



Supporting Livestock Sector Development for Poverty Reduction: Issues and Proposals

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Summary

Agriculture is the single most important source of livelihood for the majority of the world's extreme / absolute (< 1\$/day) poor. Since most poor rural households keep livestock as part of their portfolio of agricultural activities, agricultural populations are still increasing while land is becoming increasingly scarce, and the demand for animal source food is rapidly growing, investing into livestock sector development appears a promising means for governments and the development community to contribute to agricultural growth and thereby accelerate poverty reduction. The success of 'standard' agricultural development projects in general and of livestock sector development projects in particular in contributing to large-scale and persisting poverty reduction has been at best mixed, whereas policy and institutional reforms which improve the 'business environment' for the livestock-dependent poor and other stakeholders along the value chain have been shown to hold more promise for steering the livestock sector onto a 'pro-poor' development pathway. Promoting and sustaining policy and institutional reforms in the livestock sector with the aim of poverty reduction thus requires some shifts in the dominant thrust of development assistance: technology-focused projects should primarily be conceived as instruments to achieve and support changes in policies, institutions and attitudes; while policy-oriented projects should either help setting the broad agenda for sector development – rather than aiming at the formulation of all-encompassing livestock sector plans, that normally defy implementation – or focus on building consensus about targeted, context-specific policy interventions which are expected to benefit the poor.

1. Introduction

Over 880 million of the 1.1 billion extreme poor, defined as those who have to make a living on less than \$1 a day, live in rural areas (World Bank, 2008). Of these, 555 million are estimated to fully or partially depend on livestock for their livelihoods (ILRI, 2002). Equitable and inclusive development of the livestock sector could thus substantially contribute to attaining the UN Millennium Development Goal 1 of 'eradicating extreme poverty and hunger'.

This paper endeavours to illustrate the importance of an enabling policy and institutional environment to facilitate livestock sector development, which benefits the poor, and advocates for changes in the approach employed by international and non-governmental organizations to support livestock sector and rural development.

The following section provides an overview of the relationships between livestock sector development and poverty reduction. Sections three and four illustrate the role of technology and policy in promoting the equitable and inclusive development of the livestock sector, including mainstream work and innovative roles played by international and non-governmental organizations to improve the 'business environment' for the livestock dependent poor. Section five summarises the main findings and draws some key lessons therefrom.

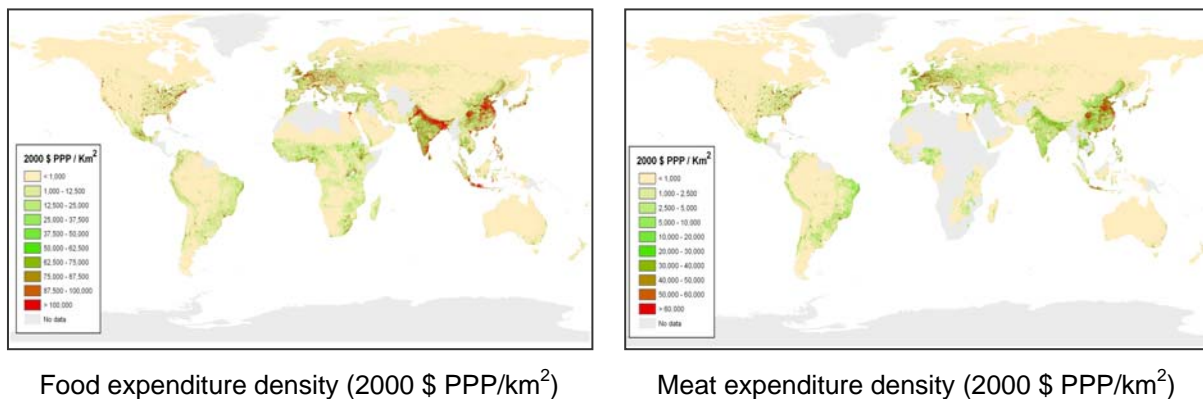
2. Livestock Sector Development and Poverty Reduction

The process of economic development is characterized both by a declining relative weight of the agricultural sector in the national economy and by structural changes of the agricultural sector. However, as economic development progresses, within agriculture the livestock sector is anticipated to become the largest single contributor to agricultural value-added: in industrialized countries the livestock sector accounts for an average of 50% of agricultural value-added as compared to about 30% in today's developing countries (FAO, 2008).

The above-mentioned facet of structural change in agriculture is a reflection of human food consumption patterns. Once basic nutritional requirements are met, gains in real *per caput* income are primarily associated with consumption shifts from low(er)-value, carbohydrate-rich food items to high(er)-value, protein-rich food items, such as meat, eggs, and dairy products. In industrialized countries, *per caput* meat and milk consumption average 93 kg and 219 l per year, and animal source foods (ASF) contribute about 27% and 57% to the daily calorie and protein intake. The corresponding figures for developing countries are 29 kg and 48 l, and calories and proteins from ASF account for about 10% and 33% of the daily calorie and protein intake (FAO, 2008).

It is thus not surprising that the livestock sector is growing rapidly in most developing countries, in which, due to overall economic growth and increasing disposable incomes, the annual growth rates in consumption and production of meat and milk averaged between 3.5% and 4.0% in the decade 1995 to 2005. This is at least double of the growth rates of between 1.4% and 2.0% observed for the major staple foods over the same period (FAO, 2008). Today, although developed countries have higher average incomes than developing countries, food expenditure, including expenditure on ASF, is just as concentrated (expressed as \$ spent per sq km), or even more so, in the latter, where consumers use a large proportion of their income to satisfy their need for food items (fig.1).

Figure1: Food and meat expenditure density



Source: Otte *et al.* (2008)

The current expansion of markets for ASF may potentially benefit a large share of the poor who, fully or partly, depend on livestock for their livelihoods – as a source of food, cash income, manure, draught power and hauling services, savings and insurance. The ownership of livestock, such as cattle, buffalo, sheep, goats, pigs and poultry, is relatively more evenly distributed among different income groups, including the poor, than is agricultural land (livestock are in fact often even kept by landless rural households). Estimates of the International Livestock Research Institute suggest that about 65% of the rural poor keep livestock (ILRI 2002). An FAO analysis of 15 nationally representative household surveys shows that between 46% and 82% of rural households in Asia, Africa and Latin America keep livestock, and that about 65% of the poorest households own farm animals in Ghana, 74% in Madagascar, 55% in Bangladesh, 85% in Viet Nam, 87% in Ecuador and 59% in Nicaragua (Zezza *et al.*, 2007).

Regrettably, the potential contribution to poverty reduction associated with appropriate livestock sector development, both through its direct and indirect effects, currently remains largely untapped.

- Market and institutional imperfections, such as inadequate public animal health service delivery or limited access to credit, are pervasive in rural areas of developing countries and constrain the livestock-dependent poor in making better use of their livestock assets.
- The prevailing policy paradigm, in which livestock are considered an ‘appendage’ to, rather than an essential component of, agriculture, and which rarely addresses livestock-related market imperfections¹, usually favours large-scale over small-scale operators, while the trend towards industrialization and concentration along the livestock supply chains at national, regional and international level creates additional pressure on small-scale operators and may exacerbate rural poverty and out-migration.
- Uncontrolled growth of the livestock sector can have negative consequences that extend beyond the livestock sector, for example through public health hazards associated with zoonotic livestock diseases or through environmental degradation by improperly managed livestock production systems. Such ‘externalities’ disproportionately affect the poor, who depend heavily on the natural resource base for their basic needs and have a limited capacity to cope with shocks.

Policy makers in developing countries, as well as the international development community, should aim to remove the prevailing constraints / distortions affecting the livestock sector so as to direct its development on a pathway which is sustainable and contributes to poverty reduction, i.e. which under current circumstances benefits smallholder producers, who will continue to constitute a significant proportion of livestock keepers for several decades to come (Nagayets 2005), as well as other small-scale actors along the livestock value chain, which are intimately affected by livestock sector development².

3. Technology and Policy for Livestock Sector Development

Promoting technological change and innovation is necessary to foster and sustain livestock sector development which benefits the poor. For example the development of thermostable vaccines³ could significantly improve immunisation rates of animals in remote areas; adoption of the lactoperoxidase⁴ system has been proven to reduce spoilage losses of milk in situations where cooling facilities are not available or not affordable; solar cooking technology allows

¹ For instance, issues related to the seasonality of feed availability, common property feed resources, water and livestock insurance are marginal in the policy agendas of most governments in developing countries.

² For example, it is estimated that production of 100 l of milk creates 3.7, 13.4 and 17.2 jobs in the related (informal) milk collection, processing and distribution sector in Kenya, Bangladesh and Ghana (FAO 2004).

³ Thermostable vaccines maintain their efficacy at ambient temperature for some time and thus do not rely on complex cold chains.

⁴ The lactoperoxidase system reactivates the enzyme of lactoperoxidase, which is naturally present in milk and retards bacterial growth for some hours, thereby allowing collection and transportation to processing plants in situations where refrigeration is not feasible. It is currently the only method of raw milk preservation, apart from refrigeration, approved by the FAO-WHO Codex Alimentarius.

consumption of cooked rather than raw or undercooked meat and thereby can reduce the incidence of diarrhoeal diseases and malnourishment.

However, many of the technological options developed for 'improving' livestock production systems, including technology designed specifically for smallholder producers, have not been applied on a large scale, and have not significantly promoted or contributed to 'pro-poor' livestock sector development. A comprehensive review of over 600 interventions in the livestock sector, of which a large majority were concerned with technology transfer, concludes that most of the interventions failed to offer any significant and sustainable improvement in the livelihoods of the poor (LID, 1999). More in general, the World Bank's Report on 'Assessing Aid' concludes that: 'the most critical contribution of projects is not to increase funding for particular sectors' but 'the key role of development projects should be to support institutional and policy changes that improve service delivery' (World Bank, 1999), by the public sector, the private sector or both.

Technology-oriented interventions or projects remain important, but are appropriate only (i) when they aim to develop and / or test a technology, which has the potential to widely benefit the poor when scaled up to country or regional level by the implementing organization or other development actors, including the national government; and / or (ii) when they support / promote / accompany policy and institutional changes which improve the 'business environment' for the livestock-dependent poor and other stakeholders in the value chain. The former has rarely proved to be the case, because of the intrinsic difficulties in scaling-up location specific interventions (Binswanger and Aiyar, 2003), while the latter requires an understanding of prevailing livestock markets, policies and institutions, as well as of the process of livestock sector policy making, which is challenging for three major reasons:

- Livestock sector development not only depends on policies directly pertaining to the livestock sector but also, and in a very significant manner, on the prevailing agricultural and macroeconomic policies – such as land tenure and trade policies – which are beyond the responsibility and scope of livestock sector policy makers.⁵

⁵ For example, poor management of macroeconomic fundamentals has, in a number of cases, resulted in high levels of inflation, which in turn have led to investment in livestock for non-productive purposes, as these maintain their value during times of general price increase. This economically rational behaviour has led to overstocking and caused environmental damage. The Asian financial crisis in the second half of the 1990s resulted in a reduction in consumption of all types of meat, which led to the layoff of workers in a large number of livestock sector related companies. Overvaluation of national currencies has favoured imports of meat and dairy products to the detriment of local producers, who are unfairly penalized through this monetary policy. There is also evidence that specific agricultural policies may hinder livestock sector development which includes resource poor smallholders. For example, the interest cap, which national laws often define, are rarely supportive to the financial viability of micro-finance institutions, which serve the livestock-dependent poor. Land tenure policies, which inadequately define the rights and obligations of land users, are often the source of conflicts between pastoralists and settled farmers. The creation of natural reserves or parks may prevent livestock keepers from accessing a significant source of feed during times of feed scarcity.

- The livestock dependent poor are particularly disadvantaged in the policy-making process because either transaction costs to collective decision making are prohibitively high for them, or because their political participation is mediated through patron-client relationships, so that they often trade their collective interests for very modest individual (or village) benefits.
- Livestock sector policies are often almost exclusively designed by staff trained in technical aspects of livestock production, with little or no experience in interdisciplinary planning processes, and with limited consultation with other ministries and government departments, let alone with private sector stakeholders. Thus, livestock sector policies largely focus on technical issues such as provision of animal feed, genetic improvement, and the delivery of animal health services, while the broader role of livestock sector development for economic growth, poverty reduction and food security as well as the incentives and disincentives, which underpin the response of livestock keepers and other stakeholders in the sector to public policies, are almost totally neglected.

Few countries have thus designed and implemented livestock sector policies which capitalize on the poverty reduction potential of livestock sector development, i.e. implemented country – or region-wide – public sector interventions that have unambiguously contributed to poverty reduction through livestock sector development by allowing a large share of the livestock-dependent poor to increase the returns derived from their livestock assets. There is therefore a need to reform livestock sector policy making, including the way the international community provides development assistance, to tap into the window of opportunity provided by the growing market for animal source food and to promote a growth pathway for the livestock sector which significantly contributes to poverty reduction.

4. Policy Assistance in Practice

International and non-governmental organizations have traditionally assisted developing country governments in promoting livestock sector development largely through project aid, i.e. through financing specific activities / interventions rather than through (conditional) budget support to the department within the Ministry of Agriculture responsible for the livestock sector. A review of FAO's on-going livestock-related projects (314 as of November 2008) suggests that these can be grouped in four broad categories:

- Emergency and rehabilitation projects, through which countries are assisted to address – *ex-ante*, during or *ex-post* – outbreaks of transboundary animal diseases and other natural and man-made disasters affecting livestock and livestock keepers.

- Technology transfer / adaptation projects, which aim at assisting developing country governments to explore / implement / adapt technology packages to overcome specific constraints to livestock sector development.
- Capacity building projects, which aim at strengthening the capacity in developing countries – including national authorities, grassroots organizations, individual farmers as well as other actors along the livestock supply chain – to better address livestock-related developmental issues.
- Policy / strategy formulation and institutional reform projects, which aim to support countries in the formulation and implementation of livestock sector policies, strategies, programmes and institutional reforms.

Many emergency, technology and capacity building projects have been successful within their specific remit, but, because of their specific remit have rarely been able to steer livestock sector development onto a pro-poor growth path – these projects have in fact seldom promoted policy and institutional changes which could benefit the livestock-dependent poor country-wide (FAO, 2007; LID, 1999).

On the other hand, policy / strategy formulation projects represent a small minority of projects implemented in developing countries. Within FAO, for instance, livestock-related policy projects account for 3% of all current livestock-related projects and for about 6% of the total allocated budget. Not one project currently implemented by ‘Agronomes et Vétérinaires sans Frontières’, a major NGO specialized in livestock sector interventions, can be classified as a ‘policy project’ (as of November 2008). In addition to their limited number, standard policy projects tend to be implemented over a relatively short time span, which prevents adequate stakeholder consultation needed to foster effective participation, and often take the form of providing ‘sectoral policy advice’. The results are comprehensive strategies and plans for livestock sector development which, rather than identifying broad and priority areas of intervention, often contain dozens if not more prescriptions for interventions by the government, with detailed budgets presented by sub-programmes and sub-categories. While technically sound, implementation of the proposed strategies and plans has mostly proved unfeasible due to limited human resource capacity of the responsible government department as well as inadequate and often highly variable annual budgetary allocations.

Recognizing the drawbacks of the prevailing approach in policy assistance, that – given the complexities and intricacies of policy processes – policy advice which is simply transferred by an ‘authority’ to policy makers and practitioners is unlikely to have much impact, and that the promotion of policy changes to benefit the poor requires the establishment of partnerships and knowledge exchange networks and mechanisms, the Policy Branch of the Animal Production and Health Division (AGA) of FAO has explored a different approach to assist governments in

designing and implementing 'pro-poor' livestock sector policies and institutional changes. As part of this approach, AGA has deliberately not aimed to support developing country governments to design comprehensive livestock sector policy and development strategies but, more pragmatically, has attempted to play the role of facilitator of issue-focused policy processes, driven by national stakeholder groups, by acting as 'honest broker', building partnerships, and filling knowledge gaps. The ultimate aim was to identify and promote policy and institutional shifts which could improve the 'business environment' for the livestock-dependent poor and other stakeholders along the value chain, i.e. which provided incentives to make a more efficient use of livestock-related assets. To this end, a four step approach was developed:

- An assessment of where and for whom livestock is a livelihood priority.
- The evaluation of the policy and institutional context within which the livestock-dependent poor have to make their living, that is of the policy measures or policy gaps which significantly affect, positively or negatively, the way the livestock-dependent poor combine their (scarce) assets for production and consumption purposes.
- The identification of the political context within which livestock-related policy decisions are taken and implemented, that is an understanding of why specific livestock sector policies are implemented, whereas others are not.
- The formation of a network of partners to create or capitalize on opportunities and overcome constraints to achieve 'pro-poor' livestock sector policy reforms which, depending the country, could include both minor as well as relatively comprehensive changes in the policy, institutional and legal framework affecting the development of the livestock sector.

By adopting the above approach, as part of larger alliances, FAO contributed to policy changes with potentially major positive impacts for smallholder livestock keepers in a variety of countries, including the 2007 Minor Veterinary Services Act of Andhra Pradesh, India, the 2007 Camelid Sector Development Strategy in Peru, and the 2007 UEMOA (West African Economic and Monetary Union) Regulation on Food Safety and Animal Health (PPLPI, 2008).

- The Minor Veterinary Services Act of Andhra Pradesh legalizes village animal health workers allowing them to offer selected animal health services on a competitive basis. The Act is expected to sustain the supply side of a market for minor veterinary services in rural areas, which is largely underdeveloped, and hence to potentially benefit about 6 million rural households depending on livestock for their livelihoods.⁶

⁶ For details on facts and issues related to the policy process in Andhra Pradesh see Ahuja *et al.*, 2006.

- The Camelid Sector Development Strategy in Peru aims at ensuring that an equitable share of the benefits derived from growth of the sector accrues to all stakeholders along the alpaca fibre value chain. This should contribute to reduce poverty among the about 1.5 million Peruvian ‘alpaqueros’, who will reap more benefits from producing quality fibres which are highly priced in the international market.
- The UEMOA Regulation on Food Safety and Animal Health will harmonize the multiplicity of legal and bureaucratic rules and procedures constraining cross-border trade among the seven UEMOA West African countries. The Regulation, which will be fleshed out in a series of *règlements d'exécution* (decrees), is expected to reduce transaction costs and provide expanded market and business opportunities for an estimated 20 million poor livestock keepers in West Africa.

Whilst the potential impacts of policy and institutional changes which provide the livestock dependent poor with the incentives to make efficient use of their assets, i.e. that improve the ‘livestock business environment’, are large, two caveats are necessary. The first relates to the non-linearity of policy processes and the uncertainties surrounding their outcome. The second relates to the long time span between initiation and ‘ratification’ of a specific policy / institutional change, followed by the time it takes to implement the change and finally the time required for impacts to emerge at the level of the intended beneficiaries. The non-linearity and uncertainty as well as the long lag time between engagement in a policy process and ultimate impact do not lend this form of facilitation of policy formulation to implementation through the standard project approach, with its time-bound financial contributions and work plans, and hierarchical logical frameworks and indicators. In addition, since an effective policy process should be stakeholder-driven, the supporting agency needs keep a low profile and work in the background. The result is that the contribution of the ‘facilitator’ becomes difficult to identify and is easily unappreciated and underrated.

5. Lessons

A major window of opportunity for livestock sector development to contribute to poverty reduction and the attainment of the Millennium Development Goals currently exist. The traditional *modus operandi* of international and national organizations, however, appears to be poorly equipped to assist developing country governments to design and implement policies and institutional reforms which benefit the poor.

Technical projects remain critical to support the development of the livestock sector. However, these projects should be conceived ‘mainly as instruments to achieve and support changes in policies, institutions and attitudes’ (FAO, 2005), rather than as tools to directly benefit a target

number of livestock-dependent poor in selected villages or areas. What this means in practice is still not totally clear. However, what it is clear is that it is practically impossible to have a significant impact on the development of the livestock sector through (relatively) small-scale technical projects, even if they are implemented in (relatively) large numbers.

Policy assistance projects which aim at supporting countries to formulate comprehensive livestock sector development policies, strategies and investment plans have also often proved ineffective. Comprehensive policy documents and strategies, such as the Poverty Reduction Strategy Papers, remain critical to build a common vision about sector development, create political consensus, and identify broad areas of interventions, but detailing all-encompassing livestock sector development plans is most likely wasteful. First, it is practically impossible for governments, international and non-governmental organizations to identify *ex-ante* all constraints / distortions affecting the livestock sector; second, governments do not have the human and financial capacity (nor necessarily the will) to fully, simultaneously and rapidly remove all distortions affecting the livestock sector.

The most effective way for international and non-governmental organizations to support policy and institutional reforms in the livestock sector is probably through playing the role of a facilitator, helping stakeholders along the supply chain – including the poor and the disadvantaged – to come together, collecting and synthesizing information, facilitating discussion and consensus building around ways to remove/loosen identified constraints and distortions to livestock sector development and provide incentives to stakeholders along the value chain to make a more efficient use of their livestock and livestock-related assets. The resulting policy shifts, however, will rarely be predictable, as they won't be the result of a linear process of decision-making, but emerge through the stop and go cycles which characterize all policy making processes. This means that the traditional project framework 'input-output-outcome-impact' is inappropriate, and that international and non-governmental organizations need to be risk-prone, opportunistic and patient (time-unbound) when engaging in policy processes. Setbacks and failures need to be expected, but the potential benefits the poor can derive from appropriate policy shifts leading to an improved 'livestock business environment' will certainly more than outweigh the failures.

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