



IFAD's Livestock Position Paper

Livestock planning, challenges and strategies
for livestock development in IFAD



Enabling poor rural people to overcome poverty

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Acknowledgments

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April 2010

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Abbreviations and acronyms

| | |
|--------|---|
| FAO | Food And Agriculture Organisation of the United Nations |
| FLS | Farmers Livestock Schools |
| FSR | Farming Systems Research |
| ICARDA | International Centre for Research in the Dry Area |
| IFPRI | International Food Policy Research Institute |
| ILRI | International Livestock Research Institute |
| LEAD | Livestock, Environment And Development |
| LK | Livestock Keeping |
| LRKB | Livestock and Rangeland Knowledgebase |
| MDGs | Millennium Development Goals |
| PA | Western and Central Africa Division |
| PF | Eastern and Southern Africa Division |
| PI | Asia and the Pacific Division |
| PL | Latin America and the Caribbean Division |
| PN | Near East, North Africa and Eastern Europe Division |
| PPLPI | Pro-poor Livestock Policy Initiative |
| PRSPs | Poverty Reduction Strategy Papers |
| PT | IFAD Technical Advisory Division |
| SWAPS | Sector Wide Approaches |
| TAG | Technical Agricultural Grant |
| TANs | Technical Advisory Notes |

Livestock as a tool for poverty alleviation

IFAD's goal is that rural women and men in developing countries are empowered to achieve higher incomes and improved food security at the household level. In this way it will contribute to the achievement of Millennium Development Goal #1: "The eradication of extreme poverty". (IFAD, *Strategic Framework 2007-2010*)

Within this framework, the present strategy has been developed as a key contribution to poverty eradication in developing countries through livestock development and through the socio-economic empowerment of poor livestock keepers with the sustainable use of natural resources, and with a special attention on women, indigenous people and ethnic minorities.

It aims to develop a sustainable livestock sector where poor farmers might have higher incomes and better access to services, technologies and markets.

The intention is to concentrate the efforts helping poor livestock keepers to (a) secure assets, (b) improve productivity and competitiveness of livestock products with and efficient and sustainable use of the natural resources, (c) improve their market opportunities, (d) mitigate the effects of increasing food prices, (e) create the enabling conditions for a stable income and a sustainable livelihood for themselves to gain control of their own development.

The strategy outlined on the next pages reflects these intentions together with the commitment to establish a new focus to bring livestock development to the forefront of IFAD agenda, as a key instrument for economic growth of developing countries poverty reduction.

Abstract¹

Livestock contribute to the sustainable livelihoods and security of more than 800 million poor smallholders as Natural Capital (meat, milk, wool, hide, rangeland, and pasture); as Financial Capital (cash, saving, credit, insurance, gifts, remittance); and as Social Capital (traditions, wealth, prestige, identity, respect, friendship, marriage dowry, festivity, human capital). Livestock offer poor households sources of high quality nutrition, especially as sources for the pregnant women and for improving the cognitive skills and mental growth of the children. In marginal rural areas, where poverty is rampant, livestock represents an important asset for local cultural and socio-economic systems, and allows the effective use of otherwise unutilizable resources.

Livestock development alone, however, does not necessarily contribute to poverty alleviation. The root causes of poverty and wider needs related to poor food and social security, health, education and housing standards in livestock-based communities must be addressed if livestock interventions are to produce a significant impact towards the reduction of poverty. The purpose of this paper is to initiate an advocacy capacity and to stimulate discussions at national, regional and international dimensions on the needs of the poor, particularly the poor livestock keepers, as part of IFAD corporate and Regional Poverty Reduction Strategies.

The first section illustrates the role of livestock development in poverty reduction and defines IFAD's approach for field operations. The second section provides an analysis drawing on the core livestock development issues in the context of IFAD's Strategic Framework. The third section outlines challenges and their implications for IFAD's activities. The goal is to provide general guidance to IFAD's Regional Divisions for investing in the Livestock and Rangeland sector to meet poverty reduction goals and to inform policy decision-making accordingly.

¹ More detailed references to IFAD's livestock development approach and core issues are given through linkages to IFAD Livestock and Rangeland Knowledgebase.

1. Role of livestock in poverty reduction

The livestock sector is broad and covers highly diverse agro-ecological, social and political dimensions across continents, regions and countries. About 900 million of the world's 1.3 billion extremely poor people live in rural areas, most of them relying on agricultural activities for their food and income. Nearly one billion head of livestock are raised by more than 800 million poor livestock keepers in marginal, rural and peri-urban areas of developing countries. The International Fund for Agricultural Development (IFAD) target, the poor livestock keepers, are those who are economically or socially at risk and politically marginalized, particularly rural women, youth and the landless poor, whose animals, at most, provide subsistence or the minimum augmentation of daily nutrition requirements

The relevance and contribution of livestock to rural livelihoods changes according to **the agro-ecological zones, availability and source of animal feed**. Livestock keeping involves several roles within keepers' households, being a source of food, income labour and productive inputs. Under extreme environmental conditions, such as those characterising drylands or mountainous areas, mobile livestock production systems may be the only sustainable land use, as the human-livestock interaction has proved to be the only way to produce food while protecting the natural resource base. In less extreme ecological areas livestock helps to diversify the livelihood system and increase the overall productivity and risk-bearing capacities of the farming system. In areas where crop production is feasible, mixed farming systems show a greater capacity to sustain local livelihoods while providing for effective resource management, flexibility and resilience (Pingali et al., 1987).

There are three broad types of poor livestock producers: pastoralists and herders, smallholders and breeders, and urban dwellers. However, these are not distinct classes, but segments of a continuum that changes and reshapes according to prevailing agro-ecological conditions and related livelihood systems.

- **Pastoral herders.** The focus of the paper will be on those who live in marginal and fragile areas typically characterized by consistent ecological limitations, from climatic patterns (low and erratic rainfall levels or extreme temperature peaks), to soil nature (rocky, sandy, inclined, etc...). The livelihoods of the mobile pastoralists are characterised by a critical dependence on a vulnerable natural resource base and extreme marginal conditions, which hamper their access to roads, markets and services. Patterns of mobility vary from pure nomadism (opportunistic, no fixed base), to various forms of transhumance (set migratory routes on seasonal basis) to levels of agro-pastoralism (attachment to crop production).
- **Smallholding livestock producers** are farmers who depend greatly upon livestock for their livelihoods. They are often involved in small-scale farming systems where livestock plays a central role as a source of food, income and critical inputs for agricultural production (such as draught power and fertilising manure). In densely

populated areas where land is a limiting factor synergies between the crop and the livestock sectors are increasingly sought by poor households to increase overall productivity and income through labour investments.

- **Peri-urban livestock-keepers** are often either the better-off or the poorest groups or households from the previous two classes, who live in the fringes of urban areas in order to better access labour, income and services to cope with their limited access to productive resources. Migration of these groups to peri-urban environments is caused by natural as well as socio-political factors such as drought, epidemics, stratification and conflict. They often live in precarious conditions. Human and animals in these contexts often compete for scarce resources (e.g. water) and their embeddedness often results in environmental and health hazards (e.g. disease transmission).

IFAD experience and lessons learnt from both loan and grant projects confirm the fact that livestock is a valuable asset which plays a crucial role in herding and farming systems and comprehensively contributes to rural poverty reduction, with considerable effect on

- *Food security*: livestock is a critical source of food, income and production inputs for poor and marginal communities;
- *Nutritional aspects*: livestock offers poor households critical sources of high quality food products, which – even in limited amounts - are particularly relevant for pregnant women and for children’s physical as well as mental growth;
- *Community health*: in many poor areas livestock products are utilised to treat diseases and health problems. Animal transport is vital to access health centres for marginal groups and income generated through livestock is often reported to support household health cares. Owning livestock can help poor families to better cope with some of the devastating effects of HIV/AIDS and other diseases;
- *Socio-cultural identity*: for many poor and marginal communities livestock represents an invaluable element of identity and the vital interface with the living environment;
- *Empowerment and gender balance*: Livestock Keeping (LK) is mainly a family practice and gives women, elders and youth a voice and power in the household economy;
- *Production inputs*: livestock provides necessary manure, transport and farm power for dryland agriculture and is a valuable complement to crop farming towards enhanced overall agriculture production;
- *Natural resource management*: LK has implication (positive and negative) in natural resource use, degradation, conflicts and post-conflict recovery, land tenure and property rights (community-based or individual);
- *Risk management*: sustainable livestock production systems enhance communities’ capacities to diminish risk, manage uncertainties and cope with difficulties;
- *Access to services*: livestock prompts the delivery of basic services to rural poor, such as rural finance, health education, extensions, information;
- *Market relationships*: for poor households and marginal groups animal products are often critical assets to access market and trade networks at different levels,

which are critical in ensuring subsistence means as well as participation in the wider societal frame.

- *Financial and social asset*: LK is a source of income, saving, and insurance; and it contributes to social functions and assets;
- *Human asset*: LK is known and practiced by rural communities which acquired important knowledge aspects through inheritance from ancestors and across cultures and countries;
- *Access of the rural poor to services*: LK prompts the delivery to and access of the poor to rural finance, breed improvement, health, management, input delivery and technology transfer services;
- *Risk management and planning*: Sustainable livestock production systems require capacity to manage risk and to cope with uncertainties;
- *Globalization*: LK has important trade and marketing impact at family, community, national and global levels.

Box 1 – Contributions of livestock to sustainable livelihoods

Livestock per se is a **natural capital** that has shaped the lifestyle of myriads of human communities with its products and services through time all over the world. To many communities, households and individuals, it is essential in enabling effective use of natural resources towards secure and sustainable livelihoods.

In this respect, livestock also contributes to household **financial capital**, as it can be a primary source of saving, income, credit, insurance, loans, gifts and investments. Experience attests that poor households often reinvest remittance resources in livestock. It could be used as collateral for financial services.

Livestock is also used as a productive **physical capital**. For pastoral societies it represents the vital 'technology' that allows producing valuable products from limited resources. Livestock can store and transfer food from one season to another, thus buffering critical seasonal food gaps, and its transport capacities allow for pastoral mobility and trade patterns. Animal traction is a relevant factor for poor agro-pastoral and farming smallholders.

Livestock helps generate **social capital** by traditionally providing employment, wealth, prestige, identity, respect and connectedness within and outside the community. Exchange of animals among households or groups creates exclusive ties, which are relevant for risk minimization, conflict resolution and business relationships.

Livestock also plays an important role as **human capital** by enabling more healthy lifestyles and empowering people and communities. Income generated through livestock-related activities improves educational levels among poor groups and participation of women in household decision-making processes. Moreover, livestock keeping implies sophisticated knowledge and skills, often shared through gender, classes, generation and across cultures.

2. The poor livestock keepers

The poor livestock keepers are those unable to access critical resources to meet their basic subsistence needs. They often include rural women, youth, landless poor, destitute herders and HIV-affected communities, whose animals, at most, provide subsistence or the minimum augmentation of daily nutrition requirements. The poor livestock keepers are characterized by having

- No voice in the formulation of policies and structure of services;
- Difficulties in identifying and sharing possible solutions to improve their condition;
- Limited access to education, health and financial services;
- Low household incomes and limited access to land and water or insecure resources rights;
- Little access to extension services or other agricultural services;
- Limited access to market or alternative labour and income opportunities.

Where the poor livestock keepers differ greatly from the well-off producers is their lack of access of inputs and resources for livestock products. Since poor livestock producers tend to own little or no land and are often of low social status, they are unlikely to benefit from interventions that require land or financial resources. Additionally, poor producers depend more heavily on common property resources—village pastures, water tanks, and local forests—for feed and fodder. The poor may also be differentiated because 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 (i.e. effects of drought on poor pastoralists vs. pastoralists with large herds). There are also poor livestock keepers for whom livestock raising 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.

Poverty reduction strategies require enabling policies that are wide-ranging but also have an impact at the point of intervention so as to address root causes and thereby enhance the development of pro-poor livestock development. The majority of the rural poor livestock keepers have been excluded from the policies and development decisions. Yet, the poor communities are held responsible for - and shared the consequences of - poor management, low productivity and continued deterioration of the renewable resources.

Table 1. IFAD projects with livestock-related activities

| IFAD Regional Divisions | Total no. of IFAD projects | Projects with livestock component | | IFAD Current Financing (USD million) | Total Livestock investment (USD million) | Percentage of Livestock Investment |
|--------------------------------------|----------------------------|-----------------------------------|--------------|--------------------------------------|--|------------------------------------|
| | | Total number | % | | | |
| Western and Central Africa (PA) | 175 | 36 | 20.6% | 1 751 | 150 | 8.57% |
| Eastern and Southern Africa (PF) | 150 | 49 | 32.7% | 1 860 | 143 | 7.69% |
| Asia and the Pacific (PI) | 201 | 86 | 42.8% | 3 256 | 214 | 6.56% |
| Latin America and the Caribbean (PL) | 135 | 16 | 11.9% | 1 540 | 104 | 6.74% |
| Near East and North Africa (PN) | 135 | 66 | 48.9% | 1 655 | 127 | 7.67% |
| Total | 796 | 253 | 31.8% | 10 062 | 738 | 7.32% |

Box 2 - Role of women in the livestock sector²

Women play an important role in activities dealing with livestock management, transformation and marketing. Identifying and supporting the roles, decision-making and capabilities of women as livestock owners, processors and users of livestock products are key aspects to promote women's economic and social empowerment and consequently a rural women's ability to break the cycle of poverty.

Moreover, access, control, and management of resources such as grazing areas and feed resource, provide assets that improve women's equality and empowerment with an overall positive impact on the welfare of the household.

Key challenges for women:

- Understanding the basic needs of women livestock keepers, the threats they face, their roles in the livestock sector and how these roles are changing;
- Supporting women's empowerment, looking not only at how to enable women to become more market-oriented, but in particular at how to ensure that women capture the benefits of economic empowerment;
- Supporting women's access to productive resources and main assets (water, land, fuel wood, markets, knowledge), promoting their participation in small-scale dairying, and strengthening their role in decision-making processes;
- Understanding how women influence decisions and what resources they have control over;
- Supporting income-generating activities (for instance, processing and selling of livestock, forage, aromatic and medicinal plants and wildlife products) as a way to enhance women's socio-economic position in the household and empower them to take a greater role in the community. At the same time, it is important to recognize that, because of their extremely heavy workload, women have fewer opportunities to diversify or maximize their livelihoods. Time-saving opportunities, therefore, merit special attention.

² IFAD, 2009. Rota, A. and Sperandini, S. "Gender and Livestock: tools for design" in Livestock Thematic Papers: Tools for project design. Rome: International Fund for Agricultural Development (IFAD).

3. Responsiveness of IFAD livestock-based poverty alleviation approach to its 2007-2010 Strategic Framework

Challenges and strategies of this paper refer to the IFAD's Strategic Framework 2007-2010, which defines IFAD's overarching goal as "Empowering rural women and men in developing countries to achieve higher incomes and improved food security at the household level, as contribution to the achievement of MDG#1 – the eradication of extreme poverty". And in particular they refer to the objective (b): "Improved agricultural technologies and effective production services, with which they enhance their productivity". (IFAD, 2007)

Three quarters of the world's poorest people live in rural areas and most of them depend on livestock. Poor livestock keepers (especially women) and pastoralists are among the main target beneficiaries of IFAD supported projects.

Over the years, IFAD has developed considerable institutional skills in designing and supporting the implementation of community-based projects which have had a positive impact on targeted beneficiaries. Components involving activities related to livestock development through the transfer of technology, training, or credit for restocking, animal health services delivery, feed and breed improvement, best husbandry practices and others are core components in the majority of IFAD projects. Lessons learned have emphasised the fact that reducing rural poverty among those raising small herds and flocks is a difficult task, as these groups have limited access to natural assets (pastures, crops, water) and are often marginal to societal resources (markets, services, policies). In different ways pastoralists and smallholders suffer from exhibiting low levels of integration into social and political infrastructures.

The presence of an enabling environment both in terms of a favourable policies and regulatory framework and strong institutional capacity was also identified as critical for the success of the livestock projects and the development programme. In the absence of specific policies favouring the poor, wealth shifts in favour of the rich, exposing most of the smallholders to the risk of absolute poverty. In order to assure a balance, IFAD participates in the reform process through investment opportunities which aim at improving the income-generating capacity and living conditions of the poor within the socio-economic and institutional framework of the evolving open and competitive market economies.

4. Challenges in livestock development

There are opportunities and potentials as well as risks and threats associated in the attempts to invest in livestock development for rural poverty reduction. The development community, including IFAD, faces new overriding challenges which require an integrated and participated global approach. These include the following:

- The growing, increasingly urban, and more affluent population in the developing world will most likely demand a richer, more diverse diet, with more meat and milk products. As a result, global meat demand is projected to grow from 209 million tons in 1997 to 327 million tons in 2020, and global milk consumption from 422 million tons to 648 million tons over the same period. This process has been named the “**Livestock Revolution**”;
- Livestock contribution to the agriculture sector is projected to reach about 30 percent of the value of global production output and directly and indirectly use 80 percent of the world's agricultural land surface by 2020. **Environmental implications** for these trends are to be carefully considered, as livestock intensive production systems are to incorporate environmental externalities and the “New Rangeland Ecology” approach is helping to reverse negative attitudes towards mobile herding systems. Environmental implications of livestock development are clearly addressed by the lead initiative;
- The livestock sector is responsible for 18 percent of greenhouse gas emissions (even more than the transportation sector worldwide). This is mainly due to deforestation for pasture, feed crop, rumen fermentation and livestock waste. For the agriculture sector alone, livestock constitute nearly 80 percent of all emissions. If livestock practices are not properly managed, they could also cause other environmental concerns which contribute to **climate change**³ such as loss of biodiversity, degradation and desertification of land, and pollution of water and air. This opens up large opportunities for climate change mitigation through livestock actions;
- Animals provide energy by transforming plant energy into useful work and provide dung used for fuel through dung cakes or biogas to replace charcoal and wood. In an age in which **energy** demands are increasing, measures are needed to implement a more efficient use of biomass reducing pressures on natural resources (i.e. facilitating large-scale dissemination of biodigesters). Therefore, it is necessary to develop a sustainable livestock manure management to control environmental losses and contaminant spreading;
- Income growth, climate change, high energy prices (utilization of by-products for biofuel production), globalization, and urbanization are transforming the world

³ IFAD, 2009. Rota, A., Calvosa, C., Chuluunbaatar, D. and Fara, K. “Livestock and Climate Change” in Livestock Thematic Papers: Tools for project design. Rome: International Fund for Agricultural Development (IFAD).

food situation. The **rise in food prices** reflects a world short on resources and high in demand. Meat and dairy products are among the most expensive food ingredients. Globally, the food import basket for the least developed countries in 2007 costed roughly 90 percent more than it did in 2000. Now, the key issue is to foresee the direct effect of this escalation, its impact on livestock production, and consequently the impact on rural poor, the environment, and human health.

- **Water**⁴ availability and quality are extremely important to animal health and productivity. (A high-producing lactating dairy cow can drink over 150 litres of water on a hot day while a milking cow must drink around 36 litres of fresh, clean water to make 18 litres of milk a day). Livestock production process requires a great use of water from feed production to product supply. Therefore, its contribution to water depletion and pollution trends is high (i.e. water contamination by manure and waste) and also growing. As a result, specific technical options (i.e. careful planning of watering points) are needed to minimize the impacts of the livestock sector on water resources, limiting water depletion and improving water use efficiency.
- The world community has agreed to halve the level of global poverty by 2015. However, poverty and inequality are still persisting with a **widening gap** between the wealthy MDGs and the deprived all over the world. Social stratification is becoming a major problem also in traditionally egalitarian pastoral societies, with related detrimental consequences on local decision-making and social support mechanisms;
- Rural economies – and especially those of livestock producers – are increasingly integrated into market mechanisms to ensure their development, through the commercialisation of their products to provide needed staples, goods and services. Changes in the **functioning of global markets** (e.g. vertical integration) will therefore carry relevant consequence for the livelihood of poor rural groups and households (refer to the DAC/POVNET work on Global Food Chains);
- Implementation of WTO agreements might open new opportunities for livestock exports from poor countries, while also reshaping internal consumption patterns (e.g. foreseen changes in imported meat and milk powder prices). Rising consumer concerns about food safety, environmental issues and animal welfare result in elevated **quality standards for marketing**, often defined by international organisations and difficult to achieve for poor producers (also refer to the Standard and Trade Development Facility [STDF] that support implementation of international sanitary and phytosanitary [SPS] standards - www.standardsfacility.org). The potential exists for an improved and well-functioning market that will enable smallholder producers to derive greater benefits from their production activities, but it is essential to improve poor farmers' and livestock keepers' knowledge and the technology skills required to meet such higher quality and sanitary standards.
- Traditional marketing channels with ad hoc sales are being gradually replaced by coordinated links among farmers, processors, retailers and others. In this context,

4 IFAD. 2008. "Water and Livestock for Rural Livelihoods". IFAD, Rome.

the question is not *whether*, but *how* to include the different actors in the **value chains**, in particular poor small holders, applying a balanced approach that takes into account both competitiveness and equity issues. The result, combining the strengths of value chain analysis with the needs of poor livestock keepers, should be a market-based, commercially viable and sustainable solution that, in the long term, will equally benefit all the various actors of the chain⁵;

- Structural adjustments, policy modernization and economic liberalisation programmes are restraining national states' political and operational capacities. The new trends is about decentralized systems and public-private partnerships, but newer and more appropriate **forms of governance** for poor and marginal areas are still to be developed;
- Changes in the role of the state also derive from its withdrawal from functions that the private sector and markets are considered to perform better. **Public service delivery** systems in many developing countries are deemed inefficient as well as ineffective, as they are not able to reach those in need, while hindering the emergence of private sector operators. This policy shift is particularly relevant for Animal Health services, which are critical to livestock producers;
- While growing private sectors in developing countries shows contradictory features, the needs of resource-poor farmers are unlikely to be addressed adequately by profit-based endeavors. It is expected that social and geographical inequalities will be exacerbated by **privatization processes**. Seemingly technological developments will not be equally accessible to all countries and this situation may influence countries' ability to compete in global markets;
- **Pressure and degradation on natural resources bases**, in particular water and land, and competition for their use will intensify, especially where communities fail to ensure secure access and efficient management of these resources. This dilemma also carries consequences regarding issues related to conflict, which seems to increasingly affect already vulnerable communities;
- Despite these consistent and challenging tasks, livestock-related investments and services has been decreasing in many countries and the total pool of external assistance funding resources to livestock both from bilateral and multilateral sources is following the same trend.

The developing countries, where the majority of the rural poor live, are projected to be the most important contributors to the growing market for livestock products. While alliances among different stakeholders at local and national levels are to be sought, a stronger partnership among the development community (research centres, financial institutions, governments) is needed to support the development of a sustainable livestock sector that satisfies global market demands while reducing poverty. Environmental and health regulations, technological improvements, governance structures, and representation and organizational capacities are all critical features helping the livestock sector meet this challenge, which requires long-term commitments and considerable financial and human resources.

⁵ IFAD, 2009. Rota, A. and Sperandini, S. 2009. "Value chains, linking producers to the markets", in Livestock Thematic Papers: Tools for project design. Rome: International Fund for Agricultural Development (IFAD).

It must be acknowledged that this rapid expansion of livestock development might “crowd out” the poorest portions of society, as economies of scale in production and marketing and the non-inclusion of environmental externalities will favour larger units over poor smallholders and herders. IFAD’s role is to support improving the rural poor’s access to information, services, markets and technologies that either improve their production systems or enable livelihood diversification options, according to the specific conditions as well as the projects of local people.

Without appropriate pro-poor strategies aiming at increasing their capacity to produce better and in a more sustainable way, the rural poor will not be able to cope with low and unsteady resource availability and are likely to be the most affected by the negative aspects of global environmental and socio-economic changes. For poor livestock keepers this means greater vulnerability to the impact of climate change-enhanced desertification, uncertain rainfall patterns, exposure to human and animal health hazards (swine fever, Rift Valley fever and avian flu), threats of food and social insecurity (as increasing conflict conditions upon marginal lands attest) and being at the mercy of global market dynamics (which poorly remunerate poor producers) - among others. Under the above circumstances, finding a balance between food security and safety, poverty alleviation and sustainable use of natural resources will be a tremendous challenge. Such situations request IFAD to define clear pro-poor policies in supporting the contribution that livestock can provide to poverty reduction, environmental sustainability, household food security and welfare.

5. Future directions/strategies for livestock development in IFAD portfolio

Livestock development represents a promising opportunity to reduce poverty in many developing countries. IFAD has a major role to play in making sure that livestock development programmes and services enable poor livestock keepers to take full advantage of this opportunity. In this context, IFAD's specific priorities to foster investment on sustainable livestock development are outlined as follows:

- i) **Promote poor livestock keepers' participation and empowerment.**
 - A wider participation of poor 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. The inclusion of the poor is also important during design, implementation, monitoring and evaluation so as to ensure that they are gaining access to quality services and are being treated fairly by the service providers. 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.
 - Rural women engaged in livestock production represent a specific target for IFAD, due to their traditional relevance in livestock production, their growing social and economic responsibility, and their vulnerable position in local societies due to the processes of "feminization" characterizing many rural societies as a result of male migration, conflict, displacement and other social phenomena. Furthermore women are often the custodians of indigenous technical knowledge when it comes to livestock systems and related environmental dynamics.
- ii) **Advocate for enabling policy and institutional framework.** Since its inception, IFAD has played a catalytic role in putting the issue of poverty eradication onto the agendas of governments, donors and funding institutions. IFAD's overall strategy has been to mainstream and incorporate the interests and needs of the rural poor into national policy frameworks and economies. In particular, the Fund would promote livestock development as an effective entry point for poverty reduction by advocating its integration in Poverty Reduction Strategy Papers (PRSP), Sector Wide Approaches (SWAPS) and others. The Fund would sustain policy debates on the roles of the public and private sector in livestock 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. Women would be targeted both as producers and service providers so that their capabilities and social status would be enhanced. IFAD would continue the process of developing specific livestock development policies in regions with strong pro-poor livestock development needs (i.e. Sub-Saharan Africa).

iii) **Develop innovation, knowledge and learning systems:**

- IFAD understands that innovation is a “process that adds value or solves a problem in new ways” and aims to promote IFAD’s unique style of innovation, in line with its Mandate and Strategic Framework, defined as having the following characteristics: demand-driven, participatory, replicable, policy directed, mainstreamed, and impact oriented. It would continue playing its institutional catalytic role by scouting and supporting the development of innovative pro-poor technologies. IFAD will work closely with governments to replicate and scale up livestock development projects and programmes that have demonstrated impact as an effective way for influencing appropriate pro-poor livestock development policy. IFAD would attain the elaboration and dissemination of appropriate, low labour technologies in ongoing and new programmes through community-based delivery systems. It would 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.
- The Fund would promote the development of Knowledgebase systems (i.e. The Livestock and Rangeland Knowledgebase–LRKB), Decision Support Tools (DSTs), Thematic Papers (TPs), and Technical Advisory Notes (TANs) as tools for knowledge and learning sharing within livestock services working directly with the rural poor to convey knowledge and focus to strengthen the capacities of livestock keepers to demand or seek information, training and advice. The efforts of capturing lessons and best practices from the experience of IFAD-supported programmes with livestock development components and disseminate these to broader audiences – at national and regional levels in order to catalyze policy and investment decisions – and at the headquarters level will be strengthened to ensure that they are fed back into the programme and policy design process. Finally, IFAD would sustain the identification of livestock management systems that blend improved technologies with indigenous knowledge and practices, and have proven positive impacts on poverty, marginalization of women and pastoral groups, and natural resource degradation. Learning from the poor and other partners and adapting their successful experiences to IFAD’s programmes will be prominent in the Fund’s knowledge-sharing efforts.
- Recently IFAD together with other partners launched the Community of Practice for Pro-Poor Livestock Development (CoP-PPLD⁶). These newly established and/or consolidated working relations combined the best available skills and knowledge, encouraged innovation, tested new approaches and worked to scale up successes, demonstrating the income-earning potential of the livestock sector and making IFAD development efforts more effective.

6 Web site www.cop-ppld.net

- iv) **Enhance the access of the poor to rural financial and marketing systems.** IFAD trusts that exposing poor livestock keepers to rural financial and marketing systems is critical to the success of their efforts to diversify and increase their income-generation capacity. Linking the smallholder production systems to markets is critical for helping smallholders rationalize their production systems in conformity with the available local feed resources, thus reducing the environmental risks associated with livestock development. 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.
- v) **Support research programmes and technology transfer.** Since IFAD's inception, it has encouraged appropriate and environmentally sound technologies that are demand-driven, complement useful indigenous skills and practices, and are replicable, which is critical to the long-term goals of sustaining and increasing livestock systems productivity. The Fund would support the development, strengthening and promotion of Farming Systems Research (FSR), and especially on-farm research, as a way of developing appropriate technology and adapting it to the specific agro-ecological and socio-economic conditions of smallholders. Furthermore, it would support the Farmers Livestock Schools (FLS) approach which is based on the collaboration between farmers, communities, the extension workers and researchers. It involves on-the-job training and sharing experience on livestock keeping.
- vi) **Strengthen the international cooperation and strategic working relationships among development partners**
- Over the years IFAD has played a major role in supporting global and regional initiatives targeting pro-poor livestock development (i.e. the Global Initiative). IFAD would continue mobilizing resources and knowledge through a strategic, complementary and dynamic coalition of clients, governments, financial and development institutions, non-governmental organizations (NGOs) and the private sector.
 - IFAD would continue supporting innovative approaches for organizing poor livestock producers and effective service delivery techniques which are needed, along with the development of learning. Support for establishing global and regional networks (i.e. FIDAMERICA, FIDAFRIQUE, ENRAP and KARIANET) of stakeholders, policy-makers and practitioners within the livestock sector and other relevant sectors would be provided to strengthen efforts to implement policies and practices that provide better access to livestock services to the poor as a means to reduce poverty.
 - At the international level, L'Aquila Joint Statement on Global Food Security has recently recalled as increased efforts and investments are necessary for enhancing agricultural and livestock sectors with specific interventions to ensure that the small producers are not excluded from the economic growth and social progress.

References

- Agarwal, B. 1998. *Widows vs. daughters or widows as daughters: property, land and economic security in rural India*. *Modern Asian Studies*, Vol 1 (Part 1).
- Ahuja, V., P. S. George, S. Ray, K. E. McConnell, M. P. G. Kurup, V. Gandhi, D. Umali-Deininger and C. de Haan. 2000. *Agricultural Services and the Poor: The Case of Livestock Health and Breeding Services in India*. Indian Institute of Management, World Bank and Swiss Agency for Development and Cooperation, Ahmedabad, Gujarat, India.
- Alam, J. 1997. *The Impact of the Smallholder Livestock Development Project in Some Selected Areas of Rural Bangladesh*. *Livestock for Rural Development*, 9, 3.
- Asian Development Bank (ADB). 2000. *Gender Issues in Livestock*. www.adb.org/Documents/Manuals/Gender_Checklists/Agriculture/agri0508.asp.
- Barnett, T. 1994. *The Effects of HIV/AIDS on Farming Systems and Rural Livelihoods in Uganda, Tanzania and Zambia*. FAO, Rome.
- Behnke R. 1994. *Natural resource management in pastoral Africa*. *Development Policy Review*, 12.
- Behnke R.H, Scoones I.1993. *Rethinking range ecology: implications for rangeland management in Africa*. ODI/IIED, London.
- Bekure, S., P. N. de Leeuw, B. Grandin and J. H. Neate. 1991. *Maasai Herding: An Analysis of the Livestock Production System of Maasai Pastoralists in Eastern Kajiado District, Kenya*. ILCA System Study, No. 4. International Livestock Centre for Africa, Addis Ababa.
- Blackburn, H., de Haan, C. and H. Steinfeld 1996. *Livestock production systems and the management of domestic animal biodiversity*. In Srivastava, J.P., Smith, N.J.H. and D.A. Forno. *Biodiversity and agricultural intensification*. 95-106. Washington: The World Bank.
- Blench R.1999. *Extensive pastoral livestock systems: issues and options for the future*. FAO Japan.
- Blench, R. 1985. *Pastoral labour and stock alienation in the sub-humid and arid zones of West Africa*. Pastoral development network, paper 19e, Overseas Development Institute (ODI). United Kingdom.
- Blench, R.M. & Florian Sommer 1999. *Understanding rangeland biodiversity*. ODI Working Paper 121. London: Overseas Development Institute. Available in Acrobat format at <http://www.odi.org.uk/resources/download/1866.pdf>.
- Blench, R.M. and K.C. MacDonald (eds.) 2000. *The origin and development of African livestock*. London: University College Press.
- Bravo-Baumann, H. 2000. *Gender and Livestock: Capitalization of Experiences on Livestock Projects and Gender*. Swiss Agency for Development and Cooperation, Bern.
- Brink van den R., Bromley D. W., Chavas J.P. 1995. *The economics of Cain and Abel: agro-pastoral property rights in the Sahel*. *Journal of Development Studies*, 31/3.
- Catley, A. 1996. *Pastoralists, Para-vets and Privatization: Experiences in the Sanaag Region of Somaliland*. Overseas Development Institute Network Papers, No. 39d. U.K.
- Catley, A. and T. Leyland. 2001. *Community Participation and the Delivery of Veterinary Services in Africa*. *Preventive Veterinary Medicine*, No. 49, pages 95-113.
- Chandler, W. and N. Kumar. 1998. *India: The Dairy Revolution, the Impact of Dairy Development in India and the World Bank's Contribution*. World Bank, Washington, DC.
- DAC/POVNET Initiative. 2005. Chapter 12: *Revitalising Investments in Science and Technology for pro-Poor Agricultural Growth*.
- Dahl, G. and Hjort, A. 1976. *Having herds: pastoral herd growth and household economy*. *Stockholm Studies in Social Anthropology*, No. 2. Stockholm: University of Stockholm.
- de Haan, C., H. Steinfeld and H. Blackburn. 1997. *Livestock and the Environment: Finding the Balance*. Directorate for Development, European Commission, Brussels.
- de Haan, C., T. Schillhorn van Veen, B. Brandenburg, J. Gauthier, F. Le Gall, R. Mearns and M. Simeon. 2001. *Livestock Development: Implications for Rural Poverty, the Environment and Global Food Security*. World Bank, Washington, DC.
- Delgado, C. et al. 1999. *Livestock to 2020: the next food revolution*. Washington/Rome/Nairobi: IFPRI/FAO/ILRI.
- Delgado, C.L. 1979. *Livestock versus food grain production in southeast Upper Volta: a resource allocation analysis*. Monograph no.1, Livestock production and marketing in Entente States in West Africa project, CRED/USAID. United States.
- Deshingkar, P. and S.Grimm. 2004. *Voluntary Internal Migration: An Update*. Paper commissioned jointly by the Urban and Rural Change Team and the Migration Team within the Policy Division of the British Government's Department for International Development.
- Dolberg, F. 2001. *A Livestock Development Approach that Contributes to Poverty Alleviation and Widespread Improvement of Nutrition among the Poor*. Paper presented at the IFAD workshop, "Malnutrition in Developing Countries".

- Ellis, F. 2000. *Rural Livelihoods and Diversity in Developing Countries*. Oxford: Oxford University Press.
- FAO. 2006. *Livestock's long shadow Environmental issues and options*. FAO, Rome.
- FAO. 2002a. *World Agriculture: Towards 2015/2030*. FAO, Rome.
- FAO. 2002b. *Animal Genetic Resources*. FAO, Rome.
- FAO. 1987. *Trypanotolerant Cattle and Livestock Development in West and Central Africa*. (2 Volumes). FAO, Rome.
- Farrington, J., I. Christoplos, A. D. Kidd and M. Beckman. 2002. *Extension, Poverty and Vulnerability: The Scope for Policy Reform, Final Report of a Study for the Neuchâtel Initiative*. Overseas Development Institute Working Papers, No. 155.
- Fattah, K. A. 1999. *Poultry as a Tool in Poverty Eradication and the Promotion of Gender Equality*. Proceedings of the workshop, 'Poultry as a Tool in Poverty Eradication and the Promotion of Gender Equality', Danish Agricultural and Rural Development Advisers Forum, Tune Landboskole, Denmark, 22-26 March.
- Galaty J.G, Hjort af Hornas A., Lane C., Ndagala D. 1994. *Introduction: the crisis of pastoral land rights*. Nomadic Peoples, 34-35.
- Gauthier J., Simeon M. and de Haan C. 1999. *The effect of Structural Adjustment Programs on the delivery of Veterinary Services in Africa*. OIE, Paris.
- Gueye, E. F. 2000. *The Role of Family Poultry in Poverty Alleviation, Food Security and the Promotion of Gender Equality in Rural Africa*. Outlook on Agriculture, 29, 2, pages 129-136.
- Hanssen, A. 1983. *The role of women in the livestock sector*. FAO, Rome.
- Haslwimmer, M. 2001. *Is HIV/AIDS a Threat to Livestock Production?: The Example of Rakai, Uganda*. FaoInfo.
- Heffernan, C. and A. E. Sidahmed. 1998. *Issues in the Delivery of Veterinary Services to the Rural Poor*. Paper presented at the conference. The Delivery of Veterinary Services to the Poor, University of Reading, UK, June.
- Heffernan, C. and F. Misturelli. 2000. *The Delivery of Veterinary Services to the Poor: Findings from Kenya*. Report for the Animal Health Programme (Department for International Development), University of Edinburgh.
- Heffernan, C., L. Nielsen and F. Misturelli. 2001. *Restocking Pastoralists: A Manual*. Livestock Production Programme, Department for International Development, London.
- Howes, M. 1980. *The uses of indigenous technical knowledge in development*. In D. Brokensha, D.M. Warren & O. Werner eds. *Indigenous knowledge systems and development*, pp.335-351. University Press of America, Washington D.C.
- IFAD. 2010. Rota, A. and Sperandini, S. "Gender and Livestock: tools for design", in Livestock Thematic Papers: Tools for project design. IFAD, Rome.
- IFAD. 2010. Rota, A., Calvosa, C., Chuluunbaatar, D. and Fara, K. "Livestock and Climate Change", in Livestock Thematic Papers: Tools for project design. IFAD, Rome.
- IFAD. 2010 Rota, A. and Sperandini, S. 2009. "Value chains, linking producers to the markets", in Livestock Thematic Papers: Tools for project design. IFAD, Rome.
- IFAD. 2008. *Water and Livestock for Rural Livelihoods*. IFAD, Rome.
- IFAD. 2007. *Strategic Framework 2007-2010*. IFAD, Rome.
- IFAD. 2000. *An IFAD Approach to Gender Mainstreaming: Experience of the Latin America and the Caribbean Division*. IFAD, Rome.
- IFAD. 2001. *Agricultural Extension and Support for Farmer Innovation in Western and Central Africa: Assessment and Outlook for IFAD*. IFAD, Rome.
- IFAD. 2002a. *Enabling the Rural Poor to Overcome Their Poverty: Strategic Framework for IFAD 2002-2006*. IFAD, Rome.
- IFAD. 2002b. *Livestock and Rangeland Knowledgebase*. www.ifad.org/lrkm.
- IFAD. 2004. *Scaling Up Innovative Small Stock Management Practices – Preparatory Phase report*. IFAD/IFPRI/ICARDA Initiative for Mainstreaming Innovations (IMI), Rome.
- IFAD. 1990. "Specific identification mission report: Rural Credit Project, Peoples Democratic Republic of Ethiopia", Rome.
- IFAD. 1991a. *Seminar report on the economic advancement of rural women in Latin America and the Caribbean*. Costa Rica.
- IFAD. 1991b. *Report of the consultation on the economic advancement of rural women in Asia and the Pacific*. Kuala Lumpur, Malaysia.
- IFAD. 1991c. *IFAD's strategies for the economic advancement of poor rural women*. 15th session of Governing Council, Agenda Item 8, Rome.
- ILRI, 2003. *Livestock, a pathway out of poverty: ILRI's strategy to 2010*. International Livestock Research Centre, Nairobi.
- ILRI, 2003. *Mapping Poverty and Livestock in the developing World*. International Livestock Research Centre, Nairobi.

- ITDG, 2004. *Impact of HIV/AIDS among pastoral communities in Kenya*. ITDG, Nairobi.
- James, L. C. Heffernan and A. E. Sidahmed. 1999. *IFAD and the Delivery of Veterinary Services to the Rural Poor*. IFAD, Rome.
- Jodha, N. S. 1992. *Common Property Resources: A Missing Dimension of Development Strategies*. World Bank Discussion Papers, No. 169, Washington D.C.
- Lekule F. & Sarwatt S.V.1996. *A review of Animal Production work in the context of integrated farming with examples from East Africa*. Paper presented at the Integrated Farming in Human development Workshop, March 1996 Tune Landboskole, Denmark.
- Lukefar, S. and T. Preston. 1999. *Human Development through Livestock Projects: Alternate Global Approaches for the Next Millennium*. World Animal Review, No. 93, pages 24-25.
- Lund, P. 2002. *The Bangladesh Semi-Scavenging Poultry Model*. Agricultural Sector Programme Support in Bangladesh. Danida, Copenhagen.
- McCorkle, C.M. & E. Mathias-Mundy. 1992. *Ethnoveterinary medicine in Africa*. Africa, 62(1):59-93.
- McLeod, A. and T. Wilshire. 2001. *The Delivery of Livestock Services to the Poor: A Review*. Pages 304-339 in B. D. Perry, J. J. McDermott, T. F. Randolph, K. D. Sones and P. K. Thornton (eds). 2001. *Investing in Animal Health Research to Alleviate Poverty*. International Livestock Research Institute, Nairobi.
- Mukherjee, N., N. Jahan and S. M. Akhter. 2002. *Second Smallholder Livestock Development Project*. IFAD, Rome. Mimeo.
- Nori M.2003. *Insecure Livelihoods: Karamoja communities facing harsh integration*. Acacia Consultants for Oxfam GB, Nairobi.
- Nori M., 2004. *Hoofs on the roof: pastoral livelihoods on the Xinghai-Tibetan Plateau*. ASIA, Yushu (PRC) http://www.cwru.edu/affil/tibet/booksAndPapers/Hoofs_on_the_Roof.pdf.
- Nori M., Dorma Passang. 2004. *Providing support to the para-veterinarian service in Tibetan areas: the case of ASIA project in Chengduo county*. Paper presented at the 4th International Congress on Yak. Chengdu, Sichuan, P.R. China.
- Nori M., Switzer J. 2005. *Herding on the Brink: Towards a Global Survey of Pastoral Communities and Conflict*. An Occasional Paper from the IUCN Commission on Environmental, Economic and Social Policy; Gland, Switzerland.
- Nori M., van der Ploeg JD., Omodei Zorini L.2004. *Ungoverned markets: the emergence of camel milk markets in stateless Somali area*. Paper presented at the 85th seminar of the European Association of Agriculture Economists. Florence.
- Nori M., Yahya J., Sinjilawi N.2003. *Breeders Without Borders: Palestinian rural livelihoods during the second Intifada* – PLSC and VSE, East Jerusalem.
- Perry B.D., McDermott J.J., Randolph T.F., Sones K.D., Thornton P.K., eds.2001. *Investing in animal health research to alleviate poverty*. International Livestock Research Centre, Nairobi.
- Pingali, P. L., Y. Bigot, and H. P. Binswanger. 1987. *Agricultural mechanization and the evolution of farming systems in Sub-Saharan Africa*. Baltimore, MD.: Johns Hopkins University Press.
- Pratt, D. J. and Le Gall, F. and De Haan, C. 1997. *Investing in Pastoralism: Sustainable natural resource use in arid Africa and the Middle East*. World Bank Technical Paper 365. Washington DC: World Bank.
- Pro-Poor Livestock Policy Facility (PPLPF)
<http://www.fao.org/ag/againfo/projects/en/pplpi/home.html>.
- Rangnekar, S. 1998. *The Role of Women in Small-Holder Rainfed and Mixed Farming in India*. Proceedings of the workshop, "Women in Agriculture and Modern Communication Technology", Danish Agricultural and Rural Development Advisers Forum, Tune Landboskole, Denmark, 30 March-3 April.
- Rangnekar, S.D. 1991. *Women in dairy production - observations from India*. WILD, May/June 1991, Heifer Project International, Little Rock, USA.
- Sasson, A. 1986. *Quelles biotechnologies pour les pays en developpement?* UNESCO, Paris.
- Savane, M.A. 1986. *The effects of social and economic changes on the role and status of women in sub-Saharan Africa*, pp. 124-132 in J.L. Mook ed. *Understanding Africa's rural households and farming systems*. Westview Press, Boulder, CO.
- Scherf, B. 1999. *Worldwatch list*. [Edition 3] Rome: FAO.
- Sidahmed A. E.1993. *Pastoral and Common Resources in Africa: Some IFAD Experiences and Lessons*. Document presented to the United Nations Sudano-Sahelian Office Technical Consultation of Donors/Specialized Agencies on Pastoral Development Issues. Paris, France.
- Sidahmed A. E., (2000). *The Rangelands of Arid and Semi-Arid Areas: Challenges and Hopes for the 2000s*.. IFAD Technical Advisory Division Staff Working Paper No. 29.
- Sidahmed A. E.2001. *Rangeland Development for the Rural Poor in the Developing Countries: The Experience of IFAD*. In *Response to Land Degradation*. (Eds. E. Michael Bridges, Ian D. Hannam, L. Roel Oldeman, Frits W.T. Penning de Vries, Sara J. Scherr, Samran Sombatpanit. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

- Sidahmed A. E., Abdelhamid Abdouli, M. Hassani and M. Nourallah. 1998. *Sheep Production Systems in the Near East and North Africa Region: The Experience of IFAD in Alleviating Technical, Socio-Economic and Policy Constraints*. IFAD Technical Advisory Division Staff Working Paper No. 30. Rome.
- Sidahmed, A. E. 1998. *Livestock Development and Rangeland Management Cluster Module: The Privatization of Veterinary Services in Sub-Saharan Africa*. IFAD, Rome.
- Sidahmed, A. E. 1998. *Solidarity with the Rural Poor: IFAD's approaches to poverty alleviation and social security through Livestock development*. Eschborner Fachtag / GTZ 25th Anniversary Meeting, Eschborn, Germany.
- Sidahmed, A. E. and A. Kesseba. 1998. *Livestock Development in East and Southern Africa: Some Features of IFAD's Policies and Programmes*. IFAD Staff Working Paper, No. 26.
- Sidahmed, A. E., J. Musharaaf, E. Martens, Y. Wang, R. Zander and M. Hassani. 1997. *The Impact of the Transition from Central Planning to the Market Economy on Livestock Systems in Central Asia and Eastern European Countries: The Experience of IFAD*. Proceedings of the international symposium, 'Strategies in Agricultural Technology Development in the Northern Area of the Korean Peninsula', Kangwon National University, Chunchon, Republic of Korea, 25-27 September.
- Squires V., A.E. Sidahmed 1998 (eds). *Drylands: Sustainable Use of Rangelands into the Twenty First Century*. Proceeding of the International Workshop organised by IFAD in Jeddah, Saudi Arabia.
- Stuth, J. W. 2002. *LEWS livestock early warning system*
<http://cnrit.tamu.edu/lews/description.html>.
- Thornton, P. 2001. *Mapping Poverty and Livestock*. Report to the Department for International Development. International Livestock Research Institute, Nairobi.
- Tulachan, M. and S. Karki. 2000. *Gender and Livestock Management in Mixed Farming Systems*. ICIMOD Newsletter, No. 37, www.icimod.org.
- Vaidyanathan, A. 1983. *Estimating employment potential in animal husbandry*. FAO Report, Rome.
- van Raay, H.G.T. & P.N. de Leeuw. 1974. *Fodder resources and grazing management in a savanna environment: an ecosystem approach*. Inst. of Social Studies occasional papers, no.45, The Hague.
- Vietmeyer, N.D. 1991. *Micro-livestock: little-known small animals with a promising economic future*. Washington, DC: National Academy of Sciences.
- Vorley B. & Fox T., 2004. *Global food chains constraints and opportunities for smallholders*. IIED for DAC/POVNET Global Food Chains.
- Woodcock, M. and D. Narayan. 2000. *Social Capital: Implications for Development Theory, Research and Policy*. World Bank Research Observer, World Bank, Washington, DC.
- World Bank. 1999. *India Livestock Sector Review: Enhancing Growth and Development*. South Asia Rural Development Series. Allied Publishers, Mumbai, India.
- World Bank. 2000. *Livestock development: implications for rural poverty, the environment and global food security*. World Bank, Washington D.C.

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