Preface

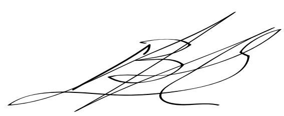
Increasing recognition that technology-oriented agricultural projects had largely failed to contribute significantly to broad-based poverty reduction led to a major shift in development thinking in the late 1990s. An alternative development paradigm began to emerge that placed much greater emphasis on pro-poor institutions and policies. It became widely accepted that an enabling institutional and policy environment is essential for creating the framework in which development can be steered to address the needs of the poor – and maybe also to deliver on the development community's bold collective promise to halve global poverty within the first 15 years of the new millennium.

One response to these developments was the launch in 2001 of the Pro-Poor Livestock Policy Initiative (PPLPI) by the Animal Production and Health Division (AGA) of the Food and Agriculture Organization of the United Nations (FAO), with financial support from the United Kingdom Government's Department for International Development (DFID). PPLPI's specific purpose was to "Strengthen capacity in FAO, Member Nations and international organizations to formulate livestock sector and related policies and implementation plans that reduce poverty, whilst managing environmental and public health risks".

Livestock farming tends to be shaped by national and international policy and institutional frameworks that are rarely pro-poor. One of the aims of PPLPI was to explore ways and means of facilitating and supporting the formulation and implementation of policies and institutional changes that would have a positive impact on the livelihoods of a large number of livestock-dependent poor people. The initiative's livestock focus reflected the fact that livestock contribute to the livelihoods of many of the world's rural poor, while the rapid increase in demand for livestock products in developing countries, in conjunction with the growing integration of global markets, provided both new opportunities and threats to the livelihoods of poor and small-scale livestock producers, traders and processors.

This book summarizes the lessons learned by PPLPI's multi-year, intensive global endeavour to advance livestock sector policy in ways that confer the greatest benefit to poor people. The experience gained by PPLPI has placed AGA at the forefront of policy and institutional innovation for equitable livestock sector development. It has also positioned PPLPI at the heart of a process of programmatic transformation. As a result of this transformation, FAO's corporate work in the livestock sector now focuses mainly on: i) pro-poor sector policy and management; ii) the implications of animal diseases for the poor, the economies of developing countries, and the global risks to both animal and human health; and iii) the livestock sector's impact on the environment.

Commenting on PPLPI's work on pro-poor policy and institutional change, the recent independent external evaluation of FAO noted that it had "influenced global thinking in these areas". So, although PPLPI came to an end in March 2010, its legacy is ensured within both FAO's Livestock Sector Strategy and Programme and the development community at large.



Berhe Tekola
Director, FAO Animal Production and Health Division

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The authors would also like to express their appreciation to the United Kingdom Government's Department for International Development (DFID), for its generous financial support and for giving PPLPI the freedom to experiment and try new, potentially risky approaches, to learn from set-backs and to try again and again. Flexible time frames and budgetary allocations linked to uncertain outcomes are uncommon features of development assistance.

Executive summary

An estimated 2.6 billion people in the developing world have to make a living on less than $2 a day; of these people, about 1.4 billion are extremely poor, surviving on less than $1.25 a day each. Poverty is intimately associated with undernutrition; FAO estimates that globally about 925 million humans were undernourished in 2010. Poverty and hunger have significant negative externalities affecting non-poor segments of society; thus, as well as ethical concerns, economic considerations and enlightened self-interest should also put poverty reduction high on the global agenda.

To achieve rapid advances in poverty reduction, interventions need to be well targeted so they spur economic growth to which the poor contribute and from which they benefit. Nearly three-quarters of the extremely poor – about 1 billion people – live in rural areas and, despite growing urbanization, more than half of the "dollar-poor" will reside in rural areas until about 2035. Most rural households depend on agriculture as part of their livelihoods, and about 90 percent of the world's extremely poor are small-scale farmers.

Agricultural productivity gains and/or diversification into high-value agricultural products – leading to increased income through increased value of output per area of land and, more important, per unit of labour input – are an essential means of raising rural incomes and improving food security. Because a large share of the rural poor keep livestock, because livestock can make important contributions to sustainable rural development, and because the demand for livestock products is growing rapidly in developing countries, diversification into livestock, and increasing livestock productivity should form part of a strategy for poverty reduction and agricultural productivity growth.

This book reviews major aspects of the livestock-poverty interface with the objective of identifying the conditions under which livestock can be an effective tool for poverty reduction; the interventions that allow livestock's poverty reduction potential to be unlocked, and the contexts in which they do so; and ways of facilitating sustainable implementation of these interventions.

POVERTY, FOOD SECURITY AND LIVESTOCK

Although the incidence of extreme poverty (< $1.25/day) in developing countries has been significantly reduced over the past 15 years – from 42 percent in 1990 to 26 percent in 2005 – the absolute number of extremely poor still stands at an alarming 1.4 billion people (down from 1.8 billion in 1990). In South Asia and sub-Saharan Africa, the numbers of extremely poor have increased by 20 million and 100 million respectively. Diets in developing countries are deficient in not only quantitative terms, but even more so in terms of quality. The estimated disability-adjusted life years (DALYs) attributed to protein-energy malnutrition, iron-deficiency anaemia and vitamin A deficiency in the developing world are 17.4 million, 15.6 million and 0.6 million respectively. Given the high bioavailability of protein, iron and vitamin A in meat, eggs and milk, increasing the availability of animal-source foods (ASFs) for poor populations in developing countries could significantly reduce the burden of disease attributable to protein and micronutrient deficiencies.

Livestock contribute to human food and nutrition security directly, by transforming vegetation from non-arable land, crop residues, by-products from food processing, and organic waste into human food of high nutrient density and nutritional quality. Livestock also contribute indirectly to food security by increasing crop output through providing manure. Livestock serve as a buffer to mitigate the impact of fluctuations in crop production on the availability of food for human consumption, and thereby stabilize food supply. Finally, livestock enhance total household labour productivity through smoothing the demand on family labour over seasons, genders and generations.

Smallholders, however defined, account for a large share of agricultural production throughout most of the developing world, particularly in South Asia and sub-Saharan Africa. In South Asia, more that 80 percent of farms are smaller than 2 ha, while in sub-Saharan Africa smallholders are responsible for an estimated 90 percent of agricultural production. In African and Asian countries included in FAO's Rural Income-Generating Activities (RIGA) dataset, farms with less than 2 ha of land or fewer than 2 tropical livestock units (TLU) are responsible for between half and three-quarters of total livestock production, and even more in some instances. With the exception of countries in Latin America and the Caribbean, mean landholding sizes are in the order of 1 ha or less. Livestock ownership is usually slightly more prevalent and equitable than landownership, but mean herd/flock size is small, normally between 1 and 2 TLU. Livestock are kept by households across all wealth groups, but households in the bottom expenditure quintile are more likely to have livestock in their asset portfolio than wealthier households are.

Livestock are also an important means of conferring income and status to women. Although women seldom hold property or usage rights to land they often independently own livestock. However, the promotion of animal production in which women are heavily involved does not automatically improve women's control over livestock-related income. Overall, it appears that within-household power dynamics, which are embedded in specific socio-economic contexts, are too complex and diverse to permit simple predictions about the gender-specific impacts of livestock promotion.

Globally, the number of poor livestock keepers (< $2/day) has been increasing by about 1.4 percent per year. In absolute numbers, South Asia and sub-Saharan Africa dominate, with more than 45 and 25 percent of the world's estimated 752 million poor livestock keepers respectively. The depth of poverty among livestock keepers is particularly high in sub-Saharan Africa, where it is estimated that more than 85 percent of poor livestock keepers live in extreme poverty.

Growing populations and rising per capita incomes in developing countries will lead to major increases in the demand for ASFs in these regions. A large share of this growing demand stems from rapidly expanding urban populations. Increases in domestic livestock production – and the additional incomes generated – in response to (urban) demand growth add to gross domestic product (GDP) and national income. Knock-on effects include increases in rural employment and increased spending on productive inputs and consumer goods, generating additional trade with urban and/or local suppliers. As a result, growth of the livestock sector in response to increased urban demand can launch a self-perpetuating process of economic growth and development.

Governments rarely appreciate the complex roles livestock play in rural household economies, and livestock development policies tend to focus singularly on marketed products. This perspective is obviously far too narrow, as livestock keepers are often willing to keep animals of low physical productivity in their herds, owing to the many collateral services they provide. This apparent divergence between the livestock assessment criteria used by policy-makers and those used by livestock keepers is a root cause of livestock sector development policies that contribute little to poverty alleviation.

In spite of the very many positive social outcomes that can be associated with livestock sector growth in developing country regions, there are also negative effects that need to be considered and managed. Two very significant effects are the emergence and subsequent spread of infectious diseases associated with livestock, and negative environmental impacts. The magnitude of negative environmental and public health externalities associated with livestock will be strongly influenced by the ways in which the livestock sector grows to meet the increasing demand.

LIVESTOCK SECTOR DEVELOPMENT, ECONOMIC GROWTH AND POVERTY REDUCTION

Economic growth is necessary for poverty reduction, but the magnitude and speed by which growth can reduce poverty are strengthened and accelerated when income distribution is equitable, and when the poor can participate in the economic activities that experience expansion. For rapid poverty reduction in developing countries, it is not enough simply to focus on rapid aggregate economic growth; attention must also be given to removing the types of inequalities that limit the poor's access to, and capacity to exploit, the opportunities for economic advancement. For growth to be pro-poor, it must achieve income gains for the poor in an inclusive growth process, promoting demand and market participation for activities that use resources (mainly labour) of the poor intensively.

In low-income agrarian developing countries, acceleration of the poverty reduction effects of economic growth requires the stimulation of economic activity in the place where most poor people are located – rural communities – and in the economic sector in which most of them pursue their livelihoods: agriculture. The strong poverty reduction impact of agriculture-led growth arises not only from the significance of agriculture in the overall economy but also from strong consumption and production linkages between agriculture and other sectors of the economy. Agriculture's pervasive expenditure and supply chains generate output, employment and income multipliers from the agriculture sector to rural non-farm economic activities and the economy as a whole.

In low-income agrarian economies, livestock form an integral part of predominantly smallholder diversified crop-livestock farming systems. Superseded only by larger-scale staple crops, the livestock sector is the second most important contributor to the agricultural economy. Despite its smaller output compared with that of staple crops, productivity and income growth in the livestock sector have strong income multiplier and poverty reduction impacts. This results from the demand side via direct and indirect income gains among rural households benefiting from income improvements, and from the supply side via linkages with the staple crops sector as a generator of by-products for livestock feed. A combined strategy for livestock and staple crop productivity growth, exploiting the close linkage between these two sectors, would have the strongest income multipliers and poverty reduction benefits.

As developing countries undergo the transition from agrarian subsistence to more diversified market economies, growth in demand for livestock products and high-value crops will become stronger and the livestock sector will increase its share in agricultural value added, together with its potential for generating direct and indirect income and poverty reducing impacts. Marketing agrifood products with high income demand elasticities, such as livestock and their products, gives the rural poor a way of participating indirectly but actively in urban growth, propagating growth benefits without social dislocation and other adjustment costs. Although poverty is very common in sparsely populated (remote) areas, the majority of the rural poor live in reasonable proximity to (small and large) urban centres. This suggests a strategy for poverty reduction that promotes market access incrementally, radiating outwards from urban areas.

As modern supply systems expand, the technological, institutional and informational systems supporting agrifood production are becoming increasingly complex. Continuous investments are needed to comply with changing product, process, quality and safety standards. By implication, modern food systems in highly commercialized agricultural markets have introduced a new set of entry and transaction costs for producers to be competitive. However, the reality of agrifood supply chains in many developing countries is still far removed from the model of high-tech, highly integrated systems emanating from Organisation for Economic Co-operation and Development (OECD) economies. Demand for agricultural and livestock products of all kinds depends mainly on the income levels of the domestic population, and only the top income decile is a viable market for high-value processed cold chain products. Consumers in the lower three income quintiles normally purchase ASFs in live-animal and wet markets, to which the supply chains are mediated mainly by informal and customary networks.

The current expansion of markets for ASFs in developing countries, and their large degree of diversity represent enormous income potential for the rural poor, many of whom own livestock. However, which benefits of growing urban food demand go to rural smallholders and which to rapidly expanding agrifood industries will depend to a significant extent on policy decisions. Regrettably, livestock's potential for poverty reduction associated with appropriate sector development remains largely untapped. The reasons for this comprise market and institutional imperfections; prevailing policy paradigms in developing countries, with a systematic bias towards industrialization and concentration favouring large- over small-scale operators; and the underprovision of public goods and services, the consequences of which disproportionately affect the poor.

It must be recognized that the majority of agricultural and rural households in developing countries are unlikely to be recruited directly into agrifood industrialization; even intermediate stages of sector consolidation, such as contract farming, appear to be undertaken at a scale well beyond that of the average smallholder farmer. Nevertheless, urban demand growth currently represents an important opportunity for all domestic food producers, including smallholders, and should be appreciated for its inclusive development potential.

Unfortunately, their conditions make smallholders unlikely to compete with established commercial agrifood enterprises in urban markets. To be successful, smallholder producers need to emphasize their strengths – traditional product variety and low resource costs – while policies for inclusive development are needed to facilitate their market access. More inclusive national livestock markets will only arise from determined policy commitments to overcoming existing entry barriers, information and agency failures, and historic bias in favour of integrated agrifood enterprise development.

PRO-POOR POLICY AND INSTITUTIONAL CHANGE

In most instances, governments do not deliberately formulate policies that are anti-poor; rather they fail to realize that economic growth, although necessary, is not always sufficient for poverty reduction. Despite increasing international interdependencies, national governments still have more than sufficient space for policy reforms that can reduce poverty significantly.

Livestock sector policies should be consistent with the broader institutional and policy framework directing growth in agriculture and in the economy in general. Most attempts to implement wholesale reforms of the livestock sector have proved ineffective, and piecemeal implementation can create more harm than good. By contrast, small but tailored policy and institutional changes can generate remarkable returns in terms of enhancing livestock's contribution to economic growth and poverty reduction.

There is a rich menu of good policies and institutions that can support livestock sector development, but the peculiarities of each country setting mean that a copy-and-paste approach to policy and institutional reforms can rarely, if ever, work. Experimentation is an effective way of identifying the most appropriate institutional and policy reforms to support sector growth in different countries. However, experimentation requires a risk-taking approach, which is associated with both successes and failures.

Policy reforms in the livestock sector should preferably target the "not-so-poor" farmers if the objective is to spur growth that benefits the poor, particularly through the multiplier effects generated by sector development. The relationship between policy/institutional reforms and livestock sector development is two-way, as changed institutions influence the level and pace of the sector's growth pattern, while development of the sector may call for further institutional changes. In other words, the design and implementation of policies that sustain inclusive and pro-poor growth of the livestock sector is a never-ending process.

In conventional approaches policy advice is simply transferred to policy-makers, and practitioners are unlikely to have much impact; partnerships and knowledge exchange networks and mechanisms have to be established, rather than relying on an "authority" as a source of policy advice. However, such processes are typically drawn out, iterative and uncertain in their outcomes. Understanding and promoting policy and institutional change depend on the underlying capacities for change, which are largely a function of the linkages and the quality of associated relationships among actors in the sector.

CONCLUSIONS

For global reduction of poverty and associated food insecurity, development efforts need to focus on regions and countries at early stages of development – sub-Saharan Africa and poorer regions of South and Southeast Asia. In these regions, experience suggests that agriculture, partly by default, remains one of the most important sectors for rural poverty alleviation, but that increases in productivity, particularly labour productivity, are necessary for agriculture to realize its poverty-reducing potential. One important way of increasing labour productivity in smallholder agriculture is diversification into high(er)-value agricultural products (horticulture, aquaculture, livestock), but such diversification is constrained by a multitude of entry barriers that are substantial for most low-income households, including investment, technology and market access. Increased income from agriculture is effective in generating employment in local non-tradable goods and services, and a strong case can also be made for agriculture-induced poverty relief through secondary employment creation.

More rapid gains in poverty reduction through agricultural intensification may be obtained by focusing policy interventions on the most eligible "upper" smallholders in "favoured" areas (although not the poorest of the poor, these households are still predominantly poor), while less endowed households will benefit indirectly through spill-overs such as technology diffusion and increased demand for non-tradable local goods and services (especially labour). For the less favoured agricultural households, livestock do not provide many growth opportunities but act as important safety nets, and policy emphasis here should be directed to reducing vulnerability, for example, by protecting livestock assets.

Agriculture is heterogeneous and highly complex and affects a large set of stakeholders. Agricultural development therefore requires approaches that are carefully adapted to local conditions, and large-scale blueprint planning is likely to fail. Experimentation with modest but targeted interventions and continuous learning from the results are more likely to lead to the desired outcome of poverty eradication. Transaction costs and the risks of coordination failure are high in agriculture, and public leadership is needed to promote lower-income agrifood supply chains. For public agencies mandated to support agriculture the most important role concerns not public expenditure, but policy-making, coordination, regulation and the provision of services that the private sector will not provide.

Keywords

agriculture, animal production, economics, food insecurity, household, livestock, nutrition, poverty

Abbreviations and acronyms

ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
AGA	Animal Production and Health Division (FAO)
ASF	animal-source food
DALY	disability-adjusted life year
DFID	Department for International Development (United Kingdom)
EAP	East Asia and the Pacific
EECA	Eastern Europe and Central Asia
FAO	Food and Agriculture Organization of the United Nations
FMD	foot-and-mouth disease
GDP	gross domestic product
GHG	greenhouse gas
GIC	growth incidence curve
GNI	gross national income
GREP	Global Rinderpest Eradication Programme
GTAP	Global Trade Analysis Project
GWP	global warming potential
HH	household
HPAI	highly pathogenic avian influenza
ICP	International Comparison Program (World Bank)
ILRI	International Livestock Research Institute
LAC	Latin America and the Caribbean
MDG	Millennium Development Goal
NENA	Near East and North Africa
NGO	non-governmental organization
OECD	Organisation for Co-operation and Development
OIE	World Organisation for Animal Health
PDR	(Lao) People's Democratic Republic
PPLPI	Pro-Poor Livestock Policy Initiative
PPP	purchasing power parity
RIGA	Rural Income-Generating Activities
RNFE	Rural non-farm economy
SPS	sanitary and phytosanitary
SSA	sub-Saharan Africa
TLU	tropical livestock unit
UN	United Nations
WHO	World Health Organization

All too often livestock are seen as something prosperous people consume, not something poor people produce.

Philipp Mellor