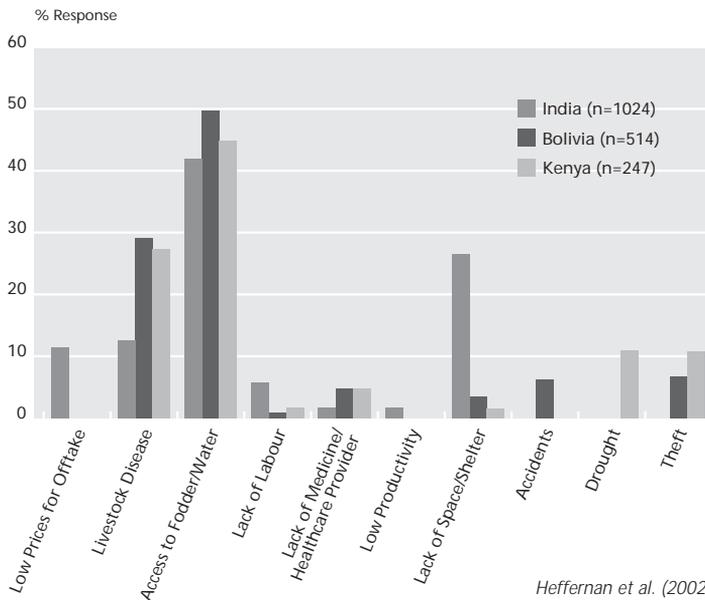
- herd and infrastructure acquisition;
- herd and flock maintenance; and
- marketing of livestock products.

Herd and infrastructure acquisition require that households have access to capital and credit facilities so that they can purchase the livestock and pay for the infrastructure. Herd maintenance requires that households maintain the health of their animals and have access to animal production services. To market their livestock products, the poor need to have access to reliable markets for offtake.

*Lack of access to fodder and water is the most serious problem*

These needs are also recognized in Heffernan et al. (2002), who carried out an open-ended ranking exercise among over 1700 households in Bolivia, India and Kenya. Figure 1.4 illustrates that the majority of households ranked a lack of access to fodder and water as their most serious problem in the maintenance of livestock. Livestock diseases were the most significant problem for approximately 20% of the producers. However, aside from these major constraints, the other problems identified differed widely among the countries and the districts involved in the study. For example, theft was considered a serious problem among pastoralist communities in Kenya. Urban producers in India were concerned about access to sufficient space to keep livestock and the low production levels, whereas accidents – mainly involving cattle becoming snared in barbed wire – ranked quite high in Bolivia. Additionally, a number of participants believed that their knowledge of animal husbandry and health was insufficient.

Figure 1.4: Main livestock problems



Two points are illustrated by this discussion of the problems in the maintenance of livestock:

- The problems faced by the poor with their livestock were surprisingly consistent despite the overall regional and country variations. Across the three countries, the lack of fodder and water and poor animal health were considered the primary constraints on livestock-based livelihoods.
- In contrast to the LID (1999) study, problems with livestock acquisition were not prominent. Likewise, the lack of markets for off-take was not considered an insurmountable problem.

Poor livestock keepers in urban areas experience problems in obtaining access to fodder and especially water, just as the animal health situation is particularly bad because the poor urban livestock keepers often have limited knowledge of proper husbandry practices and do not possess sufficient space for the animals.

<i>The poor should define their own needs</i>	Who defines the needs of the poor? Most needs assessments have been conducted by outsiders rather than by the poor themselves. Box 1.5 illustrates the lack of correlation between the needs perceived by development agencies and farmers and the ways in which resources can be wrongly directed.
<i>Outsiders and the poor see their problems differently</i>	Outsiders and the poor see their problems from different perspectives. Moreover, needs assessments and the identification of priorities are strongly biased according to the viewpoints and motives of the particular stakeholders and the methodologies used. The literature can roughly be divided into three types according to the methodology employed to define the needs (Table 1.5).
<i>All methodologies introduce an outsider bias</i>	It appears that all methodologies introduce an outsider bias. The participatory method has the potential to come close to the perceptions of the poor themselves, but it is controlled by

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### **Box 1.5: Farmers' perceptions of farming systems in Bolivia**

A productivity study in Bolivia examined farmer perceptions of the development of their farming systems during the previous ten years and concluded that:

- 82% of farmers believe their crop yields are decreasing;
- 79% of farmers believe the productivity of livestock is declining;
- and
- 84% of farmers say they have reduced the number of their animals.

The cause, according to the statements of the farmers, is, "The soils are tired!"

Of the 265 NGOs that work with agricultural projects in the survey area:

- none work on soil fertility; and
- only a few work on the development of fodder production.

Why do these NGOs not respond to the real needs of the farmers? Local farmers were not involved, nor consulted when the programmes were planned and designed.

*Morales (1999).*

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**Table 1.5: Methods and related biases that are applied to define needs**

Methods	Needs defined by	Implied Bias
Evaluation of the productive performance of livestock and assessment of the objective constraints on higher productivity	Scientists	<p>Outsider point of view.</p> <p>Often the assessment is highly specialized, lacks a wider perspective of the constraints on productivity and focuses on yields rather than on sustainable production.</p>
Analysis on the basis of statistics and the knowledge of farmers, production and local conditions	Extensionists, development practitioners	<p>Reflects the views of farmers and the practical reality.</p> <p>Extensionists often have their main contacts with wealthier and more progressive farmers and do not assess the situation of the poor.</p> <p>The assessment may also be biased by the aspirations of the technical staff and reflects their relationship to technical perceptions and the ruling policy.</p>
Participatory methodologies: various methods used in needs assessments, but the aim is to facilitate the farmers' own definitions of problems and need priorities	Scientists, extensionists, development practitioners	<p>The assessment may be biased according to the selection criteria of participants (wealthier, poorer, men, women and so on).</p> <p>If participation by the community's poorest is not significantly upgraded, they are often absent; this is particularly true for pastoralists, because they go from place to place.</p> <p>It is often extremely difficult to assess the bias that facilitation imposes on the outcome of the process; there are examples showing that the outcome can be blurred to a considerable extent depending on the approach of the facilitator (Chambers, 1997).</p>

facilitators, and the outcome therefore depends on the approach of the facilitators. Moreover, when using participatory methods, farmers also introduce biases. They tend to adjust their statements with the expectation of benefiting from future projects and sometimes also to please facilitators. In an assessment undertaken in Afghanistan, farmers in areas without veterinary services tended to exaggerate their problems in the hope that they would receive the services earlier (Schreuder et al., 1996).

Policy-makers, including at the national level and among donor agencies, take a strong position when they define and interpret the needs of the poor because their interpretation determines the policies that will finally direct the development of livestock services. The interpretation of policy-makers depends on their particular paradigm concerning poverty, the system in which they operate and their eventual democratic mandate. Most policy-makers belong to the local or global elite, which influences their perceptions of poverty and the needs of the poor. To respond appropriately to the real needs of the poor, it is crucial that the poor directly express their own service priorities, needs and demands. As a consequence:

Projects and services must use delivery mechanisms that promote the definitions of priorities and needs expressed by the poor livestock keepers themselves.

#### Need for poverty-focused livestock services

*The needs of the poor in livestock services are related to their aim of overcoming the constraints attached to poverty*

The general constraints associated with poverty that are outlined in this document have specific consequences for livestock keepers in terms of their ability to benefit from livestock development and services. Livestock services are traditionally considered only as technical services. However, the above analysis of the connection between the constraints of poverty and the access to services shows that the particular needs of the poor in livestock services are related both to the aim of overcoming the constraints associated with poverty and to the particular problems involved in livestock keeping. Table 1.6 presents a summary picture of

the effect of the general constraints of poverty on livestock development and services, particularly the effect on women.

The poor can easily become invisible to service providers because the providers do not hear the demands of the poor for services. A more focused approach is necessary so that poor livestock keepers become visible to providers and can actively identify and demand the services they require.

Poverty-focused approaches are therefore:

- bottom-up;
- holistic; and
- gender sensitive.

A poverty-focused approach must also be gender-sensitive. Much more attention must be paid to the gender aspects of livestock development. Because women often play a crucial role in livestock production, there must be a stronger focus on the particular needs of women, one that is immediate, as well as strategic, in the design and provision of livestock services.

Women are often perceived as effective agents of development. Some authors argue that women are more prone to the early adoption of new technologies than are men and are therefore better catalysts for technological change. Perhaps agricultural productivity would be rising more quickly if more resources were made available to women (Mullins et al., 1996). A number of studies on Africa and Asia (Dolberg, 2001; Mullins et al., 1996) confirm that the incomes of women are more likely to be spent on food for the household and the education of the children than are other incomes. Small-scale commercial livestock activities involving women thus have a significant impact on the nutritional status and livelihoods of smallholder households. The impact of these activities among woman-headed households would be especially significant. Many studies reveal a direct and positive effect on the performance of livestock production when women extension workers receive special training and are employed to work with women livestock keepers (Dolberg, 2001; Rahman et al., 1997; Curry, 1996; Panin and Brümmer, 2000; Farooq et al., 2000; Gueye, 2000; Rangnekar, 1998; Matthewman and Morton, 1997).

*The involvement of women leads to significant positive impacts on the livelihoods of households*

**Table 1.6: Livestock services and poverty constraints**

General Constraint	Specific Constraints for Women
No voice in policy formulation or in the architecture of services	The lack of voice is particularly common among women all over the world.
Limited access to education High incidence of illiteracy	The disadvantage of women in education has been clearly shown to constrain women's productivity.
Health constraints and limited access to health services reduce the capacity for productive activities	Women's health constraints: There may be a reduced capacity for productive activities due to intestinal diseases, poor nutrition, tightly spaced childbirths and female genital mutilation. Often the responsibility and work burden involved in the care for sick family members falls to women.
Limited access to land and water and insecure access and ownership rights	Limits on women's right to own, control and inherit land are widespread.
Limited access to assets (for example, livestock)	Limits on women's right to inherit assets are widespread.
Low household income	Women often have the least amount of access to earning income. They may have an income, but no right to control the income.
Limited access to credit	Women often have no access to credit; this is especially true among woman-headed households.
Limited access to extension and other agricultural and livestock services	Most services are only directed towards men.
Limited access to markets	Women are often less able to reach the market because of their domestic responsibilities or the cultural barriers.

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**Consequences for Effectiveness of Livestock Services Reaching the Poor**


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Services might not be relevant to farmer needs.  
Farmers have no ownership of the services.  
Women are being neglected in most services.

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More sophisticated technologies that demand a high level of management skills might not be feasible.  
Training in new technologies must be simple and practical.  
The need to support supervision is significant.

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Many families are labour poor, so that labour-demanding technologies or services that require farmers to travel are not feasible.  
This problem is especially pronounced among woman-headed households.  
Extra labour demands placed on women often fail: this issue is frequently neglected in fodder production programmes.

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Access to fodder and water resources is scarce or insecure, and this limits livestock production.  
This may discourage women from investing in land improvement, agricultural equipment and livestock.

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Poor farmers own proportionally fewer livestock, and small livestock is more important.  
Investment in new livestock and technologies is difficult.  
In times of crisis, the family may sell off its livestock if this is their only asset.

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The family is too vulnerable to take up risky new technologies.  
A technology that requires expensive inputs may not be feasible.  
Livestock services need to be low cost.

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Investment in new livestock and technology is difficult.  
In times of crisis, the family may sell off livestock if it has no access to credit.

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Poor farmers and especially poor women farmers cannot take advantage of new technologies or market possibilities.  
Woman-headed households are particularly disadvantaged.

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Livestock keepers may not increase their production beyond a subsistence level because they have no market for the surplus.

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*Heffernan et al. (2002).*

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**Box 1.6: Women as community-link workers in the ILDP in Koraput, Orissa**

The core of the approach of the Integrated Livestock Development Programme (ILDP) to the delivery of low-cost livestock services was the use of 'community-link workers'. One man and one woman were chosen by the community in each village. One woman in each village was trained as a community-link worker so that village women could participate in the programme. The training covered simple first aid, poultry vaccination, the de-worming of sheep and goats and the castration of bucks and rams. The workers were provided with essential equipment such as thermo flasks, vaccines and medicine kits. Some of the women workers were supplied with bicycles.

In this case, using women as community-link workers did not add much value to the service delivery system, however. Most of the women workers had little education, and the role of the workers was not a very traditional one for women and was therefore challenging. For them to function effectively, they would need additional training and confidence-building measures to prepare for the new roles, which challenge traditions.

*Orissa case study.*

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*Strengthen women's  
fundamental need  
for influence and  
social empowerment*

Many programmes lack an understanding of women as agents in the realization of their own right to development. The case studies in Orissa and Bangladesh show examples of practices that focus on the role of women in livestock development. The studies demonstrate that, in approaches targeted at the involvement of poor women, many of the women have been able to improve the living conditions of their households. However, when the involvement of women does not strengthen women's fundamental need for influence and social empowerment, the impact will always be constrained by the low and weak capacity that poor women often possess.

This is confirmed by Seeberg (2002) for the Participatory Livestock Development Project in Bangladesh. The project, which focused on income generation among poor women, had the potential to empower women economically, but it did not

challenge the existing power structure or gender relations. The project therefore had limited impact on the actual economic empowerment of women. For example, the women did not have access to markets, but relied on men relatives to sell their produce.

## IMPACT OF LIVESTOCK DEVELOPMENT ON THE POOR

Livestock programmes have, with some exceptions, had little impact on the poor, as shown by the comprehensive reviews by the United Kingdom Department for International Development of 800 livestock projects and programmes (LID, 1999). The authors find that the majority of livestock projects and programmes have not had a significant impact on the poor for the following reasons:

*Past livestock programmes have had little impact on the poor*

- technologies were developed, but not delivered to the poor;
- technologies that were delivered were inappropriate for the poor; and
- in cases where appropriate technologies were successfully delivered, wealthier farmers or herders tended to capture the benefits.

The same report concludes:

“Our review of project documentation on technical and service-related projects revealed little evidence of widespread sustainable impact on the livelihoods of the poor. Although there are some islands of success, the overall tenor of the literature, donor assessments and evaluation reports that we reviewed is that technical and service projects were not successful at benefiting the poor on a sustainable basis.”

The example in Box 1.7 shows that, in some cases, when households are so marginalized and have access to so few resources, the promotion of inappropriate livestock production can have a negative impact and increase the vulnerability of the

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**Box 1.7: Dairy animals and poverty reduction among women, Ganjam district, Orissa**

The dairy credit scheme for women analysed in the Orissa case study involved the supply of dairy buffaloes among landless women. For many of these landless households, feeding and grazing were a real problem. In some cases, children dropped out of school to herd the buffaloes, and the cost of the feeding concentrate was too high to render milk production profitable. Moreover, the advisory service required for feeding and management was deficient. Ninety percent of the calves died because of poor health services and lack of proper nutrition. The scheme left a number of the households in debt.

*Orissa case study.*

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*Inappropriate livestock production can have a negative impact*

poor, especially if the intervention is not supported by adequate skills development and advisory services. Economic sustainability must be well considered, since it represents a serious risk for poor livestock keepers.

An analysis of World Bank projects corroborated this scenario (de Haan et al., 2001).

“The livestock portfolio analysis shows that our current World Bank operations still lack a specific poverty and environmental focus. This lack of focus is shown by the low level of investment in the poorest regions of the world (Central Asia, South Asia and sub-Saharan Africa), in pastoral development and in small stock, and, to some extent, in the low share of investments to improve animal health and nutrition, which are critical constraints faced by the poor.”

De Haan et al. (2001) further note that, since the 1970s, there has been a decline in the support for livestock projects by the World Bank. Only six active agricultural projects are aimed at livestock only, and about 50 projects – of a total agricultural portfolio of 270 projects – have livestock components. The decrease in lending is partially a response to the poor performance of projects during the seventies and eighties. It is apparent that

there is a perception at the donor level that livestock projects and programmes have not had the intended impact.

There are a number of reasons for the lack of poverty focus. First, particularly in Africa, services justifiably focused on the high-priority needs of the moment, for example the control of contagious diseases such as rinderpest. Second, the projects launched during that period were mostly designed to increase food production rather than directly address equity issues. They were based on the 'trickle down' theory, that is, economic growth will, at some point, eventually also reach the poor. Third, the projects were typically designed and implemented through public sector livestock services. Service providers tended to exhibit the classic cattle-and-wealthier-farmers bias, as did the livestock specialists of the major donor and financial agencies. Finally, some of the specific technologies that could be useful for the poor, such as thermo-stable vaccines, drought-resistant fodder species and improved local, resilient breeds, were not yet available. They have only now begun to be applied.

#### Recent programmes with a poverty focus

Recently, however, a number of livestock development programmes have appeared that have a strong poverty focus. The case studies in Orissa, Bangladesh and Bolivia contain details about experiences with pro-poor livestock services, some of which have had a considerable impact in terms of poverty reduction among extremely poor groups of livestock keepers. For example, the combined microcredit and poultry-development programme in Bangladesh has reached at least eight million poor landless households, and the effects in the form of increased incomes and nutritional improvements are quite impressive. The cooperative dairy development scheme in India, which now covers about nine million poor households, is another example. Chapters 2 and 3 describe some of the strengths and weaknesses of these interventions in more detail.

*Newer, pro-poor livestock services are having a considerable impact on poor livestock keepers*



## DELIVERY OF LIVESTOCK SERVICES

### SERVICE PROVIDERS

The most important factor determining the pro-poor focus of any service is probably the nature and identity of the provider. How the service is delivered and who delivers it influence whether the poor become passive service receivers, or are empowered and enabled to take action. Because the aim is the latter, the key issue is: who drives the system, the livestock keeper or the service provider? Two related questions are:

*The key issue is: who drives the delivery system?*

To whom are the service providers responsible?  
Who pays the service provider?

Delivery systems that make service providers accountable to the users and give the users a free choice among providers will enhance the power of the users to negotiate and demand appropriate quality services. This is also the case for poor livestock keepers.

*Are the service providers accountable to the users?*

### Public and private roles in service delivery

The responsibility for a certain task depends on the nature of that task. Umali et al. (1994) propose a model for the division of roles between the public and private sectors in the delivery of veterinary services. In principle, the services, which are essentially private goods because the individual users capture all the benefits, should be supplied by the private sector. Key private goods involved in livestock service delivery include clinical veterinary services, most vaccinations, the sale of pharmaceuticals, artificial insemination and other breeding services, feed and fodder inputs and most financial services. For services that benefit an entire community, such as vaccinations against the most contagious diseases, sanitation and quality control, the public sector should intervene. Advisory services and training are in principle private good services but with less immediate benefit for the users, the public sector therefore need to intervene to facilitate the development.

### *Poverty reduction is in the public interest*

This document argues that poverty reduction is a public good and that the public sector needs to intervene, especially to provide an enabling environment and to promote regulations and monitoring so that the services reach the poor.

The quality of services depends to a large extent on who the service provider is responsible and accountable to and how the income of the service provider is related to the results that the users are to achieve.

Table 2.1 offers an overview of the main service providers, the authority that supervises them and their income sources. Sometimes, the responsibilities are unclear, and users become tied up in other types of dependency relationships, as in the poultry model in Bangladesh, where microcredit and technical services are delivered as packages by the same NGO.

### A changing environment

In most developing countries, government institutions traditionally run the livestock services, but this is rapidly

**Table 2.1: Characteristics of service providers**

Delivery system	Service provider	Responsible to	Income depending on
Centralized public services	Frontline staff in government department	Central department	Mostly national budget
Decentralized public services	Frontline staff in local government department	Local government	National budget, but local priorities
National NGO services	NGO frontline staff	Central NGO office / Donor (User?)	Donor policy and funding
Local NGO	NGO staff	Donor (User?)	Donor policy and funding
Private services	Individuals, staff, or owners of private enterprises	Enterprise owner and users	Economic capacities and priorities of users
Producer organizations	Staff of producer organizations Private entrepreneurs	Board of producers Users	Economic capacities and priorities of users
Informal service systems	Traditional institutions Informal user groups	Users	Economic capacities and priorities of users

changing. Many countries are undergoing major economic adjustments, including the reform of public services, and this is having a strong influence on the delivery of livestock services. In a survey on the effects of structural adjustment on veterinary services in 13 African countries, Gauthier et al. (1999) showed that the number of public sector staff stagnated as a result of the adjustments and that the number of private veterinarians and para-veterinarians increased. Public services tended to

concentrate on areas involving public goods, albeit only partially because of overlaps and the duplication of functions. Because of the adjustments, livestock services were often integrated into general advisory services. Some services, such as artificial insemination, were reduced in the absence of a viable private sector.

#### Public sector responsibility, private-sector implementation

Public sector responsibility does not necessarily mean public sector implementation, however. The public sector may take the responsibility for supporting the development of private service systems in areas where these may not be immediately profitable, for example, in market development. The public sector might also take a proactive role in areas where social concerns make public intervention necessary for the establishment of equitable access to services.

*The public sector must provide an enabling environment*

Taking responsibility in this sense means providing the enabling environment and sometimes supplying funding through private organizations.

A good example of an enabling action by a national government is offered by the history of Danish livestock development. Although the Danish Government never interfered in management and institution building, livestock development was seen as a public interest. This led to a strong market orientation in livestock production, which became the backbone of economic growth in Danish society. The Government played an enabling role and provided some financial support (Box 2.1).

#### Centralized public services

The supply of services to livestock keepers through government line departments has in most cases proven to be both inefficient and expensive.

Some services, such as the provision of vaccinations against contagious diseases, quarantine measures and food safety control, need to be centrally planned and monitored to be

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**Box 2.1: The Danish case: increasing livestock productivity through advisory services**

“The increase in productivity in Denmark was to a high extent knowledge based. The most important way of spreading knowledge was by agricultural advisers. In 1871 a local farmers union employed the first agricultural adviser. More followed suit, but local unions could not afford to hire advisers. A revision of the Livestock Act in 1887 accelerated that development. The new act meant that the Government would pay half the wage of a livestock adviser. Before World War I, this resulted in a ten-fold increase in the number of advisers (137 advisers).

In general, there was only little contact between trades and Government in the 19th century, but the Livestock Act may be considered as one of the most important trades acts. It encouraged improvements in quality in breeding by giving awards at cattle shows. It also promoted creation of farmers unions and their rank and file as local unions were delegated the role of organizing the shows, and as a non-member only a half award could be obtained.

It must be emphasized that the advisers were not employed by the Government but by the local farmers' or smallholders' unions.”

*Danish case study.*

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effective. However, others, such as advisory services and natural resource access, are mostly planned at the national level beyond the influence of end users. In these cases, it is not possible for local managers to respond to particular local needs. Moreover, the services rarely reach poor producers because the policies of central governments focus more on macroeconomic growth than on poverty reduction.

Feedback mechanisms regarding the quality of centralized public services depend on the status and power of the particular users or user groups. Wealthy livestock keepers with political influence may have the opportunity to offer feedback on the system. The poorer segment of the community will not have the necessary confidence, and, if they do, their lack of political influence will reduce the impact. The service providers therefore have no interest in serving the needs of poor livestock keepers.

*Planning and monitoring that are beyond the influence of users*

*The poor cannot offer feedback*

It is not surprising, then, that, in field surveys, poor livestock keepers often complain about the rude and negligent attitude of public service field staff (Heffernan and Misturelli, 2000).

Poverty reduction strategy papers generally avoid livestock issues. The strategies and the subsequent investment plans have been prepared by a number of governments, especially in sub-Saharan Africa and in a few Asian countries, in close consultation with civil society, the private sector and other stakeholders. Thus, the absence of livestock issues in these papers indicates that livestock producers and poor livestock keepers lack political influence.

#### Decentralized public services

*Decentralization  
brings decision-making  
closer to users*

Decentralization may represent a way to raise the efficiency of public services because it brings decision-making closer to users. Many developing countries are experiencing democratization, and much effort has been put into decentralizing decision-making, administration and technical services to local authorities. The decentralization of technical services follows two broad models:

- decentralization of the administration of services within line departments, while some degree of monitoring is passed on to local community boards; and
- complete delegation of the responsibility for service delivery to local authorities.

*Decentralization  
within administration  
alone does not change  
attitudes*

Decentralization alone does not change attitudes among service providers. It may render the services more effective, but it does not confront the core problem of centralized public services. Only to a limited extent does it shift responsibilities, which continue to be exercised upwards through the decentralized structures to the line departments.

Decentralized public services may therefore be more effective than centralized services only if the responsibility is also decentralized to local authorities that in turn are responsible to local stakeholders.

The drawback, however, is that the services can easily become politicized and may be influenced by local power structures in which the poor have no part, as was found by Berdegué (1997) in the agricultural advisory services of the municipal technical assistance unit in Colombia. The poorest segments in communities are often excluded from influence. This is also seen in connection with implementation of the Law of Popular Participation in Bolivia (Box 2.2).

*The poor are often excluded from influence*

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### **Box 2.2: Law of Popular Participation in Bolivia**

An example of decentralization with a strong element of democratization is offered by the Law of Popular Participation in local planning in Bolivia. The law seeks to enhance the involvement of all local stakeholders in the planning and delivery of services in local areas. However, several surveys have shown that poor livestock keepers are still not satisfied with their role in the decision-making process. The poorest segments of the communities are not represented in the process because the poor are rarely organized.

*Anderson (1999); Bojanic (2001).*

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The challenge therefore is to enhance the participation and organization of the poor segments in communities.

#### Non-governmental organizations

National and international NGOs can be effective service providers if:

- poor livestock keepers participate in the definition of needs and the design of activities;
- a methodology is used that ensures the target group's full participation in the whole process;
- the success of the NGO is evaluated according to the real impact on and empowerment of the users; and
- the NGO maintains adequately trained staff.

*NGOs can be good service providers if they involve the target group*

A great number of NGOs are active in the delivery of livestock services to poor livestock keepers. Many donor organizations regard NGOs as more effective providers of services to poor

populations than government institutions. Several international NGOs (for example, *Vétérinaires sans frontières*, Intermediate Technology Development Group, Heifer International Foundation and FARM-Africa) have successfully launched animal health and livestock advisory services among some of the poorest and most marginalized livestock keepers in Eastern and Western Africa. The Bangladesh case study describes national NGOs that are working as a link between government and poor livestock keepers with rather good results, although there are questions about the quality of the technical services and the effectiveness of the poverty targeting.

*The interests of NGOs are not the same as the interests of the target group*

NGOs obtain their funds mostly from larger donors and are therefore mainly responsible to those donors. Some NGOs operate according to strong idealistic policies and are dedicated to working with the poor. The main interest of many NGOs in serving the poor, however, is to create a workspace for the organizations and the staff. The members, boards and staffs of the NGOs normally belong to local elites and rarely have interests in common with the target groups. Moreover, many NGOs do not respond to the needs of the poor because they do not use proper participatory methods and do not involve the target groups in the design and execution of activities, which limits their effectiveness. Box 1.5 (Morales, 1999) describes one example, and Box 2.3 provides anecdotal evidence.

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### **Box 2.3 Perceptions of participation**

A group of senior staff from 12 NGOs involved in the implementation of the Participatory Livestock Development Programme in Bangladesh was unable to give a satisfactory answer to the question: in which way is the programme participatory? They did not know the real meaning of participation, and the programme was designed and implemented as a package without any involvement of beneficiaries in the decision-making process. When pressed on which approach was taken, the final answer was: "We are participating them".

*Observations of the authors in Bangladesh.*

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### Private services

Private livestock services have a potential strength in that they are directly responsible to users. Private enterprises may have a direct interest in improving the financial outcome of livestock keeping for users because that will determine the economic viability of their businesses. There are thus reasons to believe that the privatization of 'private good' services will make the services more attentive and demand driven and therefore sustainable. Private services seem to be effective in areas in which farmers are wealthier and more educated and have the capacity to demand quality services.

*Directly responsible  
to the users*

A critical element of success is the level of competition that is established. The transaction costs are too high to provide private services effectively in the remote and sparsely populated areas where most of the poor livestock keepers live (Box 2.4).

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#### **Box 2.4: Transaction costs of the delivery of services to the poor**

The delivery of services to the poor is expensive in terms of staff resources and operating costs because:

- staff are unable to access written information about the available alternative medications and the places where drugs may be obtained;
- the cost of locating the poor in rural areas is high in terms of travel and time relative to urban areas, where the density of livestock posts and input selling points is likely to be higher;
- in a multi-ethnic environment in which the poor are often minorities, more qualified staff are required; and
- farmers who belong to farmer organizations or to a dominant ethnic group are more likely to network effectively with other farmers and therefore have access to more information than marginalized farmers have.

*Ndungu (2000).*

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If a conventional model involving professional veterinarians and extension advisers and for-profit agricultural banks is seen as desirable in such a context, it is impossible to achieve perfect competition with sufficient numbers of buyers and sellers, no barriers to entry, the supply of exact information to everyone and

*Conventional models  
do not work*

a homogeneity of products and services. Within this model, livestock keepers have no choices and insufficient power to negotiate prices and quality because profit margins permit only a limited number of highly skilled service providers.

*Alternative models linking local partners with the professional private sector*

There is increasing evidence, however, that alternative models of private-sector interventions or public-private partnerships can work effectively among poor livestock keepers. Alternative models for the development of private-sector delivery systems based on networks of local part-time agents are being tried in many countries in Africa and Asia. Community animal health workers or community-link worker systems, combined in a partnership with the more professional segments of the private and public sectors, need to be established.

Combining the roles of actors in community-based delivery systems

The poultry model developed in Bangladesh (Box 2.5) is an example of the establishment of privatized services within very poor communities, and it is also an example of the linking of government institutions, NGOs and the private sector in an effort to reduce poverty through livestock development.

*NGOs mobilize community groups and develop small private enterprises*

Several studies and evaluations have shown the benefits of this model in efforts to improve the livelihood of the poor (Nielsen, 1996; Pitt et al., 1999; Lund et al., 2002). The concept that government should help develop the private sector through NGOs that mobilize community groups and establish small private enterprises for the community-level delivery of services seems an interesting one. The model has proved efficient in delivering microcredit to poor livestock keepers, but recent studies have revealed significant weaknesses in the delivery of technical services (Lund et al., 2002). The weakness seems to be connected to the way the formal institutions link to the community-based system. There is presently no formal way in which poor livestock keepers can respond to the services.

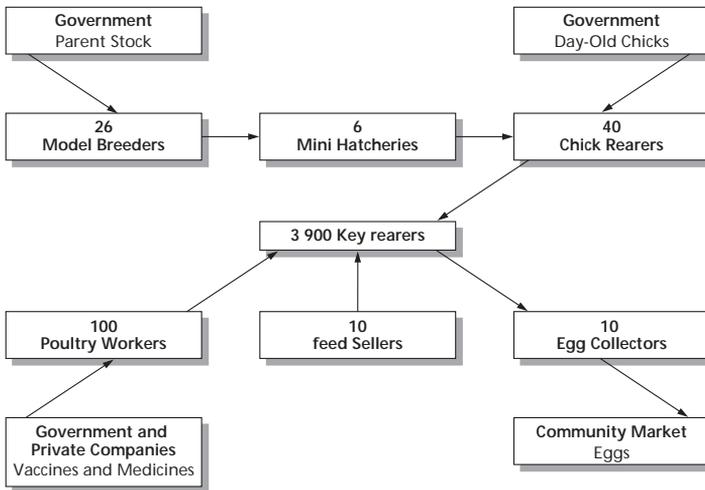
*Efficient in microcredit, but weak in technical services*

The public sector funds, coordinates and supervises NGOs that mobilize community groups and from outside the community, deliver the microcredits and technical services which are needed.

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**Box 2.5: Poultry model in Bangladesh**

The poultry model operates with a model chain that secures a supply of needed services within the community. In the model, key farmers who rear the poultry are the focus, and all chain elements are small private enterprises.



- Key poultry farmers produce eggs for the market from five improved laying hens in a semi-scavenging feeding system.
- Poultry workers vaccinate the poultry and carry out some simple treatments.
- Model breeders keep the parent stock and provide eggs for the mini-hatcheries.
- Mini-hatcheries provide day-old chicks to the chick farmers.
- Chick farmers provide pullets to the key farmers.
- Feed sellers purchase raw materials from the market and supply mixed feed to all the parts.
- Egg collectors bring eggs to market for sale.

*Modified from Fattah (1999).*

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*Dominated by government and NGOs*

However, the approach is implemented and dominated by government institutions and NGOs. Poultry keepers are not involved in design, planning, or decision-making, and they depend entirely on the NGOs that are responsible for credits and technical services. The NGOs are responsible to the government department and the donors financing the programmes.

*The linking of microcredit and technical services does not empower users*

Furthermore, linking the delivery of microcredit and the delivery of technical services by the same organization poses two problems. First, when users have credit from an NGO and depend on the same NGO for services, they are not empowered in relation to the NGO as service provider. Second, the NGO naturally concentrates on the microcredit because this is the profitable side of the intervention, and it tends to neglect the technical services.

In the development of such partnerships, one should acknowledge that public sector funding for livestock services is unlikely to increase in most countries and that new priorities need to be established for the public sector.

*Producer organizations can empower their members*

Producer organizations

Organizations of producers that are truly owned and controlled by the producers have the potential to empower their members and facilitate the delivery of services that respond to their needs and fulfil appropriate quality standards. They may be formal organizations such as farmers associations, marketing cooperatives, or savings and credit associations, or they may be more informal groups or community institutions such as village groups, self-help groups or traditional leadership institutions.

The history of livestock development in Denmark shows that small-scale producers can gain tremendously from organizing and working together to identify needs and consolidate demands.

*The poorest are not members of producer organizations*

Studies have found that the poorest livestock keepers are not members of formal producer organizations (Staal et al., 1998; Morton and Miheso, 2000; Staal et al., 2001). The reasons for this almost systematic exclusion remain to a certain extent unclear. There are probably a number of factors involved, but the low capacity of the poorest in terms of education, time and resources plays an important role.

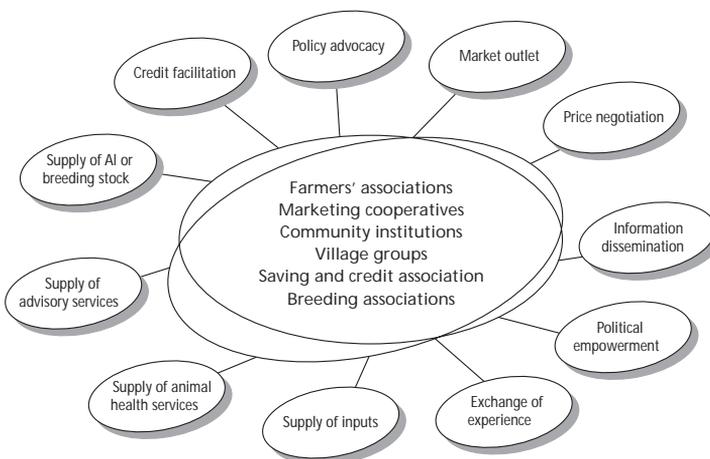
For poor livestock keepers to be able to take advantage of the opportunities, ways must be found to develop organizations that include the poor.

Producer organizations formally belong to the private sector, but differ substantially from other private service suppliers because they are owned and controlled by producers and vary in objectives and operations. Along with marketing services, these organizations often provide other services. For example, many dairy cooperatives in Kenya and India not only collect and market milk, but provide technical services and distribute inputs.

*Producer organizations can provide marketing and technical services*

On the other hand, mixing marketing and service functions may lead to an undesirable confounding of functions in the public good and functions in the private good and cross-subsidies and, hence, the maintenance of unsustainable service systems. This was seen in the cooperative movement in India, which in the early nineties obtained special protection from the commercial sector (World Bank, 1999). Figure 2.1 shows the multifaceted advantages that producer organizations and community institutions can offer their members.

**Figure 2.1: The multifaceted advantages of producer and community organizations**



- Producer organizations can also aim at political goals* Other producer organizations are of a more political nature and function mainly to negotiate in the interest of farmers. This is common in developed countries and only recently started to emerge in developing countries, for example in Bolivia, where farmers unions have quite strong political influence. In India, the dairy cooperative movement likewise has taken on a strong advocacy role for its members.
- Users can respond directly regarding the quality of services* A board of producer representatives is responsible for the planning and implementation of services in the organization. The board is elected from the members, and the board hires the management and technical staff. The role of the board, combined with the mandate the board members have from their fellow producers in the organization, makes it possible for the users to respond regarding the quality of services and complain about inputs of bad quality or negligent staff members.
- Government interference limits the benefits* Unfortunately, many cooperative marketing organizations have faced government control through laws and regulations from the very beginning, often through cooperative ministries or departments. This has frequently meant that the cooperatives have become de-facto parastatal organizations, and farmers in developing countries often consider cooperatives to be under government control or ownership. In some cases, the management of cooperatives are under significant government control. This is the situation in some states in India, where the public sector is heavily represented on the boards of statewide unions, setting milk prices for consumers, wages and so on (Chandler and Kumar, 1998), thus affecting the viability of the cooperatives.
- The liberalization of cooperatives has favoured different models* When subsidies were phased out following structural adjustment, most government-controlled cooperatives went bankrupt and were closed or sold to private enterprises. Sometimes, farmer associations maintained some shares, as in the case of the industrial dairy plants (PILs) in Bolivia, where the farmers' association, Fedelpas, still owns 60% of the shares. Combining big private enterprises with producer organizations might in some cases enhance economic sustainability. However, this needs strong producer organizations that have the capacity to negotiate for producer interests and make realistic demands.

In Kenya, the dairy sector has been fully liberalized, and the remaining dairy cooperatives are actually in the hands of producers. Following the liberalization, formal cooperatives remained around the large towns, and self-help groups emerged in more remote areas. In a study of the way livestock services were perceived among smallholder dairy producers in Kenya, Morton and Miheso (2000) found that cooperative members accepted milk prices that were lower than those paid by other enterprises because they favoured the additional services that the cooperative provided. A similar situation occurs in India, where cooperative members accept prices that are lower than those offered on the informal market because of the more secure outlet for their products and the additional service package.

Although the Kenyan dairy farmers felt that there were many organizational and management problems involved in the cooperatives, they were still quite enthusiastic about their ownership of the organization and its assets, particularly in the case of the smaller cooperatives. Members of self-help groups had similar feelings, but had a negative perception of cooperatives, which they considered overly bureaucratic, too influenced by government, not transparent, corrupt, poorly managed and late in making payments to the farmers.

Considering the potential benefits that producer organizations can render to small-scale farmers, it is essential to enhance capacity-building among organizations that include poor livestock keepers. This is discussed further in Chapter 3.

## FINANCING LIVESTOCK SERVICES

Developing financing systems for livestock services for the poor  
User payments for services can be a powerful tool to promote the empowerment of livestock keepers, their organizations and their communities if they are implemented appropriately. Poor livestock keepers are, in many cases, willing to pay for clinical health services. In studies of veterinary services in India and

*The one who pays commands . . . and the poor are willing to pay*

Kenya, Ahuja et al. (2000) and Heffernan and Misturelli (2000) found that prices for services are not a major concern for poor livestock keepers. Their major concerns are access and good quality services.

*Supply public support through organizations of poor people*

For services that are likely to require user payments in the long term and for which the poor may face particular problems in paying, the public sector should support development in such a way that the capacity of livestock keepers to articulate their needs and demand quality services is built up. One possibility might be to channel public financing through producer organizations or community institutions, which would either provide services to their members, or contract them out to private providers.

A return to free or subsidized public services cannot be expected for services that are clearly private goods. Moreover, informal payments are frequently the rule, even if services are formally provided free of charge. The few services that are provided free do not benefit poor livestock keepers, but rather wealthier and more influential livestock keepers (Ahuja et al., 2000).

*Prices are a limiting factor*

The development of a payment system for 'private good' services, such as clinical veterinary treatments and artificial insemination, that are affordable to the poor, but also financially attractive for the service providers is a challenge. The studies mentioned above also reveal that the expenditure of poor livestock keepers on veterinary services is actually low, so the prices do matter, though they may not be the main factor.

*User payments depend on the benefits*

In the study on India, livestock keepers in the lowest wealth category were about 30% less willing to pay for services relative to livestock keepers in the wealthiest category in the same areas. In the Kenyan case, only 13% of the livestock keepers mentioned price as a major constraint, although a comparison revealed that livestock keepers spent about 50% less than an 'ideal' calculated expenditure. The difference is probably the result of a lack of access combined with an inability to afford the services. The practical experience in community-based systems seems to confirm these results. Moreover, the ease with which user

payments are implemented depends mainly on the immediate benefits. The willingness to pay for curative veterinary services is high, especially when the animals have a significant production value. It is also high for preventive health care if a lower mortality rate has an immediate commercial value, but the livestock keeper will naturally hesitate to pay for such services if the lower mortality does not lead to higher cash income. Box 2.6 describes lessons learned through a livestock project in India.

It is clearly difficult to convince livestock keepers to pay for services that have previously been free, especially if better quality is not assured. A study of small-scale cattle farmers in Zambia found that the farmers were reluctant to pay for government veterinary services that had earlier been free. The farmers who did pay for the services did not take full advantage of them and complained about poor quality (Chilonda and Huylenbroeck, 2001).

For other services, such as advisory services, where the benefits are mainly seen over a longer term, immediate and full user payments may be problematic. Because poverty reduction is viewed as a public good, continued public support for the financing of these services is justified when the services are directed to

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**Box 2.6: Learning lessons about poultry vaccinations in the Bastar ILDP, India**

“ There is a puzzle concerning the target group’s attitude regarding the benefits of poultry vaccinations: when we ask the village members about the benefits of the project, they often fail to mention any. However, when asked specifically about the benefits of the poultry vaccinations, they say that, yes, of course, they now have more chickens surviving for a longer time but this has not yet materialized in higher income for the family. This finding is confirmed and consistent with findings from similar projects in adjacent tribal areas, where farmers show little interest in continuing the vaccinations after the project withdraws and they have to pay cash for the services.

In the Indian tribal culture, poultry play a strong social and ceremonial role of gift giving and sacrifice but not a commercial role. If chickens get sick, they are consumed anyhow, so the question is mostly when they are consumed, and since the commercial role is missing, a higher age and weight of a bird at the time of consumption does often not materialize as a direct cash benefit.

Real adoption of the vaccinations in these communities would therefore demand a move towards a more productive and commercial role of poultry.”

*Author observations on the Bastar ILDP.*

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the poor, but this is not necessarily the case for the wealthier livestock keepers. Table 2.2 summarizes the possible prospects for the institution of user payments for various selected services.

**Table 2.2: Prospects for user payments for livestock services**

Type of service	Immediate user payment possible for poor livestock keepers
Curative animal health care	Already in effect
Preventive animal health care, not including externalities	Possible for high-value animals or commercial production
Preventive animal health care, including externalities	
Breeding services	Artificial insemination at full cost not difficult, possible for high-value animals
Input supply	Very possible
Financial services	Very possible
Marketing	Very possible
Market information	
Market promotion	
Training livestock keepers	Possible in some cases for training with immediate benefits
Advisory services	
Organizational support	
Training professionals	
Training community-based service providers	
Monitoring quality	
Technology generation	

Long-term development of user payment possible	Public good: development of user payments not possible
Partial payment to compensate for externalities could be possible if there are strong community organizations	Remains a public good
Recording schemes to be undertaken on a commercial basis in the long run	Breed conservation and local breed selection programmes remain public goods
	Development of infrastructure to enable access remains a public good
	Development of infrastructure and market structures remains a public good
Possible for products with high values	
Could be possible, but need capacity-building to establish strong organizations	In some cases, may be in the public interest to act
Partial payment possible over time	
Partial payment possible over time	
	Public responsibility
Could be possible over time	In some cases, may be in the public interest to act
May be possible over time, but requires high capacity and public back-up	Mainly a public responsibility
May be possible over time, but requires high capacity and public back-up	Mainly a public responsibility

### Financial viability of private veterinary services

In addition to the identification of sustainable sources of financing, commercial attractiveness also needs to be assured. In surveys of service providers over more than three years in Kenya, Morocco and West Bengal (one of the poorest states in India), net income levels from services were USD 10 000, USD 12 000 and USD 3 500 respectively, compared with, for example, USD 40 000 in Canada (Sen and Chander, 2001). Sales of drugs are an important part of the income, although the income from treatments was more important in all the countries surveyed. Thus, while income is modest in developing countries, it is generally at the level of public service salaries. The incomes for para-veterinarians and community animal health workers are more varied. Some surveys in India showed attractive income levels for community animal health workers. The incomes were sometimes higher than those for government employees of the same category (de Haan, personal communication), but the surveys also showed that the incomes vary widely, often falling to levels that are inadequate as a sole source of livelihood. Part-time arrangements with mature persons (shop keepers or progressive livestock keepers) are therefore being recommended more frequently.





## POVERTY FOCUS OF LIVESTOCK SERVICES

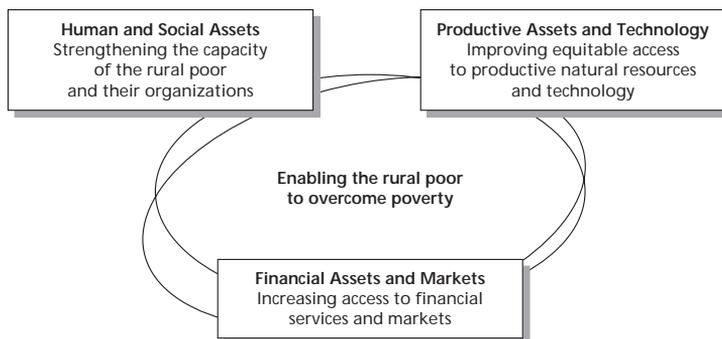
It is a formidable challenge for most providers to deliver livestock services that meet the requirements of poor livestock keepers. Providers are accustomed to focusing on raising production, rather than on enhancing equity.

This chapter assesses the poverty focus of various livestock services and identifies how they can be improved. It presents services that are beyond the technical bias of many current services in terms of their ability to address the broader constraints attached to poverty, which are outlined in Chapter 1. The *Strategic Framework for IFAD 2002-2006, Enabling the Rural Poor to Overcome Their Poverty*, is used as the organizing framework for the services because it is appropriate to place livestock service delivery in this wider context (IFAD, 2002a). Figure 3.1 shows the IFAD framework and strategic objectives.

Livestock services are presented in this chapter according to three strategic objectives:

- to strengthen the capacity of the rural poor and their organizations;
- to render the access to productive natural resources and technology more equitable; and
- to increase the access to financial services and markets.

Figure 3.1: IFAD framework and strategic objectives



The issues related to gender are cross-cutting and are incorporated in all the following discussions. The final section discusses the role that livestock development and services can play in AIDS-affected areas according to the needs of the affected communities.

## STRENGTHEN THE CAPACITY OF THE RURAL POOR AND THEIR ORGANIZATIONS

*Enhance community institutions, small private enterprises and producer organizations*

The enhancement of community institutions, small private enterprises and producer organizations is important for empowerment. This was emphasized in Chapter 2, but the reality is that poor livestock keepers often have access to weak institutions or no institutions at all as a result of their limited rights, education, knowledge and political influence. Building capacity among poor livestock producers and their organizations and bridging conventional professional divisions into new areas of cooperation must therefore be given high priority.

### Organizational support

The empowerment of members to enhance democratic procedures, good governance and economic transparency

demands strong support for organizational capacity-building. Producer cooperatives and farmer organizations in the developing world have been established mostly through the organizational support provided by governments or NGOs. This has led to top-down, autocratically directed groups, which in turn has led to undemocratic and ambiguous practices in communities that already lack democratic traditions. This has been a fertile breeding ground for fraud and mismanagement.

There is no easy answer to these problems, and formal institutional channels through which the poor are supposed to participate are not adequate (Webster, 1999). This was confirmed by the research programme, Local Organization and Rural Poverty Alleviation, at the Danish Centre for Development Research. The study looked at how democratization, civil society and the promotion of local institutions can contribute to making marginalized groups active participants in poverty reduction. The programme found that, in many contexts, poverty is looked at as the fault and the responsibility of the poor (Webster, 1999; Heffernan and Misturelli, 2000; Morton and Miheso, 2000). The exclusion of the poor from democratic processes and institutions may therefore be so severe and systematic that participation by the poor is not possible.

More practical experience is needed to find ways in which marginalized groups can become active participants in organizations and thus in the political processes that surround the production environment of these groups. From Webster (1999), it appears that the inclusion of the poor in organizational and political processes will require that three preconditions are met:

- establishment of inclusive institutional channels for participation;
- creation of awareness that poverty and poverty reduction are legitimate issues; and
- strengthening of social and political practices among marginalized groups that facilitate their participation in political processes.

*Empower members to enhance democratic procedures and economic transparency*

*Exclusion of the poor is a reality, and formal institutions are insufficient*

*More practical experience of the inclusion of the poor is needed*

*Preconditions for inclusion of the poor*

The last point emphasizes a recognition that there are established practices in informal networks and community organizations. These are often neglected, but could have a role in facilitating participation by the poor in the development and implementation of livestock services. The suggestion, therefore, is to work on a strategy that:

- enhances capacity-building among organizations that could involve poor livestock keepers; and
- takes account of the community organizations and informal networks of the poor that are already established.

*Widen the concept of organizations*

This means that the sorts of organizations that must be targeted must be widened beyond conventional producer organizations, cooperatives and so on so as to include traditional institutions, clubs and informal groups of poor livestock keepers.

A great challenge will be to link grass-roots organizations to policy-making institutions. This will require much more work on apex organizations among groups and, at the same time, on reforms and changes in attitude within policy-making institutions so that they are able to respond to demands from the grass-roots level.

Livestock advisory services and skill development

*The major needs of poor livestock keepers*

*The introduction of new technologies among poor livestock keepers succeeds only if the access to support services such as training and advisory services is adequate*

The experience gathered during the case studies shows that the introduction of new technologies among poor livestock keepers does not succeed without also securing access to support services such as training and advisory services. Chapter 1 identifies problems such as the lack of fodder and of low-cost technologies as major problems in almost all developing countries. Production systems that can help current and potential livestock keepers achieve improvements often differ from traditional systems, and many poor (potential) livestock keepers do not have or have lost the tradition of livestock production (through conflicts, family displacements, or the loss of family members through AIDS). The adoption of improved technologies may only be possible if the capacity of poor livestock keepers to adopt technologies such as animal husbandry, fodder production and management is improved.

*Appropriate livestock advisory services can have an impact*

Livestock advisory services and skill development can have an important impact on poor livestock keepers if these services focus on technology and production systems which the target group can easily access. A good example is described in Box 3.1.

*Until now: little attention*

Very little attention has been paid to livestock advisory services.

Livestock production is frequently managed through a government department or, in most cases, a government ministry that is separate from the institution managing agriculture. However, within these livestock departments or ministries, animal health is the major concern, and the main focus is on veterinary services, while advisory services for livestock production have a low priority. For example, the National Department of Animal Husbandry in India allocates less than 10% of its budget to information delivery (Matthewman and Morton, 1997; Morton and Wilson, 2000). Nonetheless, there have been cases, particularly in sub-Saharan Africa, where livestock production and management advice have been integrated into the extension departments of agricultural ministries or into departments emphasizing agricultural extension.

However, the staff in these departments often lack expertise in livestock production, and advisory services on livestock production still receive a low priority, and there is a lack of focus on the poor (de Haan et al., 2001).

There is an overall lack of competent institutions and professionally trained people in this area. For example, a case study in Burkina Faso found that farmers rated the livestock advisory services provided through government extension services lower than the services in any other sector in terms of quality and availability, although they indicated that livestock production advice was their greatest need (Bindlish et al., 1993). Where livestock advisory services were provided, specialists had a tendency to choose their own target group, consisting mainly of 'progressive' and wealthier farmers with sufficient resources to adopt intensive livestock production systems (Morton and Wilson, 2000).

*Little attention has been paid to livestock advisory services!*

*Lack of a poverty focus*

*Lack of competent institutions and appropriately trained professionals*

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**Box 3.1: Livestock extension services for women in Pakistan**

In a project in Pakistan, over a one-year period, women extension workers delivered training and extension to women farmers to help them improve household poultry production. Apart from training and advice, the women received only access to vaccines and some medicines.

The extension workers were trained to aim at expanding the traditional poultry system that the women were already using and to take the limited resources these women possessed into consideration. Thus, there was no significant increase in operational costs. For example, women who had been buying broken rice at the market to feed newly hatched chicks were advised to buy chicken starter feed in amounts that would be equivalent in cost to the cost of the broken rice. The intervention had a significant effect on the productivity of the poultry flocks.

**Comparison of Results after One Year of Training**

Parameter	Before Training	After Training
Flock size (units)	18.7	30.8
Egg production per hen	57.4	97.6
Overall mortality (%)	41.8	17.8

The adoption rate among the proposed new practices was highest in the areas of vaccination and part-time housing. Improved rearing practices such as feeding, egg selection, hatching, and the care and management of hens and chicks were not adopted as often, but still at satisfactory rates.

**Women Practising the Improved Technologies (%)**

Parameter	Before Training	After Training
Vaccination of chickens	25	100
Part-time housing	7	93
Improved rearing practices for chicks	15	64
Improved rearing practices for hens	20	70

The farmers probably did not have enough resources to adopt all the suggested practices. They gave priority to practices that they considered the most important.

*Farooq et al. (2000).*

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Box 3.2 shows five biases of livestock extension in India that led to neglect of the rural poor. The biases were identified in a study of goat production.

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**Box 3.2: Five biases in livestock extension in India**

- The extension system works according to a top-down transfer of technology and relies on interactions with 'progressive', wealthier farmers.
- The main focus is on large ruminants (cattle and buffalo).
- The focus is on intensive systems, particularly milk production; other roles of livestock are neglected.
- The service concentrates on high-potential areas.
- The service is provided for men by men, neglecting the key role of women in livestock keeping.

*Conroy and Rangnekar (1999).*

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The top-down extension approach is based on the assumption that technology adopted by so-called 'progressive' farmers will 'trickle down' to less progressive farmers. The problem with this approach is that progressive farmers are generally wealthier, more able to mobilize resources and more well educated, and they own more land. The advice given to progressive farmers is often not relevant for the poor.

*The advice relevant for 'progressive' farmers is often not relevant for the poor*

The system lacks:

- participation by the poor;
- low-cost systems for information distribution;
- appropriate technology generation and suggestions that respond to the needs of the poor; and
- appropriately trained livestock professionals.

*Towards new systems: knowledge and learning*

The strategy should be to rebuild the system and move towards knowledge and learning systems that can help develop technical skills, while strengthening the livestock keeper's own capacity to demand, organize, or seek information, training and advice from efficient sources.

*Strengthen the livestock keeper's capacity to demand*

- Integration with agricultural services would address needs in preventive health care and nutrition and the scarcity of fodder*      *Agricultural and livestock services can be integrated*
- Because most actual and potential poor livestock keepers raise some crops, the challenge is to develop a system that joins the 'public good' components of animal health services and crop and livestock production advisory services into one integrated advisory system. As long as there are adequate advisors available who are competent in livestock production, integration could properly address the problems of preventive health care, nutrition and the scarcity of fodder resources in areas where mixed farming dominates.
- The development of business skills is important*      Another aspect of importance is the development of business skills. This is often a neglected area, and a new concept of advisory services must build much more knowledge and awareness of the economic dimensions of production systems to make sure that the poor can profit from livestock activities.
- Agricultural extension services are being reformed*      Agricultural advisory services are, however, also in the initial stages of a development process. The widespread system of agricultural training-and-visit extension services provided by government extension institutions has in most cases proved inefficient and unsustainable. A recent evaluation by IFAD (IFAD, 2001) found that the technology messages were not appropriate for poor farmers and that most extension institutions neither targeted, nor reached poor farmers. Agricultural extension services are therefore currently undergoing extensive reforms in many developing countries, and multiple approaches with a strong focus on communities and the demands and initiatives of the farmers themselves are emerging.
- The Neuchâtel Initiative promotes demand-driven advisory services and a poverty focus*      A group of international donor organizations involved in agricultural development and extension – the Neuchâtel Initiative – has been raising an interesting debate on the promotion and organization of agricultural advisory systems as tools in rural development. The initiative offers interesting opportunities for the development of demand-driven advisory services and information systems. A recent study looked at the possibilities for a greater focus on poverty (Christoplos et al., 2002).

Even if few of these developments have yet to provide enough information to allow scaling-up to nationwide levels, there are good prospects for combining the initiative with efforts to develop livestock advisory services.

*Opportunity exists for combining efforts*

*Community-based systems can be applied*

Community-driven extension services are the core of the new developments. Systems that allow communities to contract public or private providers competitively are being tested in several countries. Voucher systems, which allow producers to choose their own providers, are variants of the same theme of competition. Community-based systems, combining animal health services with advisory services, show a mixed record and only work well if clear tasks, appropriate performance criteria and adequate funding are included. The expectation that the community animal health worker can perform advisory services, in addition to animal health duties, without funding has generally not been successful.

*Clear tasks, good performance criteria and adequate funding are needed*

Farmer-to-farmer advisory services have been introduced through the DANIDA-funded Farmer Managed Training and Extension Programme in Uganda, in which the Uganda National Farmers' Association relies on extension link farmers to train their fellow farmers in particular agricultural disciplines (Kagwisagye, 1997).

*Farmers can train their fellow farmers*

Latin America has witnessed some very interesting developments and innovations in the provision of advisory services through farmer communities. Berdegué (1997) describes the example of a project to support the development of technology transfers among peasant communities in the highlands of Peru. The project directly supported farmer communities so that they could contract their own advisers. These advisers included a wide range of 'experts', from agronomists and veterinarians to artisans, as well as farmers known in the communities as experts in various skills. Despite starter problems revolving around the fact that demands were being induced by the advisers rather than by the farmers, the project showed good results, and the farmers gradually

*Farmer communities can contract their own services*

developed specific and relevant demands for the advisers and benefited from the related interventions.

*Learning processes are needed*

*Learning both among professionals and among livestock keepers*

A fresh approach should be undertaken to enhance learning both among livestock keepers and among professionals. Livestock professionals usually lack experience in a poverty-focused setting. The challenge is to develop the traditional extension agent into an adviser and key partner for the farmers in development decisions concerning their farms and farming systems. The adviser in this case should be in constant dialogue with the farmers. The objective is to optimize the returns for the farmers given the particular resources available, while raising the knowledge and management capacities of the farmers. For poor livestock keepers with little access to resources, standard extension packages are rarely appropriate. A flexible technology and learning processes that enable these people to apply general principles to their own situation and modify solutions in line with their special needs are required.

Along with the development of the technical skills, the learning processes must also contribute to the empowerment of

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**Box 3.3: Farmers field schools for integrated pest management in Indonesia**

Groups of up to 25 farmers meet once a week during the 12-week rice-growing season to compare the results achieved on an integrated pest management field and on a conventional rice field by means of a participatory agro-ecosystem analysis. This requires that the small groups of farmers observe the rice hills and the surrounding areas in order to catch and identify various insects and other organisms and draw conclusions. During the meetings, various other subjects are discussed. Exercises in group dynamics are also conducted. Farmers field schools have generated enthusiasm and self-confidence among the farmers and led to a considerable reduction in the use of insecticides.

*Groot and Röling (1997).*

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**Box 3.4: Livestock component in Cambodian food security programme**

In the Special Programme for Food Security in Cambodia, farmers field schools represent the main approach in all activities. Livestock production (pig, poultry and duck) is a component of the programme. The farmer groups establish village livestock associations which plan and organize the activities. So far, the experience has been encouraging. Vaccination and improved poultry housing have reduced mortality among chickens from 76 to 24%. It is said that the learning processes develop the ability of the farmers to think critically and to make decisions.

*Khieu (1999).*

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the livestock keepers and give them the confidence to take over ownership of the processes and learning systems.

During the implementation of integrated pest management approaches, the concept of farmers field schools was developed. Farmers field schools promote learning processes by which individual farmers learn and take decisions through their own observations and experiments and through farmer-to-farmer exchanges. The professional adviser functions as a facilitator in the learning processes.

*Farmers livestock schools*

However, concerns have been raised about the financial viability and sustainability of the concept (Quizon, Feder and Murgai, 2001). Forms of learning that can be implemented at lower overhead and in which a joint learning approach is maintained need to be developed.

*Learning at lower cost needs to be developed*

The core learning concept could be expanded to take in the concept of farmers livestock schools in which technologies for poor livestock keepers could be developed through discovery learning, group discussions, experience sharing and observation. Group members could examine practical examples and learn to experiment and observe. The same approach would probably encourage and empower group members to formulate their demands for service providers.

*Observation, discovery learning, group discussion and experience sharing*

## IMPROVE EQUITABLE ACCESS TO PRODUCTIVE NATURAL RESOURCES AND TECHNOLOGY

Poverty reduction depends on economic growth, which, in the livestock sector, depends heavily on access to natural resources. However, in many parts of the world, the productive natural resource base is under increasing pressure, and the poor are being crowded out. Policies and institutions to secure the equitable distribution of land and water resources are therefore urgently needed. For many years, technology development has been biased towards high-tech solutions to production problems. The poor have not benefited from these solutions because they cannot afford them.

The following section examines the access to land, water and technology by the poor and analyses services that can promote access by poor livestock keepers.

### Access to land and water resources

#### *Land and water are increasingly scarce resources*

*The poor have  
ever decreasing access  
to common lands for  
grazing and arable  
land for fodder*

Access to feed resources is a major constraint for many poor livestock keepers. The resource base narrows as the access by poor people to common lands for grazing or arable land for fodder production is threatened. The recent FAO global study, *World Agriculture: Towards 2015/2030* (FAO, 2002a) estimates that developing countries over the next 30 years will need an additional 120 million ha for food crop production in order to feed their growing populations. The primary expansion will be necessary in sub-Saharan Africa and Latin America. The new uses for this additional land will most probably further reduce the access to common lands, and a number of countries will be confronted by land scarcity. Jodha (1992) found that, in India over the period 1950-85, common property areas declined by half, the number of watering points in these areas was reduced by about two thirds and 20% of the area formerly used by cattle was now used by small ruminants.

Since then, the situation has deteriorated. Many poor livestock keepers in dry or hilly areas depend on common lands for grazing. Because many of these areas are experiencing population growth and as the pressure on available land increases, overgrazing is becoming a typical cause of land degradation. This leads to a downward spiral in the quality of the few available resources and rising vulnerability to climatic change. Box 3.5 offers an example of this in Botswana.

*Overgrazing causes land degradation*

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**Box 3.5: Overstocking in Botswana**

In a study of goat production in Botswana, the major constraints identified were:

“The large number of animals kept in the villages lead to overstocking and severe overgrazing, especially in the winter, where natural pasture is reduced to zero. This results not only in inadequate feed but also in poorer quality of pastures each year. Since supplementary feeding is often too expensive, the result is starvation, which again results in high losses.”

*Mrema and Rannobe (2001).*

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*Pastoral livestock systems are under severe pressure*

Most pastoral livestock systems are under serious pressure because appropriate lands are disappearing. This is exacerbated by insecure land rights and regular periods of severe drought. Crop farming is increasingly encroaching in high-potential areas such as valley bottoms and other wetlands that are critical reserves for dry-season grazing in pastoral management systems. Conflicts are emerging, for example in Senegal and Mauritania (Horowitz and Salem-Murdock, 1993) and in Nigeria (Maina, 1999). Furthermore, access to grazing resources in arid areas is determined by the access to livestock watering points in these areas, and sedentary farmers and wealthy pastoralists are blocking the access to these points by others (Pratt et al., 1997).

*Crop farming encroaches on reserves used for dry-season grazing by pastoralists*

The sharing of good tools to predict drought in pastoral areas is essential (Stuth, 2002). Early response systems are even more

*Drought prediction tools, early destocking and restocking and the establishment of fodder reserves*

essential, but are more difficult to establish and therefore emerge more slowly, although a number of interesting systems have recently been tested in projects funded by the World Bank and IFAD in Ethiopia, Kenya and Mongolia. These include early destocking and restocking, the stratification of livestock production so as to involve raising of young animals in low-potential areas and finishing them in high-potential areas, the establishment of fodder reserves and even livestock insurance schemes (Skees, 2002).

*Livestock and wildlife integration needs to be implemented*

Additional pressure on pastoral communities arises from land and wildlife conservation programmes that fail to address the relationship between humans and nature. Examples are offered by the great conservation areas in the Rift Valley in Eastern Africa, the Mara, Serengeti and Ngorongoro Conservation Areas, which are on traditional pastoral lands of the Maasai. Despite the fact that cattle have for centuries been a natural part of the ecology of the savannah and that all anthropological studies confirm that the Maasai and the wildlife population live in a mutually beneficial coexistence, most conservation programmes still generate conflict. Pilot livestock-wildlife integration projects that give the pastoral community a greater share of the benefits of wildlife conservation in return for a more harmonious integration of the various livestock and wildlife species are now being tried in Eastern Africa (de Haan, Steinfeld and Blackburn, 1997). These projects also consider disease and grazing behaviour and need to be closely followed for eventual scaling-up.

*Mixed farming systems must rely on declining feed resources*

The rapid growth in population is leading to more intensive land use and declining access to land in the mixed farming systems that are predominant in the highlands and humid and irrigated areas. Feed is often limited, and the livestock is undernourished and unable to develop to its full potential (Staal et al., 2001).

During the stakeholder workshop for the Bangladesh case study, concern was raised over the costs of milk production for poor, nearly landless farmers. The available land is extremely

limited, and the dependency on purchased feed allows very few opportunities to reduce costs. Moreover, as Bebe (2003) shows, the greater pressure on land in the Kenyan highlands is leading to more intensive land use, increased dependence on purchased feed and herd compositions that can no longer guarantee replacement animals. In the long run, such systems are not sustainable and are incapable of providing adequate livelihoods. It may be necessary to reduce the number of intensive ruminant-based livestock farmers so as to ensure adequate feed supplies and herd dynamics for the remaining farms. A viable non-farm economy would be required to secure these changes.

*Analyse the prospects of livestock production systems from the perspective of the available fodder resources*

#### Appropriate pro-poor technologies

Poor livestock keepers require improved technologies so that they can boost the productivity of their livestock. But these technologies must be appropriate to needs and must take into account the constraints and the vulnerability of the poor if they are to be successfully adopted. Furthermore, the technologies must be supported by adequate services such as training, advisory services, input supply services and marketing services. Chapter 1 discusses the problems of the poor in terms of livestock production, and the following section outlines some general preconditions for the development of pro-poor livestock technologies and services.

Pro-poor livestock technologies should:

- minimize risk;
- focus on the livestock to which poor households have access;
- build on traditional knowledge and skills;
- use appropriate equipment;
- require minimum capital;
- address the scarcity of feed resources;
- address the problems generated by disease;
- provide appropriate genetic materials;
- take account of the available labour force; and
- be sustainable and profitable

*Minimize risk*

*The level of vulnerability determines the ease with which households can switch from one activity to another*

Traditional small-scale farming systems are usually based on a sound foundation that promotes long-term food security among poor farmers. The level of vulnerability depends on external forces such as macroeconomic policies, commodity prices and climate change. Vulnerability is also affected by internal factors such as resource access, endowments and the level of poverty. Together, these factors determine the ease with which households can switch from one activity to another, a key risk management strategy of the poor.

Any risk can be hazardous to the fragile existence of the poorest households. These households prefer to diversify their activities in order to minimize the risks. They wish to minimize variations in production, expenditure and income rather than maximize the productivity of a particular activity (Zoomers, 1999). Thus, any proposal for improvement must first aim at stabilizing the production system, while relying on existing low-risk, low-input technologies. Other households have access to small reserves in labour, capital, or other resources that may be used to raise productivity. These households are less vulnerable and can withstand a higher level of risk.

*The risk involved in the innovation must be such as not to increase the level of vulnerability*

An analysis of the risk factors involved in the introduction of technologies must be combined with an assessment of whether the level of vulnerability would also be increased. It is critical in any technology adoption assessment to determine whether the risk augments the level of vulnerability. Box 3.6 shows an example of how the introduction of an inappropriate technology raised the vulnerability of small-scale farmers in Togo.

*Technologies that build on existing practices are the most likely to succeed*

Technologies that build on existing practices among poor livestock keepers and that introduce moderate changes at low cost are the most likely to succeed. On the other hand, in cases where livestock development involves big investments such as the purchase of dairy cattle or expensive sheds, an insurance component must be included, as seen, for example, in the Community Livestock and Dairy Development Project in Bangladesh. The cost of insurance of the purchased animals was included in the microcredit component of the project.

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**Box 3.6: A rabbit project in Togo**

A community of small-scale farmers in Togo was keeping rabbits within a production system integrated into their traditional farming systems. The approach was successful and beneficial to the farmers until an extension agent introduced new technologies.

- Local forages were replaced with purchased concentrates.
- Hutches were replaced with purchased wire cages.
- Small operations were turned into larger ones.

The farmers were now subject to greater economic risks because the cost of production rose. The assumption that they would benefit by scaling-up proved untrue in this case. The project collapsed and jeopardized the rabbit-farming livelihood of the farmers.

*Lukefahr and Preston (1999).*

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*Focus on the livestock to which poor households have access*

Livestock development that focuses on the livestock species which people already own reduces the risk because the people already possess considerable skill and knowledge on which to build. Poor households generally keep smaller livestock rather than larger livestock. Poverty is often correlated with the size of the livestock species. The poorer the household, the more important are small ruminants, poultry, or micro-livestock such as honeybees. This becomes even more evident in the case of women because women are more likely to have access to and control over smaller livestock. Women have a special role in small-scale poultry keeping because the birds and their produce are widely accepted as possessions that women can manage and control as they wish.

However, as several authors (Chambers, 1997; de Haan et al., 2001) point out, livestock development programmes exhibit a strong bias towards cattle programmes and services (Box 3.7). A redirection of these services so as to include small livestock would increase their potential impact on the poor households in communities.

*Poor households tend to keep smaller livestock*

*There is a need for redirection so as to include small livestock*

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**Box 3.7: Experience of smallholder dairy projects in Zimbabwe**

A major assumption has been that greater involvement of smallholder farmers in dairying would result in more economic efficiency and a higher degree of equity. This has not been borne out by experience. Only larger scale and wealthier farmers have been able to take up dairy farming since they can afford the risks involved in the new venture. The financial outlay required to undertake and run a dairy operation goes beyond the capacity and credit prospects of poor rural farmers, including woman-headed households, which are not usually able to participate in smallholder dairy farming even at the most modest level.

*Hanyani-Mlambo, Sibanda and Oestergaard (1998).*

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*Fit into the traditional system, while expanding capacity*

***Build on traditional knowledge and skills***

Considering the constraints that the poor livestock keeper faces in terms of educational level and lack of access to knowledge and information, pro-poor technologies must build on existing knowledge and skills. Improved technologies that fit into traditional production systems and expand capacity are more likely to be adopted successfully than are new production concepts. This principle is demonstrated by the semi-scavenging poultry model for poor landless women in Bangladesh (Box 3.8) (Fattah, 1999; Alam, 1997).

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**Box 3.8: Semi-scavenging poultry model**

“The model builds on the fact that most rural women in Bangladesh keep poultry around their homes. The birds traditionally feed by scavenging around the houses, and whatever little they produce belongs to the women and contributes to their livelihood.

The improved poultry model builds on the skills and knowledge that the women already possess in caring for poultry. The technology is improved in the sense that the model combines a small number of cross-bred layers with the traditional flock of local birds and introduces a feeding model based on semi-scavenging. The hens scavenge half the day and get a supplement of purchased feed to encourage egg laying. Moreover, the model addresses the health constraint by training some women in vaccination against Newcastle disease and fowl pox.”

*Observations of the authors.*

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*Require minimum capital and use appropriate equipment*

Lack of capital, assets and cash income always places constraints on poor livestock keepers, so pro-poor technologies and services should promote technologies that do not require large investments or expensive inputs. Furthermore, the support services promoting the technology must be accessible and able to operate at low cost. This also applies to the related equipment. For example, artificial insemination in some instances is an appropriate technology, but it is often beyond the reach of the poor because the equipment is expensive and the inputs costly. However, service providers are not attracted to the less costly technologies such as room temperature semen and bull camps.

Another example of inappropriate technology is described in Box 3.9.

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**Box 3.9: Introduction of Boer goats among small-scale farmers in Botswana**

A programme in Botswana provided subsidies for the introduction of Boer goat rams among small-scale farmers in Botswana. A study of goat production in Botswana subsequently revealed that high mortality among the offspring of these rams had become a major problem. The higher mortality rate was due to poor management and to the inability of the farmers to provide appropriate conditions for the breeds because the costs were too great.

*Mrema and Rannobe (2001).*

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*Address the scarcity of feed resources and water*

Research has developed a number of technology options for fodder production among small-scale farmers and for the more effective use of crop residues as fodder. In many societies there is, however, little indication that small-scale farmers are adopting new technologies for fodder production. This is mostly because the real constraints are the lack of access to land and labour. Where land is available, the determining factor is the economic return to labour from food crops or fodder for livestock. The experience in Kenya clearly shows that, if the economic incentives are adequate, farmers

*The major constraints are the lack of access to land and labour*

will adopt the cultivation of fodder crops, such as Napier grass, on a large scale (Bebe, 2003). Similarly, farmers in the altiplano in Bolivia who have a reliable market outlet and receive a favourable price for livestock products have widely adopted fodder production technologies in a complex crop rotation system involving potatoes, quinoa and onion, along with alfalfa and oats for hay (observations of the authors).

When land is available and livestock keepers have a reliable market and receive favourable prices for livestock products, they readily adopt fodder production technologies.

*Address the problems created by disease*

*The pressure on health is related to the type of production system*

The poor generally consider animal diseases as a major constraint. High mortality caused by parasites and infectious diseases is a significant barrier in tropical countries. Such problems are closely related to the type of production systems; the most intensive systems face the greatest pressure. For example, adult and calf mortality rates are much higher in the highly intensive Kenyan smallholder stall-fed systems than they are in the less intensive free grazing system. Most disease control technologies have focused on cattle and rely on rather expensive technologies that require cold storage facilities and multiple applications per year.

*Robust technologies of medicines that can be stored at room temperature and have long-lasting effects are needed by the poor*

More robust preventive and curative medical technologies that can be stored at room temperature and have more long-lasting effects need to be developed to serve the poor. Perry et al. (2001) sought to identify and prioritize the most important diseases affecting the livestock of the poor and the most effective approaches for addressing these diseases. Nonetheless, though the effort was successful, the overriding conclusion was that the technologies for controlling these diseases had to be seen in the context of the overall farming system.

*Provide appropriate genetic material*

Poor livestock keepers need livestock of appropriate genetic background. The literature offers several examples of livestock

programmes involving the introduction of new animal breeds that were unable to adapt to the conditions on the farms of the poor. Box 3.9 briefly describes the results of an inappropriate programme. While wealthy livestock farmers might be able to manage exotic breeds successfully, the poor mostly require local breeds or non-exotic cross-bred animals that are hardy under local conditions and require fewer external inputs. However, government breeding programmes are often biased towards the exotic breeds, which they view as the 'magic bullet' to achieve substantial increases in production.

*The poor mostly require local breeds or non-exotic cross-breeds*

#### Animal health services

Animal health services have frequently been given a high priority. They have traditionally been the responsibility of the public sector, but more recently there has been a move towards a more efficient distribution of tasks between the public and private sectors in most countries. This has been induced by the structural adjustments mentioned in Chapter 2.

#### *How to address the needs*

Livestock keepers need access to a number of animal health services in order to keep their herds or flocks healthy. Some critical requirements are:

- access to preventive disease control measures such as vaccinations and internal and external parasite control;
- a reliable supply of key veterinary pharmaceuticals, particularly for small livestock; and
- training in the administration of key pharmaceuticals and the follow-up treatments.

While the emphasis of most government services is on large animals, the case studies in Orissa and Bangladesh are good examples of the opportunities for preventive health care delivery systems for smaller livestock and poultry that have significant effects on the livelihoods of poor livestock keepers. In Koraput in Orissa, poultry and goat vaccinations, along with de-worming, showed good results and significantly reduced the mortality rates

*Most services focus on large animals*

among goats and poultry. Poultry vaccinations were likewise vital to the success of the model in Bangladesh.

*Preventive health care for small livestock shows good results*

Generally, vaccination programmes have a substantial impact on livestock production and livelihoods because they reduce vulnerability and the need for costly curative treatments later. Vaccinations against the most contagious diseases (List A of the *Office International des Epizooties*) are centrally planned, and the poor are generally included in the campaigns. The services are much less reliable for the less contagious diseases (List B of the *Office International des Epizooties*), and the poor often lack access to these.

The need for diagnostic services varies according to the background of the livestock keeper. New livestock keepers often lack adequate knowledge about animal health and management and are therefore very dependent on diagnostic assistance when their animals fall sick. Many poor urban livestock keepers who have lost the attachment to their rural origins fit into the latter category. Traditional livestock keepers are to a large extent self-reliant in this area.

*Subsidized services hinder privatization*

*Subsidized health services and privatization*

Over the last decade, there has been an attempt to establish a more appropriate division of labour between private and public sector animal health providers, but there is still substantial overlap and even unfair competition between public and private veterinarians. For example, public veterinarians in South Asia are allowed to charge for services they provide outside office hours. Thus, there is little incentive for veterinarians to start a private practice (Ahuja et al., 2000). In sub-Saharan Africa, privatization has been more pronounced, and it is estimated that there are now about 2 000 private veterinarians. Privatization normally starts in high-potential areas, but as these become fully covered, there is a gradual penetration to the low-potential areas, as shown by developments in Kenya (Owango et al., 1998) and Morocco. It is not likely, however, that a conventional private veterinary service would be economically viable in these areas (Oruko,

*Privatization occurs first in high-potential areas*

*Low-potential areas require low-cost models for privatization*

Upton and McLeod, 2000; Stem and Sode, 1999; Ndungu, 2000). More appropriate models of private service delivery with the use of para-veterinarians and pharmacists are currently providing services in low-potential areas.

#### *Health services through marketing cooperatives*

Policy changes favouring privatization have created an interesting workspace for dairy cooperatives in Kenya that wish to broaden their activities and combine milk marketing with other services. Some of the smaller cooperatives have formed associations that hire veterinarians to supply services to dairy farmers, thus providing economies of scale for the users.

*Cooperatives can provide economies of scale for poor producers*

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#### **Box 3.10: Veterinary services provided by dairy cooperatives**

Typically, through the milk collector on the early morning route, a farmer will send a note requesting a visit by a veterinarian technician. The note is returned to the cooperative office with the milk, and the farmer is visited on the same day. Members of such cooperatives are charged for the services on a cost-recovery basis. The charge is deducted from the month-end payments for milk. Non-members can obtain services at an additional fee and by paying in cash.

*Owango et al. (1998).*

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#### *Community-based service delivery*

Community animal health workers are becoming a vital part of the delivery of veterinary services, especially in marginal areas where the more conventional private professional practice may not be economically viable. The expansion in the range of the operation of the workers and the incorporation of broader therapeutic skills have enhanced animal health care. This may serve two purposes:

*Broaden the range of operations for community animal health workers*

- the workers would be more flexible in addressing the wider needs of the community and may therefore receive more support from the community; and
- it ensures better economic incentives for the workers because they can increase their incomes from the activities.

*Quality concerns about community-based services*

Several stakeholders have raised concerns about the quality of the services of community animal health workers, particularly the practice of underdosing, which may lead to resistant pathogen strains, and overdosing, which can be dangerous for humans who consume animal products.

*Community animal health workers can deliver quality services*

However, a survey of community animal health workers in Ghana and Mozambique (Dasebu et al., 2003) shows that the workers performed a higher percentage of correct dosing of acaricides and de-wormers than did government technicians, although the 50% correct dosing rate leaves room for improvement. Both the workers and the technicians did significantly better than farmers, who almost universally underdosed. Quality problems are normally due to the lack of a proper technical support system (Stem and Sode, 1999). This is especially the case in government systems (Catley, 1996).

*Preconditions for quality community-based services*

A number of conditions are necessary to ensure the high quality of community-based services.

*High-quality services require a technical support system*

Community-based systems can ensure high-quality services provided they are grounded on:

- the selection and support of the agent by the community;
- agents who carry out community animal health tasks when needed as part-time employment;
- sufficient and appropriate training and refresher courses;
- broad skills and services that can enhance income;
- full user payments and a commercial approach;
- reliable supplies of drugs;
- professional supervision and quality control; and
- responsiveness when clients are dissatisfied.

The development of an effective and recognized training curriculum and the supply of sufficient training would represent enabling functions for government in the establishment of high-quality, community-based services.

The provision of free drugs as emergency aid in times of drought or disease undermines the viability of private (veterinary

or para-veterinary) services and should be avoided or, alternatively, managed through the available private networks even if the cost is greater.

Catley and Leyland (2001) reviewed trends in community participation in animal health care. The review used two community-based animal health interventions to illustrate the different approaches (Box 3.11).

The first example shows that poor communities are able to select community animal health workers and maintain them for many years if the communities are sufficiently involved in the process and agree from the beginning on the problems to be solved and the concepts behind the project. The approach was broadbased and succeeded in developing basic clinical services from an initial effort to vaccinate against rinderpest. Rather than focusing only on the control of one disease, the community aimed at sustainability from the beginning by paying proper attention to cost recovery and the establishment of networks through the creation of linkages between community animal health workers and private veterinarians. It has not yet been demonstrated whether long-term sustainability can be achieved after the supporting NGO withdraws, however.

The second example involved the application of a top-down approach despite the label 'community-based', and the community involvement in the programme was not sustained.

#### *Gender aspects of veterinary services*

The references barely touch on the issue of male bias in veterinary services. They include very contradictory assumptions on the effect of bias on community-based services. Some claim that community animal health workers are likely to be more gender sensitive than are conventional veterinarians; others claim the opposite. However, within traditional power structures in which men are dominant, it is highly improbable that community-based services alone can secure equal attention to men and women. For this to happen, a targeted approach is needed, as in the case of the women community-link workers in the ILDP in Koraput in Orissa, or the women workers in the poultry model in

*Poor communities can organize and sustain community animal health workers for many years*

*The label 'community based' cannot be maintained if the approach is top-down*

*Gender balance demands a targeted approach*

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**Box 3.11: Two examples of community participation in animal health care****Development of primary veterinary services in pastoralist areas of the Horn of Africa**

The programme used community animal health workers to address a limited range of animal health problems identified by livestock keepers, including rinderpest. The contact with the communities occurred through indigenous institutions. The designation of priorities among the problems, the identification of solutions and programme design were carried out in cooperation with the communities by using participatory methods. The community animal health workers were trained through the programme, but thereafter performed their tasks among livestock keepers on a full cost-recovery basis. The workers were solely responsible to the community and had access to private veterinarians for technical support.

The programme resulted in the eradication of rinderpest in the Afar region of Ethiopia and in dramatic reductions in outbreaks in southern Sudan. The social impact was evident in the continued presence of the self-maintained community animal health workers and the ongoing support of community decision-making forums at the local level.

**Community-based tsetse control using targets and traps in settled farming communities in Kenya, Uganda, Zambia and Zimbabwe**

The programme contacted the communities through the local government or through professional personnel. The communities were involved neither in the setting of priorities, nor in programme design. Professionals from outside the communities even decided on the placement of the traps. The communities were given free veterinary drugs, and the workers who manufactured the traps were paid a salary through the programme.

The technical impact of the intervention was limited to temporary reductions in fly populations. Although there were area differences in success, the outcome was a generally poor long-term community management of targets and traps.

There is no record of the continued existence of community-level resources, institutions, or information.

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Bangladesh, or the women poultry vaccinators against New Castle disease in Indonesia.

#### Animal breeding services

Poor livestock keepers need access to breeding programmes and breeding material that are appropriate for the special conditions under which they operate, as well as the multiple roles that livestock play in their livelihoods. They therefore need to participate in the setting of priorities among breeding objectives, the selection of criteria and the design of breeding programmes.

*Appropriate breeding goals and strategies are needed*

The genetic traits of local livestock breeds have developed over centuries. As systems slowly change from multipurpose production to a narrower, more specialized role, breeding goals and strategies must be adapted. Breeding strategies based on the importation of exotic breeds from intensive, industrial production systems have generally not been beneficial for the poor since the breeds require access to substantial inputs.

*Poor livestock keepers should be involved*

The focus should be on the genetic improvement of local breeds. These breeds are adapted to local conditions such as drought, disease and high altitude. Many local breeds exhibit remarkable genetic traits that are crucial for the poor. Good examples are African Zebu cattle, which possess a native resistance to vector-borne diseases such as east coast fever, the mostly western African taurine, cattle and sheep breeds with tolerance against African trypanosomiosis and pig breeds in China and Mexico that show a high capacity for digesting local fibrous feed (Geerlings, Mathias and Köhler-Rollefson, 2002; Cunningham, 1995).

*Local breeds carry traits of great importance to the poor*

The prevailing traditional breeding strategies have focused on exterior-phenotypic characteristics. They have not been performance based because breeders could not measure, test and keep records of the productive traits. 'Modern' breeding programmes have often failed to acknowledge the important traits of local breeds. The application of modern breeding technologies is now necessary to enhance the performance of local breeds without sacrificing their positive characteristics for the poor. This can be achieved through cross-breeding or the introduction of more efficient selection programmes for local breeds.

*Modern breeding technologies should be used to enhance the performance of local breeds*

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**Box 3.12 Sonali hens for poor landless women in Bangladesh**

The Sonali hen is a cross between the Egyptian Fayuomi hen and the Rhode Island Red cock. The Sonali hen is 'tailor made' for use in poor households in Bangladesh. Poor landless women in Bangladesh were testing different cross-breeds in order to find a combination that exhibited the most significant production of eggs, the lowest mortality rate and the greatest profit per hen under the semi-scavenging conditions and within the management systems preferred locally. The women discovered that the Rhode Island Red transmits the trait of high egg production, while the Egyptian Fayuomi ensures that the trait for scavenging is also transmitted. Moreover, the size and colour of the Sonali hen are much appreciated so that both the meat and the eggs carry a premium price at local markets.

*Rahman et al. (1997).*

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Cross-breeding leads to improvements in a short time

Cross-breeding provides animals with improved production capacity in a short time. Cross-bred animals can cope with local conditions and can help poor livestock keepers reduce their poverty if the management techniques, resources and market conditions are favourable. Cross-breeding has been used intensively throughout the world to develop dairy production, including smallholder dairy production in countries such as Kenya and India and in many Latin American countries. It has also been successfully used in the emergence of poultry stock that exhibits advantages for the poor (Box 3.12).

*The success of cross-breeding depends on the supply of breeding material*

*Artificial insemination  
needs to be  
supported by good  
infrastructure*

A small-scale dairy farmer normally has very few cows, perhaps only one or two. Thus, artificial insemination provided through government services, producer organizations, or dairy cooperatives is used in many areas. Artificial insemination must be supported by good infrastructure, rapid communication and high-quality management. It is most suitable in intensive production areas with good infrastructure and a high level of organization and support services. Dairy cooperatives often provide technical support for artificial insemination and supply semen from dairy

breeding bulls. In Kenya, international artificial insemination companies are becoming involved.

Many dairy farmers, however, have had mixed success with artificial insemination, and a large proportion return to natural insemination because of poor fertility or inadequate genetic material. As a result, farmers are willing to pay higher prices for natural breeding services. In Kenya, the number of inseminations dropped dramatically after the introduction of privatization and cost recovery measures (Bebe, 2003). In Bolivia, dairy farmers are very reluctant to use artificial insemination because fertility has been poor and cross-bred cattle have trouble adapting to the high-altitude Briskett's disease. Subsidies for artificial insemination services are therefore still needed, even by cooperatives in India (World Bank, 1999), and can also be used to improve service quality.

Village bull centres might be an attractive alternative in areas where the delivery of artificial insemination technologies is constrained by the lack of infrastructure or communications. Such centres have been established commercially in several countries, but carry the risk of helping spread diseases. Special attention must therefore be paid to health issues.

Poultry production with improved breeds requires a steady supply of stock replacements. Any use of exotic hybrid breeds in the system introduces a critical dependency on a centralized supply of parent stock or day-old chicks. The reliability of the application will depend on the effectiveness of the distribution system. This approach can work well in densely populated areas with good infrastructure, but will inevitably lead to problems in less populated areas where poor infrastructure constrains the distribution system. For example, the transfer of the Bangladesh poultry model to the more widely dispersed farming communities in Malawi has met with such problems.

#### *Appropriate breeding strategies for local breeds*

Breeding strategies relying on exotic breeds have clear drawbacks. They can dilute the special genetic resources of local breeds and can thus pose problems for resource-poor farmers. More community-based breeding schemes that function through

*Many dairy farmers have taken up natural insemination again*

*Bull centres are an alternative in remote areas*

*Poultry production with improved breeds needs a steady supply of stock replacements*

*Cross-breeding can dilute important local genetic resources*

selection within local breeds are therefore needed. Geerlings, Mathias and Köhler-Rollefson (2002) provide five case studies that illustrate ways in which breeding programmes that sustain and develop local breeds can enhance the livelihoods of poor rural people.

*Community involvement in the management of local breeds*

The emphasis is on the involvement of livestock communities in the management of local genetic resources. A promising model is the open nucleus breeding system (Box 3.13), which has provided excellent results in Côte d'Ivoire with local sheep (FAO, 2002) and is now being introduced by the World Bank in India with sheep and buffaloes and in Ghana with goats, sheep and pigs. The results in the latter two cases are still pending, but so far it seems that government breeding specialists are giving extraordinary attention to government farms and to elite herds, but are neglecting supply herds at the village level.

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**Box 3.13: Nucleus breeding**

Genetically superior animals are brought together out of supply herds to form a nucleus herd of elite animals, often on an available government farm. An efficient recording and selection programme is established, and the best males are kept for breeding in the nucleus herd, while other males are distributed to the supply herds or used by local artificial insemination organizations. The nucleus herd may remain open to the best females in the supply herds. Performance testing is carried out on the entire population.

*Smith (1988).*

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**Access to inputs**

Livestock development is often constrained by a lack of reliable inputs. The required inputs vary according to the production system, but there are generally four groups:

- veterinary medicine and vaccines;
- feed supplements;
- breeding materials (semen for artificial insemination, parent stock, day-old chicks and so on); and
- tools and equipment.

In many areas, the process of liberalization has increased access to inputs where private enterprises have started marketing them. However, these enterprises have tended to focus on well-integrated areas, whereas livestock keepers in more remote areas with poor infrastructure still face significant problems and high costs in accessing inputs. Private-public partnerships, that is, the subcontracting of private suppliers and producer or community organizations, can be tools for enhancing access to inputs in rural areas and also for reducing the unit costs of handling and transportation.

Another issue is the affordability of inputs. Poor livestock keepers normally cannot afford technologies that require expensive inputs. Integrated services, which provide a reliable supply of inputs, including microcredit, might create new opportunities for livestock keepers.

*Reliable supply of inputs including credit creates new opportunities*

## INCREASE ACCESS TO FINANCIAL SERVICES AND MARKETS

Access to financial services is a precondition for livestock development

Appropriate savings and credit facilities that address the particular needs and constraints of the poor are important tools for increasing production among poor livestock keepers. Nonetheless, secure savings facilities are often lacking in rural areas; interest rates on deposits are often lower than livestock yields, and poor people often have no access to loans through conventional banks. Banks are oriented towards the bigger loans, and they require collateral that the poor cannot offer. Livestock is normally not accepted as collateral, and women are often at a particular disadvantage.

*Poor people have almost no access to savings and credit services*

People in rural areas frequently use livestock as a sort of investment bank. Livestock is an easily tradable asset. It is an investment, provides insurance, can be used to cover bigger expenses, such as the cost of agricultural inputs, and serves as cash

*Rural people use livestock as a bank, but the poor have fewer livestock on which to draw*

in times of crisis. If rural livestock keepers are to use their livestock more productively, they need other ways to secure their profits, make investments and cover expenses. Moreover, the poor have fewer livestock to draw on in times of crisis. Without these productive assets, they are more vulnerable to change and have no possibility to invest in new activities. Increasing the productivity of livestock always demands a capital input and access to credit, and these are thus preconditions if the poor are to invest in livestock production.

Savings and credit schemes

*Developing rural financial markets*

In developing countries, different models for enhancing agricultural production through credit schemes have been tried. For two or three decades, credit has been directed towards agricultural production in the form of loans for field crops inputs. The credit has been supplied through government banking systems (national commercial banks), or has at least been highly regulated and subsidized by governments.

*Directed credit systems for agricultural activities have been unsustainable and have mainly reached the more well off farmers*

This mode of financing rural production has become politicized and is very fragile. Many loans have been made, but the largest sums have reached only the more well off and powerful farmers. Overall, repayment rates have been extremely low. The national commercial banks in Bangladesh reported a recovery rate of around 20% from 1999 to 2000 (Mallorie, 2001). Interest rates have been subsidized at below-market rates, which have made the loans attractive to the wealthy and powerful. Loan decisions have usually been based on the level of political connection rather than on financial criteria. The subsidies have helped make the system even more unsustainable and have also hindered the development of commercial credit. During the nineties, there was a consensus that directed credit should be set aside in favour of the development of what is generally known as 'rural financial markets'. The shift has involved policy reforms to remove government regulations and controls, as well as the subsidies.

Table 3.1 shows major differences between the directed credits and rural markets. The objective of a rural financial market is to

**Table 3.1: Primary features of two financial systems**

Features	Directed Credits	Rural Markets
Problem definition	Create a better market	Lower risks and transaction costs
Role of financial markets	Promote new technology Stimulate production Implement state plans Help the poor (however, most directed and subsidized credit end up going to the rich)	Intermediate resources are more efficient
View on users	Borrowers as beneficiaries selected by targeting	Borrowers and depositors as clients choosing products
Subsidies	Loan subsidies through interest rates and loan defaults Create subsidy dependence	Small subsidies for institution building only Create independent institutions
Source of funds	Government and donors	Mostly voluntary deposits
Associated information systems	Designed for donors	Designed for management
Sustainability	Largely ignored	Major concern
Evaluation criteria	Credit impact on beneficiaries	Performance of financial institutions

*Mallorie (2001).*

provide rural communities with a range of sustainable financial services according to their needs in savings, insurance and credit. Countries have been making the shift at varying speeds and have shown sometimes more, sometimes less willingness to develop the rural financial markets.

*Rural financial markets need to become more sustainable*

#### *Credit and vulnerability*

Access to credit is often highly appreciated by poor livestock keepers, who frequently use it to improve their livelihoods.

*Access to credit is highly appreciated by the poor*

*There is a high risk involved in credit*

*Fraud and mismanagement are hazardous for poor livelihoods*

*Transparency and accountability are important*

However, the vulnerability of the poor is a particular challenge for credit institutions. The poorest people will often refrain from taking loans because they fear the risk of defaulting. This is well illustrated in an example taken from the Orissa study (Box 3.14). The fear is very real because the poor have no resources on which to draw as a buffer or for collateral. Credit, however appreciated it may be, can lead to dependency and drive poor families into a situation of debt from which they are unable to recover. Examples exist of credit systems that have had a negative effect on families. Because of the risk of the death of livestock, credit investments in livestock are more exposed. It is therefore essential that credits for poor people should be manageable and responsive to the needs of the particular households. At the same time, risk-reducing mechanisms, such as insurance on the animals and access to technical support, must be built into the credit schemes. Many poor livestock keepers have experienced the threat to their already fragile livelihoods that is represented by fraud and mismanagement within credit institutions (Mukherjee, Jahan and Akhter, 2002). They need to be secured from such problems. Transparency and accountability are therefore important characteristics of good financial systems for the poor. If financial services are to benefit the poor, guidelines must be established.

A credit and saving system for poor livestock keepers should:

- be easily accessible;
- be easily understood;
- be accessible to women;
- provide a free choice of investments;
- be sustainable:
  - charge interest rates that cover all costs;
  - recover the loans;
- provide a range of financial services at an appropriate level:
  - savings;
  - loans;
  - insurance;
- be transparent and accountable to users; and
- be linked to appropriate technical support services.

Currently, there are a number of different ways in which poor livestock keepers can obtain financial services:

- informal savings and credits;
- livestock loans-in-kind (exchange systems);
- microcredit: group savings and lending through NGOs; and
- bank loans through membership in producer organizations.

*Informal credit is the major source of capital among poor people*

Informal credit from neighbours, relatives, professional money-lenders, input suppliers, traders and informal savings and credit associations such as self-help groups are the major sources of credit for the majority of poor people all over the world. In times of particular need or crisis, poor people will borrow money from informal financial sources.

Borrowing money from neighbours and relatives may be the most important source of capital in times of immediate need and is a community's way of coping with poverty and crisis. The value of these arrangements should not be underrated, but the system has its limits. First, it is mostly used for emergencies and rarely for productive investments. Second, many rural communities are generally poor, and there are limits to the capacity of these sources.

Professional moneylenders are mainly relied upon during emergency situations, but also sometimes to obtain cash to repay loans supplied by more formal institutions. Interest rates are said to be very high, and in some instances this might be true, although there is growing evidence that the rates are quite reasonable if the risks and the transaction costs are considered. Input suppliers and traders may also act as short-term sources of credit, especially if this takes the form of supplies of inputs. This may be one of the more efficient informal credit channels.

Informal savings and credit associations are mentioned in some references and may be more widespread and more important among poor rural people than is generally suggested by the literature. These associations are normally based on communal savings and the rotation of small loans drawn from

*Borrowing money from neighbours and relatives may be the most important source of capital*

*Professional money lenders*

*Informal savings and credit associations are probably important for many poor people*

joint funds. They charge sufficient interest to secure a revolving fund for the association. The loans are normally quite small and are often used for investments in livestock. Sustainability may be a problem for informal credit associations because they rarely have enough capital to withstand a crisis such as a default or fraud. Moreover, the educational level of the members is sometimes so low that they may not have the skills to detect fraud and secure their funds. The self-help groups in Orissa may offer examples (Box 3.14).

*Livestock loans-in-kind are responses to financial market failure*

In-kind credit programmes have appeared in response to market failures in rural financial services. They are considered temporary arrangements to solve the immediate problems of poor farmers caught in situations in which there are no other alternatives. They are not viewed as ideal credit solutions.

*"Passing on  
the gift"*

*There are problems  
of sustainability  
due to the lack of  
management  
skills and limited  
market outlets*

Some programmes provide livestock loans-in-kind through the distribution of breeding stock to poor farmers on contract. The farmers normally repay the programme loans using female offspring. The practice is sometimes referred to as "passing on the gift" because the offspring used as repayments are dispersed among new farmers. The model has been promoted especially by Heifer International and other international NGOs. It is being employed in various sorts of operations, from farms keeping dairy heifers to farms raising rabbits or chickens. For example, the distribution of rabbits in this way has been quite successful in Cameroon. The approach was first undertaken by a few innovative farmers supported by technical and management services and now covers 2 500 families (Lukefahr and Preston, 1999). The most well known initiative of this type involved loan schemes that have distributed female dairy animals, particularly heifers, among poor farmers in return for the first-born heifer calf. The heifer calf is then given to a new farmer. Sustainability has been a problem in these programmes, however. The repayment rate in heifer calves has been low in many of the schemes. Participants face low calving rates and high mortality among the cows and offspring. In the Tanga Smallholder Dairy

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**Box 3.14: Self-help groups in the ILDP intervention area  
in Koraput, Orissa**

In light of the critical role that credit plays in the lives of poor people in the project area, a key intervention has been the formation of self-help groups among women and, to a lesser extent, among men. The self-help groups make credit available through the small weekly savings of members and, more recently, a grant from the ILDP. From the total available amount, group members can take out loans at 24% interest per month. The loans are often used for livestock investments. The members of the self-help groups are very poor, and the women have benefited from the credit schemes by raising their standards of living, improving their social status and enhancing their self-confidence.

However, the poorest among these poor remain excluded from the system because they cannot save money. Furthermore, there are variations in the use of the loans in terms of both frequency and amounts. A few members tend to borrow larger amounts more often. In several groups, community-link workers and large landholders have taken out the largest loans.

Loan patterns in the villages in the study indicate that members who are further above the poverty threshold tend to have a better chance of making further investments successful. However, although it seems that the better-off have benefited the most from the available capital, they have not necessarily done so at the direct expense of the poorer members. It is probably truer to say that the poorest members of the group are more afraid of the taking out of loans.

An important question is: How long can this continue without the intervention of an external supervisory body or a more formal system of collateral? There are now no regulations fixing a correspondence between the amount contributed by a member in the form of savings and the size of loan that is available to that member. The system appears to be successful because the grant from the ILDP represents an important incentive to repay loans. The system has not yet been tested because of defaults, and, since no safeguards are in place, the sustainability is in doubt.

*Orissa case study.*

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Development Programme, only 20% of the farmers had repaid with heifers after seven years (Afifi-Affat, 1998). The problems that hinder sustainability include the lack of management skills among the participating farmers and limited access to milk markets in the most isolated areas.

The system shows the best performance in cases where markets and technical back-up are assured and distribution is organized through a cohesive group structure in which the member recipients have an obligation to assign the offspring to a new member.

*Microcredit schemes make capital available to poor households*

Delivering microcredit to poor people through NGOs has received major attention in Bangladesh. This sector has been extremely successful in getting credit to the rural poor. It is estimated that eight million poor rural households use the NGO microcredit system in Bangladesh. A very high proportion of the loans are directed specifically towards poor landless women, and an estimated 20% of the loans are invested in livestock (Mallorie, 2001). The financial sustainability of these schemes is very good. Repayment rates are often above 90%. As in the case of in-kind schemes, the loans are assigned to groups which are responsible collectively; the system relies on collective group pressure. Some NGOs concentrate solely on microcredit lending, while others provide a package of microcredit, along with training and technical services. In the case of combined packages, technical services are sometimes neglected because the NGO tends to concentrate more on the delivery of credit and the collection of repayments (Mukherjee, Jahan and Akhter, 2002; Lund et al., 2002). Assigning part of the loan for technical services contracts with an agent selected by the loan beneficiary might be more appropriate because this may enhance the quality of the outcome and reduce the dependency on the NGO supplying the microcredit.

The loans are rather small and usually short term, and the repayments are required every week or every other week. The interest rates charged by the NGOs are variable, but a flat rate of 15% is common. Depending on the mode of distribution and

*Eight million poor rural households use the NGO microcredit system in Bangladesh*

*Financial sustainability is very good: the repayment rate is above 90%*

*Packages combine loans and technical services*

*Women are often a loan priority*

repayment, the effective interest rate is typically 30 to 45% per year. Many of the schemes assign a high priority to loans for women because the repayment rates among women are significantly higher than they are among men. Selection procedures are used in the schemes, especially in those that include training or services packages. This is generally the case in special livestock credits; the poor themselves have no influence on the design of the packages or the selection procedures.

Despite the great success in reaching poor families with credit, the ultra poor – the poorest 10 to 15% of the population – cannot benefit from microcredit schemes. Many of these families fear the risk. Others try, but drop out because they cannot repay the loans. Some of the poorest complain that the NGO staff are rude and

*The poorest cannot benefit from microcredits*

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**Box 3.15: Success in the microcredit scheme for poultry in Bangladesh**

Amena Begum, who is from the village of Gagalasker in Jinaigati, was divorced two years ago. She was in distress because she has two children and had no source of income. Her brothers gave her shelter, but she did not like living on the charity of her brothers and was desperately looking for a self-employment opportunity. Then the NGO PROSHIKA approached her, and she joined the village credit group. She took a small loan to buy day-old chicks, construct a house and procure equipment. She kept the rest of the money for petty business requirements and the monthly repayments.

By rearing chicks, Amena has saved some money to meet family needs. She is confident that, by rearing another nine batches, she will be able to repay the loan, including interest, within two years. So, she expects to become self-reliant by the end of the third year.

Amena says that chick-rearing allows her to meet her livelihood needs and pay the educational expenses for her children. She has used some of the savings to purchase local poultry. She has also constructed a small thatched house on the homestead that she inherited from her father. Amena is confident that she will be successful at rearing chicks and improving her social and economic position.

*Bangladesh case study.*

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harass them (Mukherjee, Jahan and Akhter, 2002). The reasons for dropping out are not well understood, and appropriate strategies for reaching the poorest groups have yet to be thoroughly analysed.

#### Bank loans through membership in producer organizations

In some cases, well-established producer organizations with solid assets, such as buildings and processing equipment, can provide collateral to members and help them obtain loans from banks for livestock investments. A typical example is the dairy cooperatives that supply loans to small-scale farmers who are members and who use the loans to invest in dairy cows or buffaloes.

This possibility emphasizes the strength of producer organizations in securing services that would otherwise have been inaccessible to small-scale producers. But the success of such an approach depends on the true ownership of the organization, the influence of the producers and the transparency of the loan programmes. Too often, cooperatives are not really in the hands of the producers, and the loans resemble directed credit. One unsuccessful example is described in the study in Orissa (Box 3.16), where a group of households in a women's dairy cooperative society received loans to purchase buffaloes for milking.

The example demonstrates in a number of ways the effect of violations of the principles outlined at the beginning of this section.

- People could only choose cross-bred cows or buffaloes. They chose buffaloes because they felt it would be difficult to maintain cross-bred cows.
- Group management was imposed on the members.
- The women's dairy cooperative society was a mere formality. The women were not involved in the management of the dairy unit.
- The feeding and grazing of the animals were serious problems. In some cases, children had to drop out of school to graze the buffaloes.
- Management advisory services were very sparse. The fact that nine of the 18 calves born from the first lot of buffaloes died speaks of the poor level of the services.

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**Box 3.16: Loans for women dairy societies in Orissa****The Dhobapalli milk producers cooperative society and dairy development and poverty reduction scheme**

Altogether, 13 families – all of them landless – received loans for dairy animals. During the first phase, 11 families received loans (January 2001) through the group dairy scheme, and two families received loans in 2002 through the individual dairy scheme. The beneficiaries were mostly families of a scheduled caste. The loans were assigned in the name of the men household members.

The milk producers cooperative society was formed in the names of the wives of these men beneficiaries. A committee of men, including one non-beneficiary, who was the husband of the secretary, carried out the actual management of the dairy unit. The women had no information about the business transactions of the unit. They only knew that the group management was incurring losses. For about ten months, all the profits from the sale of milk were spent on the maintenance of the animals and on the loan repayments. There was no money left for the individuals, and a few families had to take an advance.

Twenty-two buffaloes – two head per beneficiary – were purchased collectively for the entire group. There was no individual ownership of the animals until the group was dismantled around October 2001 and the former members divided the buffaloes and calves into 11 units and distributed them among the 11 members. Through the second lot of loans, two more buffaloes were acquired for each of the families. The families are each now seriously considering selling one buffalo out of the four to repay the loans because they are not able to repay them through the sale of milk.

What were the main problems? The answer is clear: the group management system. Now that the group management system has been eliminated, the high cost of feed and the lack of green fodder are the main problems.

*Orissa case study.*

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### Access to markets

#### *Access to markets is a long-term need for the poor*

*The poor need market access to scale up production and escape the poverty trap*

A significant, though declining number of poor rural households are surviving on subsistence production. The most important issue for many subsistence producers is their need to increase productivity so that they can achieve food security. They are not very concerned about market structure or market information. However, if they want to scale up production and escape the poverty trap, they need markets. Several development efforts have stagnated because markets were either not accessible, or absent.

#### *Rural livestock keepers have difficulty accessing markets*

*Women are more disadvantaged than men*

Poor livestock keepers often live in remote areas with poor infrastructure and information systems. Access to markets is thus a problem. The keepers do not receive information about market opportunities, and the cost of bringing their products to market is high because of the long distances, bad roads and stiff competition. Women are more disadvantaged than men because they are less mobile and have household and child-raising responsibilities, and in many regions there are strong cultural and religious barriers against women leaving their homes and taking produce to the market.

#### *Low prices have a strong, negative effect on poor producers*

A major result of the market constraints is lower prices. The lower market prices for livestock products have a negative effect on everyone. Large-scale producers can adjust to lower prices by rationalizing production and reducing costs and usually have the advantage of a greater capacity for alternative solutions or even to influence the prices. The negative impact of market constraints and low prices is likely to be greater among poor producers.

### Market development and organization

#### *Development of the global market enhances large-scale production*

Access to the global livestock market is generally very difficult for producers in developing countries because the market is

characterized by trade barriers, such as the stringent health and sanitation regulations for livestock products, and is greatly distorted because of the production and export subsidies supplied in the European Union and the United States. These subsidies depress world market prices and encourage producers in the developed countries to dump lower quality meat and milk products in developing country markets. The producers of livestock products in the developing countries thus become crowded out of world markets. The aim of the agreements of the World Trade Organization is to make the world market more fair and equitable for such products. This result has not yet come about, however.

For most poor livestock keepers, export markets are still out of reach. Significant economies of scale are necessary to meet the strict sanitation and other quality standards of the countries of the Organisation for Economic Co-operation and Development. The wealthier livestock keepers can afford the investments needed to accomplish this. Thus, larger units tend to focus on international markets, while smaller units must serve only local consumption markets. Unfortunately, these latter markets are also shrinking because the effects of globalization are making the imports at lower world market prices more dominant even in the markets within developing countries.

*Market liberalization has a positive impact for the poor in well-integrated areas*

In many developing countries, the responsibility for market infrastructure and market outlets has for many years been in the hands of government-controlled organizations such as parastatal milk and meat marketing companies. In this system, there has been little encouragement for increased livestock production, but the access to markets has somehow been secured. However, the more recent efforts at the privatization of market structures have had a positive impact on the market opportunities for livestock keepers in well-integrated areas where the markets are easily accessible to all. Examples exist of greater decentralization and more diversified market outlets in such areas. Often, privatization

*The global livestock market is unfair to poor producers*

*Export markets are beyond the reach of the poor, and the home markets are distorted*

*Privatization has created several formal and informal market outlets*

has led to the creation of several formal and informal market outlets, including:

- private companies that process and market livestock products for both export and home markets;
- producer cooperatives that also process and market livestock products for both export and home markets; and
- the informal marketing of fresh milk by producers directly at local markets.

Table 3.2 describes the milk market around Nairobi, Kenya after the liberalization in the mid-nineties. The producers sell mainly to the informal sector, individuals and private traders.

**Table 3.2: Milk marketing in the greater Nairobi, Kenya, milk shed**

Marketing Channel	% Producers Use
Individual consumers	43
Hotels/shops	11
Traders	22
Cooperatives and self-help groups	12
Processors	6
Kenya cooperative creameries	6

*Staal et al. (2001).*

Staal et al. (2001) have also surveyed regional differences. In places where there is a surplus of milk and a need to market outside the local area, cooperatives, self-help groups and private processors are the most important marketing channels. In places where the demand for milk is high, the producers sell directly to individuals or to private traders within the area. The producers in high-demand areas receive more interesting prices for their milk and do not have an immediate need to organize other marketing channels.

Formal markets are often characterized by stricter quality standards that may be difficult for poor livestock keepers to meet. Informal markets are generally more accessible to poor livestock

keepers because there is little quality control and few restrictions and payment is normally made immediately and in cash. Informal milk markets trade in raw milk, and the desirability of distributing non-pasteurized products has been questioned. However, milk in most tropical countries is almost universally boiled and is therefore safe for consumption. It fetches higher prices for the producer and costs less to the consumer.

*Informal markets are more accessible to poor livestock keepers*

Livestock keepers will generally get higher prices in a diversified market. In the Kenyan dairy market, it is well documented that privatization has spawned more outlets and higher producer prices in well-integrated areas (Owango et al., 1998). In India, prices are normally considerably higher in informal markets because the government controls pricing through cooperatives, and the prices are often determined more in the interest of consumers than producers.

*Livestock keepers get higher prices in a diversified market*

#### *Development of market access remains a challenge*

In some countries, most parastatal market organizations that were liberalized almost overnight had to close eventually, and farmers and livestock keepers in many rural areas have been forced to adopt subsistence production. To redress the situation, governments need to accept some responsibility for market development and the support mechanisms required to encourage private-sector initiative. One very important tool is infrastructure development in areas such as communication systems and roads.

*Governments must take the responsibility in remote rural areas*

#### *Market development through producer cooperatives can strengthen poor livestock keepers*

Producer organizations may be a necessary tool in efforts to strengthen the competitive position of poor livestock keepers and make the liberalized markets more accessible to them. The Indian experience of dairy development through Operation Flood shows how a commodity-based cooperative system can significantly reduce poverty by securing a reliable market outlet for small-scale producers. Operation Flood is extensive – it covers several Indian states – and exhibits different strengths

*The Indian initiative Operation Flood has had a significant impact*

and weaknesses depending on the locality. A comprehensive impact study (Chandler and Kumar, 1998) by the World Bank has shown that the overall achievement has been quite impressive.

*Growth in milk production*

- The tremendous growth in milk production is evidenced in the 6.3 million small-scale farmers who are delivering milk to 55 000 cooperative societies.

*Higher incomes*

- Cooperative members have benefited from higher prices, production and incomes.

*Higher educational levels*

- Although the overall impact on equability has not yet been measured, the results are expected to be positive because 60% of the members are landless poor, and some of the secondary indicators are quite favourable. Membership in cooperative societies has had a strong impact on education, especially among girls in the member households.

*Better prices*

- The fresh competition with the private and informal sectors has boosted prices.

*Small-scale farmers are included in a process of empowerment*

Although there has been variation in the success of the cooperatives and some have ended up as virtual parastatals because of government interference, the case offers a clear indication of the advantages of market development through producer organizations. Dairy cooperatives can enable small-scale farmers to sell their produce together and increase their voice in negotiations. The small-scale farmers are able to participate in an empowerment process that otherwise would have been beyond their reach.

## HIV/AIDS AND LIVESTOCK SERVICES

Livestock services can play a crucial role in efforts to mitigate the impact of AIDS on communities. Chapter 1 mentions the specific needs and opportunities that are addressed through livestock development among the affected families. Livestock services have

the potential to enhance these opportunities, but the task is very challenging because the services have, in turn, been seriously constrained by the epidemic.

#### HIV/AIDS affects livestock services

Livestock services that require intensive delivery operations by professional staff directly to individual small-scale farmers are likely to break down in HIV/AIDS-affected areas. The providers lack trained staff, a situation that seriously hampers service effectiveness. Studies have found that 10% of the working time of agricultural extension staff in areas hit hard by HIV/AIDS is spent attending funerals (Mutangadura, Mukurazita and Jackson, 1999; Engh and du Guerny, 2000). Staff must spend time caring for sick relatives, and some of them also fall ill. Furthermore, it is difficult for service personnel to meet farmers. Some communities hold a dozen funerals every month. The service personnel must thus often spend extra time arranging for and travelling to meet farmers who are busy with funerals and mourning ceremonies. A study in a seriously afflicted district in Uganda revealed that the extension service lost between 20 and 50% of staff working time due to the disease (Haslwimmer, 2001).

In any analysis of possible strategies for the delivery of livestock services, it is therefore important to favour strategies that strengthen the role of the farming community in the development and supply of the services.

*Intensive service delivery by professional staff to individual farmers is likely to break down in HIV/AIDS-affected areas*

*Strengthen the role of the farming community*

#### Livestock services have a role in AIDS-affected areas

Livestock services can play an important role in supporting existing local initiatives and community-based organizations. The ability of the communities to cope and respond should not be underrated. Through their own efforts, several African communities have developed coping mechanisms, such as clubs to share draught power and labour. Savings and money-lending clubs are also quite common. A study of veterinary services in Uganda found that the epidemic was having a positive impact on the willingness of farmers to organize and solve problems in collective ways (Mutangadura, Mukurazita and Jackson, 1999; Haslwimmer, 2001).

*Support the communities' own coping mechanisms*

*Livestock services can play a role in reducing the spread of HIV/AIDS*

*Promote community awareness*

If they are well trained, livestock extension staff and community-based livestock workers are presented with good opportunities to deliver information about HIV/AIDS along with their livestock-specific messages. Because they have frequent and close contacts with communities, they have a chance to promote community awareness and hold discussions that can change high-risk behaviour and practices.

*Livestock services can also play a role in mitigating AIDS*

*Target AIDS-affected households, but especially orphans*

Livestock programmes and service providers in AIDS-affected areas must consider the poverty aspects of the epidemic. In view of the particular needs of AIDS-affected households, a targeted approach is necessary to address this tremendous challenge. A strong focus on skill development among orphans is probably the most important requirement. This could be achieved through efforts to facilitate the sharing of knowledge and traditional skills between old people and young orphans or through the more formal training of young livestock keepers.

Livestock services can play a role in mitigating AIDS through:

- special targeting of vulnerable groups, particularly orphans and woman-headed households;
- promotion of small livestock production;
- facilitation of credit schemes, especially small loans to help households avoid the sale of stock or undertake new livestock production;
- promotion of the use of draught animals; and
- support for organizations focused on labour sharing and draught sharing in the community, saving and lending clubs, and so on.





## RECOMMENDED ACTIONS

The overall conclusion of this review is that livestock development represents a promising opportunity to reduce poverty in many developing countries, but that livestock development programmes and services do not enable poor livestock keepers vigorously to take advantage of this opportunity properly. Policies and practices must be changed to provide livestock services that are appropriate for the poor. Several actions are necessary to induce such a change. These are described in this chapter.

### SEARCH FOR THE HIGHEST RETURNS

A first, urgent priority is a better grasp of the areas in which livestock development can most efficiently help reduce poverty. While a general, though limited understanding exists of the global spatial distribution of poor livestock

keepers, the geographical regions and production systems presenting the greatest potential for poverty reduction are unknown. Because the resources are tight at the national and international levels, it is critical that they be applied as strategically as possible where they will have the biggest impact. As an initial step, poverty mapping must be further refined so as to incorporate more household survey data, thereby improving the knowledge base. The second step is to identify areas with the best potential for poverty reduction. This will be quite challenging. Various indicators of development potential, such as the physical characteristics of regions, the natural resource base, infrastructure, market potential, the presence of an enabling economic environment, and government policies for rural empowerment, must be combined with data on spatial poverty distribution into more accurate maps.

## ENHANCE INCLUSION

The overriding issue that emerges from this review and cuts across production systems is the exclusion of the poor. Participation and the resulting empowerment of end-users in the whole process of programme planning and implementation are essential if programmes are to be adequately sustainable and have the desired pro-poor impact. Yet, as has been the case in even the most successful livestock schemes aiming at poverty reduction, such as the poultry and microfinance scheme in Bangladesh, the poorest segments of the population are rarely involved or, if they are involved, are treated with arrogance by staff. This is particularly important during the initial phases of design and planning because these phases are so crucial for success. The inclusion of the poor is also important during implementation and monitoring so as to ensure that the poor are gaining access to quality services and are being treated fairly by the service providers.

New types of organization need to be identified and tested to ensure more inclusive forms of participation by the poor. The lack of participation by the poor in discussions on pro-poor service delivery is, to a considerable extent, caused by the almost complete absence of poor livestock keepers in the wider debate on public sector policies. This is demonstrated, for example, by the near absence of the poor in the preparation of public policy documents such as the poverty reduction strategy papers and the related programmes.

## FOCUS ON KEY ISSUES

The organization and empowerment of the poor and encouragement for their involvement in policy debates on service delivery represent one proposed avenue to follow up on this review. Some of the issues emerging from this review that need to be addressed are summarized in Table 4.1, but others could be added. This policy agenda should be pursued through an effort to establish a more potent advocacy capability at the country level in order to initiate a public discussion. A specific avenue would be the preparation of policy notes that articulate the needs of the poor, including poor livestock keepers, and that could easily be accommodated in the *IFAD Strategy for Rural Poverty Reduction* process or in other policy forums.

Apart from cross-cutting issues, each production system and related community face issues proper to that system. Table 4.2 provides examples of the issues that are most likely to be of concern to livestock keepers in various settings. The enhancement of the poor livestock keeper's own organizations and the identification of the priorities among the livestock keeper's needs will ensure that these concerns are appropriately addressed.

This document describes a number of practices that represent new trends in poverty-focused livestock development. The impact of many of these new approaches in terms of poverty reduction is still difficult to gauge because the proper tools for impact assessment and monitoring are lacking. Rarely do projects described in the literature involve attempts to define and measure indicators of the impact of the projects on equity. Project designs have not provided for the collection of baseline data or the use of monitoring systems. This makes learning from experience difficult. Guidelines on ways to establish and measure poverty-focused monitoring indicators need to be developed. One might build on the work already carried out in LID (1999), for example.

An effort is needed to expand significantly the learning gained from ongoing experiences, both successful and unsuccessful. The lessons learned through livestock programmes are generally not shared, but rather they are confined to the agencies involved and are often lost at the end of projects and programmes. Formal communication pathways to distribute project-related information and experiences among institutions are not available. Moreover, recommendations on best practices are rare, and the preparation of a consistent framework to guide practitioners in project design and delivery across the livestock sector is thereby rendered very difficult.

**Table 4.1: Recommendations on cross-cutting issues**

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**Issues**

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**Public and private-sector roles**

Many service delivery systems in developing countries are undertaken by a public sector that is involved in too many tasks. The public sector does not reach the poor and, at the same time, hinders the emergence of more efficient private-sector delivery because it competes and overlaps with private-sector operators.

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**Gender imbalances in livestock services**

Conventional livestock services are provided by men for men, whereas livestock production often plays a crucial role in the livelihoods of poor women. If poverty is to be reduced, women must become involved in livestock services both as producers and service providers.

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**A focus on HIV/AIDS through livestock services**

The review shows that communities affected by HIV/AIDS have specific requirements in technology and skills development and that the existence of HIV/AIDS in a community should influence the possible strategies for the provision of services.

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**Inappropriate technologies are employed in livestock services**

The provision of appropriate technology also requires more coordinated effort. The typical areas of importance to the poor (small livestock, improvement of local breeds, thermo-neutral and long-lasting immunity-producing vaccines, low-labour input systems for fodder production) are neglected. The experience until now indicates that people adopt technologies if they possess adequate resources, labour and skills and if the technologies are beneficial to their livelihoods.

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**Knowledge and learning systems are absent within livestock services**

Livestock services have typically been based on conventional discipline-specific knowledge biased in favour of animal health and sometimes genetics, but do not supply opportunities for learning, nor a holistic approach towards smallholder livestock systems.

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**Lack of access to financial services**

In most areas, poor livestock keepers lack access to financial services. Even where such services are provided, the impact of credit schemes in reducing the poverty of the poorest is not usually considered. The poor still face barriers in benefiting from the services.

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## Recommendations

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**Introduce policy debates on perceptions** of the roles of the public and private sector in service delivery for the poor and develop public-private partnerships, whereby the public sector delegates decision-making on the scope and content of the delivery of services in the public good. This would include full or partial funding of the services by the sector, but preferably through subcontracting to private operators and the introduction of voucher systems, or other competitive grant systems for research, education and so on.

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**The targeted involvement of women** both as producers and service providers so that their capabilities and social status can be enhanced.

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**Increased advocacy** by international and national livestock development groups so as to foster the elaboration and distribution of simple, low-labour technologies in ongoing and new programmes through community-based delivery systems. Relevant skills development that is targeted on youth (orphans) would be a major initial step.

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**Involve poor livestock keepers in technology generation and transfer** so that they can gain more experience in pro-poor livestock technologies. The necessity of building on the knowledge, skills and resources that poor livestock keepers already possess must be emphasized.

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**Develop knowledge and learning systems within livestock services** that can strengthen the capacities of livestock keepers to demand or seek information, training and advice. In order to implement the concept, the building up of professional capacities in livestock advisory services must be emphasized.

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**Research should be carried out on financial services that are appropriate to the poor.** The impact of credit and debt on the poorest livestock keepers and ways to involve the ultra poor and help them benefit from microfinance systems need to be more clearly understood.

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**Table 4.2: Development and implementation in different production systems**

Producer	Characterization of the Poor	Location of the Poor Producers	Livestock Species	Particular Concerns
Pastoralist	Lack of access to natural resources such as land, water and livestock Lack of labour Lack of access to markets	Rural	Cattle, goats, sheep, camelids, yaks	Development of risk management (early warning and early response) Community organizations Market development Land rights appropriate for pastoral livestock systems Integration of pastoral systems and natural resource management
	Non-viable herd sizes	Peri-urban and urban	Goats, sheep	Environmental management, development of integrated crop-livestock farming systems Strengthening producer organizations Market development
Smallholder farmer in crop-livestock systems	Small land sizes Land rental, lack of resources (labour and land)	Rural	Cattle, buffaloes, goats, sheep, pigs, poultry	Integration of livestock production in crop-based farming systems to increase sustainability Community organizations Land rights
	Landless	Rural end peri-urban	Cattle, poultry, pigs	Environmental management Community or producer organizations Fodder technologies
Urban	Landless	Urban slums	Poultry, goats, sheep, buffaloes, cattle, pigs	Resettlement Human health risks Alternative livelihood options

*Adapted from Table 1.2.*

The following are required for more effective pro-poor livestock development:

- the elaboration of criteria for the identification of the areas, groups and production systems with the best potential for livestock development;
- the gathering of Information on the impact of livestock services in terms of poverty reduction;
- the creation of tools for coordinated and pro-poor impact monitoring;
- the construction of a common framework for project design and implementation; and
- the collection and sharing of the lessons learned.

New and innovative types of pro-poor producer organizations and service delivery techniques are needed, along with the development of learning. A global network of stakeholders, policy-makers and practitioners within the livestock sector and other relevant sectors should be established to strengthen efforts to implement policies and practices that provide livestock services to the poor. The main objective should be to create a platform for cooperation among stakeholders in livestock development in order to utilize livestock programmes as a means to reduce poverty.

The specific objectives should be:

- to enhance the pro-poor focus of livestock services among policy-makers by promoting the greater participation of poor livestock keepers in policy development, testing new forms of service delivery and providing evidence that livestock development reduces poverty;
- to strengthen communication linkages and improve policy dialogue, planning and resource mobilization among all the actors involved in the delivery of livestock services to the poor;
- to create a platform for cooperation among stakeholders so that they can more easily learn from experience and share and scale up good practices; and
- to provide advice and eventually a common framework to development agencies on the most effective ways to design and implement livestock services that are appropriate for poor livestock keepers.

A knowledge base for coordination

The global network would thus act as a catalyst for advocacy and innovation and as a knowledge base to exchange experiences through the collection of

lessons learned and the field testing of novel approaches within existing programmes and through new pilot projects to be established across different livestock production systems.

#### Implementation of the recommended approaches

A fund should be established to implement the global network. It should be managed by a small secretariat under the supervision of a steering committee. The Global Pro-Poor Livestock Services Fund would be the primary source of support for the proposed learning and knowledge management system and would coordinate the information supplied by a wide variety of livestock development agencies and practitioners. The secretariat would act as a repository of specialist knowledge for livestock practitioners and the development community at large. Small or resource-poor institutions, producer organizations, NGOs and governments would be able to access key information and avoid a duplication of effort. The secretariat would prepare innovative pilot proposals for pro-poor service delivery and supervise and monitor the impact of the schemes, but would work through partner institutions for the actual implementation.

In this way, the secretariat would act as an innovative means both to generate and to share new knowledge about livestock development and poverty. The secretariat would inform policy-makers, strengthen institutions, develop an expert system for information management and support innovative research about livestock services and the poor.

The secretariat would be overseen by a steering committee composed of the contributing agencies, a representative of a regional or global producer organization and a small number of eminent scientists from the South who work in livestock service delivery.

The secretariat would have a small staff, including a network coordinator supported by information technology experts when required. The emphasis of the network would be on producer organizations and farmer empowerment, and the responsibility for execution could be entrusted to an international or national farmer organization in the country of one of the contributing donors.

As a first step, a feasibility study would need to be carried out to provide an inventory of other relevant initiatives and establish the eventual location and functions of the Global Pro-Poor Livestock Services Fund within the broader environment of other pro-poor livestock activities (such as FAO's Pro-Poor Livestock Policy Facility, the Livestock, Environment and Development

Initiative) and more general pro-poor rural activities (such as the Neuchâtel Initiative). In consideration of these other activities, it would also be necessary to define the exact nature of the proposed activities to be included under the Pro-Poor Livestock Services Fund and its governance and offer an initial indication of the funding possibilities.

If implemented, such a pro-poor fund could become a key contributor in the improvement of the livelihoods of the 600 million poor livestock keepers and thus help meet the Millennium Development Goals.



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