

6. Livestock sector policies, institutions and institutional change

The livestock sector's potential for contributing to economic development and poverty reduction has so far remained largely untapped, and it is difficult to identify a single developing country where growth of the sector has been unambiguously pro-poor. Livestock have long been treated as an appendage to agriculture, with both policy-makers and development practitioners giving higher priority to staple crops than to high-value agricultural products such as ASFs or fruits and vegetables. In addition, interventions in the livestock sector have been concerned mainly with technical aspects, focusing on details of animal husbandry, feeding and disease control. Although important, these interventions have disregarded the broader policy and institutional framework in which farmers operate, i.e., the range of incentives and disincentives that underlie household production and consumption decisions. Finally, on the rare occasions when policy and institutional dimensions have received adequate attention, livestock sector policies/programmes have been designed by technical staff in livestock departments, non-governmental organizations (NGOs) or international organizations, with little consultation of other ministries, and limited appreciation of and connection to the non-livestock policies and markets that are critical for both livestock sector development and livestock farmers themselves (FAO, 2009a; Otte *et al.*, 2009).

This chapter emphasizes the relevance of sound policies and institutions for livestock sector growth and development, elaborates a pro-poor livestock sector policy agenda, and draws practical policy and institutional lessons from the empirical evidence to make recommendations that go beyond generalities (such as “improve the delivery of veterinary services”) and help policy-makers and development practitioners design and implement pro-poor livestock sector policies and institutional reforms. The chapter concludes with some operational tactics that may assist outsiders in identifying openings for change in generally hostile political environments, and suggested approaches for promoting effective work at the local level of such environments.

THE NATURE AND ROLE OF POLICIES AND INSTITUTIONS

The importance of policies and institutions in sustaining inclusive and pro-poor growth of the economy cannot be overstated (Campos and Nugent, 1999; North, 1990; Williamson, 2000). The 2008 World Bank Development Report on agriculture for development notes that:

Lack of macroeconomic and political stability limits the development potential of the [agriculture] sector. Political economy problems lead to policy biases and to underinvestment and mis-investment in agriculture. And state resource and capacity problems cause failures in implementing the policy agenda, especially in agriculture-based countries. (World Bank, 2008)

FAO's report on the state of food and agriculture in 2000 reads:

Reducing poverty and food insecurity is not simply a question of enhancing agricultural productivity and production or of generating more income. Institutions are the structuring features that command access of people to assets, to voice and to power over their lives and that regulate competing claims to limited resources. It is fundamental to address those institutional, governance and politico-economic factors that tend to exclude individuals and population groups from progress. (FAO, 2000)

The 2008 PPLPI report on South Asia, the Andean region and West Africa notes that:

In the 1990s, an increasing number of development aid experts and analysts came to realize that technology transfer alone was not going to transform development, especially agricultural development, in ways that would necessarily be beneficial to the poor. Policy and institutional change was identified as a pre-requisite to steer agricultural development towards meeting the needs of the poor. (PPLPI, 2008).

By determining the ways in which economic actors, including livestock farmers, combine their assets for production and consumption purposes, policies and institutions are principal determinants of economic growth and development, including in the livestock sector.

Studies have documented a positive correlation between the level of institutional development and various indicators of economic performance (e.g., Knack and Keefer, 1995;

Box 6.1: POLICIES

Public policies are sets of government actions oriented towards a long-term economic and/or social purpose in a broad subject field; they are pan-territorial and permanent, i.e., they cover an entire country and stay in place until a new policy is designed and put into effect. A policy consists of two main elements: i) an objective; and ii) one or more instruments – or tools at the government's disposal – that serve the objective and produce the desired outcomes. The policy objective is a defined long-term socio-economic goal; the policy instruments serving the policy objective are the programmes, regulations, decrees, laws, projects, etc. that affect the ways in which stakeholders – including the government in its diverse forms, and the private sector – interact. Examples of policy instruments include laws/regulations that influence decisions within a household or a ministry, or that affect the relationships between livestock producers and public banks or between smallholders and processors. Policies should not be confused with programmes or projects, which are public- or private-driven actions limited in time and resources and which involve direct interactions with particular stakeholder groups, such as livestock producers and financial institutions. Examples of programmes include the establishment of drought early warning systems, the setting up of a commodity exchange, and the one-off distribution of vouchers to farmers for purchasing livestock services and veterinary supplies at market prices. Programmes, and the projects they include, are often an instrument for implementing a broader policy, and as such should be consistent with the prevailing policy framework. Policies and programmes usually go hand-in-hand, as policy reforms become effective only when supportive programmes nurture change in the ways in which government and private sector institutions and organizations operate.

Sources: ILRI, 1995; Norton, 2004.

Box 6.2: INSTITUTIONS

Institutions can be organizations – including government ones – or formal/informal rules and regulations governing the behaviour of actors (e.g., government, farmers) and among actors (e.g., between farmers and traders). Their major effect on economic growth and development is, ultimately, through the provision of (dis)incentives for investments by public and/or private sector actors (Acemoglu and Robinson, 2008; Lin and Nugent, 1995). Elaborating on Williamson (2000), it is possible to identify four levels of institutions:

- i. *Socially embedded institutions* include norms, customs, mores and traditions. These are largely spontaneous in origin; display a great deal of inertia, evolving over hundreds or thousands of years; influence decision-making; and can be changed by policy reform only in the very long run, if at all. For instance, there are few if any opportunities for rapid development of the beef cattle industry in Hindu India.
- ii. *Structural institutions* include the national constitution, the form of government, government agencies, the system of property rights, the judiciary system, and policy-making authorities. They are slow-moving, requiring about ten to 100 years to bring about change; modifications to the constitution, the closing down or establishment of new public institutions, reform of the property rights system, etc. are not everyday policy shifts. For instance, land reform programmes that improve pastoral peoples' access to and use of common property resources are rarely designed and implemented.
- iii. *Formal laws and regulations* govern the behaviour of and the relationships within and between the private and public sectors. These are fast-moving institutions, which evolve within one to ten years, and are constantly being reviewed, modified and adapted by policy reforms, such as civil sector reforms or the legalization of community-based animal health workers.
- iv. Institutions can also arise from *interactions within and among actors*, operating according to the existing "rules of the game" and resource availability. In the poultry sector, for example, large centralized production units or contract growing arrangements can be viewed as the different institutions that prevail in different contexts, depending on whether the available technologies and rules of the game make it more convenient to hire labourers or to outsource the raising of chicks to independent growers.

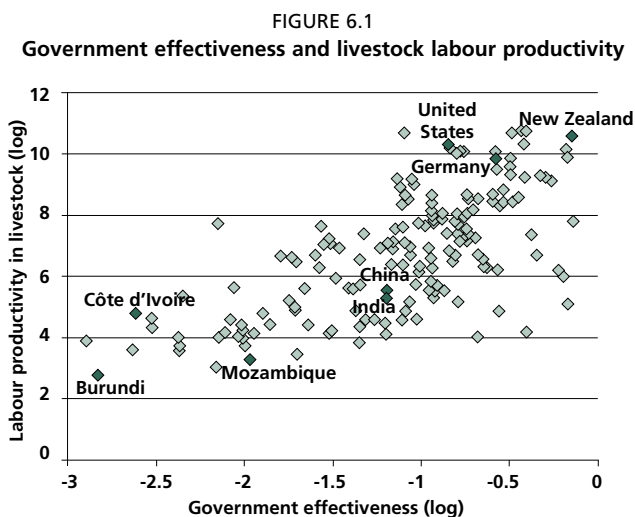
Sources: Adapted from Lin and Nugent, 1995; North, 1987; Ruttan, 2006; Williamson, 2000.

Mauro, 1995; Djankov *et al.*, 2002). Correlation does not imply causation; rather the relationship between policies/institutions and economic development appears to be two-way, as institutions influence the level and pace of economic development, while economic development may nurture institutional changes (Lin and Nugent, 1995; Ruttan, 2006). For example, reform of public veterinary services may induce growth in the livestock sector, which may in turn call for new trade policies on animal feed. However, regardless of the direction of causality between economic growth and policy and institutional change, reforms that provide incentives and opportunities for both large and small investments are a precondition for economic growth and development (Acemoglu, Johnson and Robinson, 2002; Rodrik, Submaranian and Trebbi, 2004).

Documented experience of the relationships among institutions, policies and economic performance relate to the economy as a whole, because indicators of good policies and institutions have been collated at only the macro-level, and there is no comprehensive database for measuring the effectiveness of policies and institutions at the sector level, including the livestock sector. For instance, although some available data provide indications of the level of corruption, degree of political stability, quality of the business environment, and other policy and institutional indicators at the country level (Kaufmann, Kraay and Mastruzzi, 2009), there are no publically available indicators of the reliability of programmes designed by the livestock ministry or of the business environment in the market for animal drugs. However, the attributes of such sector-specific institutions are likely to be associated with those of institutions affecting the whole of society.

Figure 6.1 plots the productivity of labour in the livestock sector against government effectiveness in 168 countries, including developing, industrialized and transition economies. The vertical axis shows the value of livestock production (in PPP dollars) per agricultural labourer (active population in agriculture) (FAOSTAT, 2010) as a proxy for the level of development of the livestock sector. The horizontal axis shows government effectiveness – one of the six governance indicators constructed by the World Bank's Worldwide Governance Indicators Research Project (Kaufmann, Kraay and Mastruzzi, 2009) – which is scored from -2.5 to 2.5, with higher scores implying higher effectiveness. Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to policies.

As expected, Figure 6.1 shows a positive correlation between the overall quality of policies and institutions and the level of labour productivity in the livestock sector. However, it does not answer a critical question: What policies and institutions ensure inclusive and pro-poor growth of the livestock sector?



Sources: FAOSTAT, 2010; Kaufmann, Kraay and Mastruzzi, 2009.

A POLICY FRAMEWORK FOR LIVESTOCK SECTOR DEVELOPMENT

A comprehensive livestock sector policy agenda should look at livestock farming from a broad perspective and take into consideration the multiplicity of elements that directly or indirectly affect sector growth.

Livestock sector development requires that sound macroeconomic policies and a generally conducive institutional framework be in place. For instance, a low inflation rate, stable fiscal policies, a functional judicial system and limited corruption are critical for livestock keepers (and entrepreneurs in general) through providing incentives for planning and making long-term investments in production capacity. However, sound macroeconomic policies and broadly functional institutions are not sufficient to sustain inclusive growth of the livestock sector; owing to limited and asymmetric information and high transaction costs, market imperfections loom large in rural areas and prevent livestock keepers, particularly the asset-poor, from tapping into the opportunities offered by a conducive macroeconomic and institutional environment (de Janvry, Key and Sadoulet, 1997; Serra and Stiglitz, 2008). For example, poor road networks and limited information about animal diseases make it unprofitable for private actors, including animal health service providers and financial institutions, to offer private services and goods in arid and semi-arid sparsely populated pastoral areas. As a result, pastoralists' productive resources and entrepreneurial ability remain untapped, at a net loss for society.

Promoting equitable and efficient growth of the livestock sector therefore requires the design and implementation of a policy agenda that addresses specific constraints of the sector. Such a policy agenda can be divided into three major components, which aim to assist farmers, primarily smallholders (Dorward *et al.*, 2004a; 2004b; Pica-Ciamarra, 2005):

- Policies and programmes to assist smallholders in *managing the basics of livestock production* are public actions that provide livestock keepers with adequate and secure access to basic production inputs, such as land, feed and water for animals, and that help them to cope with risks and shocks, such as natural disasters and price swings. While secure access to basic production inputs and risk-coping mechanisms are pre-conditions for engaging in production, they are not sufficient to ensure that livestock keepers can produce a large enough marketable surplus to rise out of poverty.
- Policies and programmes aimed at *enhancing livestock productivity* include all actions intended to facilitate farmers' access to animal health services, credit, information and output markets – both national and international. All of these resources are essential for farmers' generation and marketing of production surpluses, for improving livestock's contribution to household incomes, and ultimately for sector growth.
- To avoid being forced out of the livestock sector, farmers must be able to respond and adapt to changing market conditions and consumer demand. Policies and programmes for *sustaining livestock productivity and competitiveness* include research, environment-related and all the other public actions necessary to support the sustainability and competitiveness of livestock farmers in the medium to long term.

Table 6.1 summarizes the proposed policy framework and its rationale, and lists complementary and/or alternative livestock-related interventions that are available to policy-makers and serve the identified goals.

Table 6.1
A POLICY FRAMEWORK FOR INCLUSIVE GROWTH OF THE LIVESTOCK SECTOR

	Policy goal	Examples of policy instruments	Rationale
Context for livestock policies	Creating a conducive macro-environment	Macroeconomic policies and institutional reforms	Sound macroeconomic fundamentals and high-quality institutions are positively associated with economic and social indicators of well-being
Managing the basics for livestock production	Securing access to land, feed and water	State-driven land and agrarian reform Market-driven land reform Regulation of land rental markets Land titling Recognition of customary tenure Land co-management	Livestock producers need adequate and secure access to land (and associated feed and water resources) to start producing livestock products and by-products
	Providing insurance and risk-coping mechanisms	Livestock insurance Early warning systems Contingency plans Emergency feeding Grazing reserves De-stocking Restocking	Variable returns prevent livestock holders from making efficient use of their resources and lead to adoption of conservative investment decisions
Enhancing livestock productivity and competitiveness	Securing access to livestock/animal health services	Decentralization Cost recovery Joint human-animal health systems Sub-contracting "Smart" subsidies for private service providers Community animal health workers Membership-based organizations "Smart" subsidies for livestock farmers	Livestock keepers are often poor, poorly educated, dispersed, and unable to demand public and private livestock services effectively
	Securing access to credit and other inputs	Portfolio diversification Livestock as collateral for loans Warehouse receipt systems Mobile banking Branchless banking Member-based financial institutions Credit bureaux and scoring	Imperfect and asymmetric information and high transaction costs limit farmers' access to credit and other production inputs, as private agents are rarely willing to serve poor and dispersed livestock producers

(Continued)

Table 6.1
A POLICY FRAMEWORK FOR INCLUSIVE GROWTH OF THE LIVESTOCK SECTOR (CONTINUED)

	Policy goal	Examples of policy instruments	Rationale
Sustaining livestock productivity and competitiveness	Promoting access to national/international markets	Livestock farmers'/traders' associations Livestock brokers Periodic markets Contract farming Market information systems Commodity exchanges SPS standards Disease-free export zones Commodity-based trade Trade-enhancing infrastructure Quarantine zones	Markets' capacity to indicate how livestock producers should allocate their productive resources is constrained by poor communication and transport infrastructure, lack of or limited information, unequal bargaining power among contracting parties, etc.
	Promoting the provision of public goods: research	Decentralization Matching research grants Levy-funded research Competitive research funds Strengthened intellectual property rights Participatory livestock research	Private research centres are willing to invest in profitable breeds/technologies, but poor livestock holders rarely constitute an attractive market for the private sector
	Promoting the provision of public goods: food safety, quality, environment protection	Controlled grazing Co-management of common pastures Livestock zoning Discharge quotas Payments for environmental services Marketing of environmental goods Environmental taxes	Livestock production systems may be associated with negative externalities, which need to be dealt with through collective actions

Source: FAO, 2010a

The policy agenda in Table 6.1 could be used as a reference for identifying priority areas for interventions and exploring possible policy and programme options. However, the design and implementation of successful livestock sector policy and institutional changes require not only broad directions but also practical recommendations to help formulate effective sector interventions.

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DESIGNING AND IMPLEMENTING PRO-POOR LIVESTOCK SECTOR POLICIES AND INSTITUTIONAL CHANGES

Experience of livestock sector growth and its relation to policy design and institutional changes over the last few decades provides five critical lessons to guide the formulation and implementation of pro-poor livestock sector policies and institutional reforms.

Breadth of reforms

Successful growth spurts in the livestock sector have been nurtured by tailored but partial policy and institutional reforms; no country has elaborated and implemented an all-encompassing livestock sector development strategy.

Several developing country governments in Asia, Africa and Latin America – often backed by the international community – have designed more or less wide-ranging livestock sector policies and strategies, such as in Bangladesh (2007), Chhattisgarh, India (2008), Gabon (2008), Indonesia (2000), Malawi (1995), Mali (2003), Mauritania (2002), Orissa, India (2002), Peru (2006), the United Republic of Tanzania (2002) and Zambia (2004). Livestock sector development policies/strategies are usually impressive technical documents, but they have never been fully and successfully implemented because they are built on two rather optimistic assumptions (Easterly, 2008a; Rodrik, 2007). The first of these is that livestock policy-makers have complete knowledge of all the constraints in the sector, which often appears to be the case, as strategies identify dozens of areas for intervention. The second and even more optimistic assumption is that livestock sector policy-makers have the capacity to remove the identified constraints entirely, which entails the adoption of policy instruments both within and outside the livestock domain.

The chances of a comprehensive livestock sector development policy/strategy being perfectly formulated and successfully implemented are therefore small. In practice, from among the many interventions envisaged in a livestock sector strategy, government authorities opt for those that seem technically feasible, stay within the budget constraint, and are politically acceptable. This approach is very pragmatic, and at least something gets done, but such a piecemeal approach has no guarantee of contributing significantly to

development of the livestock sector – in the worst circumstances it may even be welfare-reducing – because all other constraints remain in place (Rodrik, 2007). For example, assume that policy-makers formulate a two-pronged livestock sector development strategy that provides vaccines to villagers and paves feeder roads. The livestock department manages to vaccinate the entire village livestock population, but is unable to induce the ministry of public works to pave the roads. As a result, the increased livestock output may end up in local markets, where prices drop, and livestock keepers may be left no better-off, and perhaps even worse-off, although local consumers may benefit from the greater availability of animal protein. In the worst case, feed shortage or overgrazing due to larger numbers of animals may reduce total output, leaving both producers and consumers worse off.

Broad-based sector development plans are an important tool for building a vision of sector development and creating political consensus, but rather than simultaneously pursuing too many targets in the hope that some will be achieved, policy-makers should identify priority areas for interventions according to selected socio-economic criteria. Many of the policy and institutional reforms that have produced instances of sustained economic growth have been relatively minor, suggesting that when production systems are performing far below their potential, even moderate movements in the right direction can produce major growth pay-offs (Rodrik, 2007). For example, the household responsibility system, which is credited with being one of the pillars of China's phenomenal growth in the last three decades, was based on a marginal liberalization of agriculture while the plan system remained intact: farmers could sell surplus crops freely at market-determined prices after they had fulfilled their obligations to the government under the State order system (Gulati and Fan, 2008).

Target groups

Successful growth in the livestock sector has focused on specific segments of livestock producers, but no successful interventions have targeted the whole gamut of livestock owners, including the poor(est).

In developing countries, most farming households do not possess sufficient productive resources, including farm animals, to rise above the poverty threshold through livestock farming alone, and wage employment is a critical source of income for many of the poor: household surveys in 13 African, Asian and Latin American countries indicate that wage employment contributes up to 47 percent of the income of the poor, defined as those living on less than 2 PPP dollars a day (Valdés *et al.*, 2008; Rae and Zhang, 2009; and see also Chapter 3). For the poorest, therefore, increased off- and non-farm employment opportunities are possibly the most practical pathway out of poverty. In addition, in the course of economic growth, wage employment becomes the most important source of livelihoods, with fewer and fewer people being self-employed: for example, about 13 percent of the workforce in Bangladesh and Madagascar is classified as hired employees; 19 percent in Cameroon; 35 percent in Pakistan; 52 percent in the Philippines; 67 percent in Brazil; 75 percent in Argentina; 86 percent in Japan; about 89 percent in Germany and France; and almost 93 percent in the United States of America (ILO, 2010).

Even if funds were available for major and comprehensive investments in the livestock sector – such as the distribution of highly productive breeds, the adequate provision of animal health services and veterinary supplies, the construction of feeder roads, and the establish-

ment of market information systems and slaughterhouses – any attempt to make all farmers establish profitable business enterprises would be destined to failure. On the one hand, if all livestock keepers (who account for a large proportion of rural households in most developing countries) attempted to produce surplus meat or milk, input costs would increase, output prices would drop and the profitability of livestock farming would decline (Islam and Jabbar, 2005; Pica-Ciamarra and Otte, 2010). This scenario is a typical case of the fallacy of composition: what works for one livestock farmer does not necessarily work for all of them. On the other hand, the main contribution of agricultural growth, including of the livestock sector, to economic development and poverty reduction has been through significant multiplier effects propagated to other sectors of the economy, including via consumption and production linkages, rather than through direct contributions to farmers' livelihoods (Chenery and Syrquin, 1975; Pica, Pica-Ciamarra and Otte, 2008; see also Chapter 4). Indeed, the more small farmers contribute to agricultural growth the better, because smallholder-based growth has proved to be particularly inclusive (Bourguignon and Morrison, 1998; World Bank, 2003): for instance, for every 1 000 litres of milk per day produced in Kenya, small-scale farmers (with fewer than two cows each) create about 60 long-term wage labour opportunities, compared with 44 full-time jobs created by medium-scale farmers (with three to six cows) and 43 by large-scale farmers (more than six cows) (Staal, Nin Pratt and Jabbar, 2008a).

Inclusive livestock sector policy and institutional reforms should therefore target small to medium-sized farms that are able to establish sustainable and lucrative livestock enterprises, which generate employment opportunities in rural areas and provide affordably priced livestock products to rural and urban consumers. As summarized by Upton and Otte (2004):

It is clear that livestock keeping has a direct impact in contributing to the incomes of poor livestock producers. However, given that increased income from agriculture is effective in generating employment in local non-tradable goods and services, a strong case can be made for poverty relief through employment creation as well.... for this pathway to be effective, rapid growth of livestock output and market supply is needed to generate increasing cash incomes for producers. Arguably this rapid growth is more likely to be achieved by targeting livestock development policies on the "not so poor, yet still poor" smallholders, rather than the "very poor".

This does not mean that the very poor should be abandoned. Programmes such as the Bangladesh Model for promoting very small poultry units for poor women produce direct benefits and should be encouraged. However, livestock sector interventions are likely to have more impact on reducing the numbers of the very poor by encouraging "not-so-poor" livestock producers to expand production for the market, which will enable them to spend more on non-agricultural and non-tradable goods and services, thereby creating employment and generating further income growth. Immediate benefits to the very poor are more likely to accrue from interventions in other areas.

Incentives and markets

Many if not all instances of successful and sustained development of the livestock sector have created incentives for "not-so-poor" farmers to invest their productive resources in increasing the profitability of their businesses, including their livestock enterprises (Spielman and Pandya-Lorch, 2009; Werbeke *et al.*, 2009).



Credit: ©FAO/Jon Spauli

Little can be achieved without the right incentives. Agricultural development is more likely to succeed when policies that encourage farmers, entrepreneurs and companies to invest in agriculture are in place, and when markets provide accurate and timely price signals to these private sector actors (Spielman and Pandya-Lorch, 2009).

Public interventions that have nurtured growth in the livestock sector by directly or indirectly leveraging farmers' incentives include the eradication of rinderpest (or "cattle plague") in almost 130 countries worldwide, the Operation Flood Programme in India, and the eradication of foot-and-mouth disease (FMD) in Uruguay.

Rinderpest is a contagious disease of cattle, which can kill up to 95 percent of infected animals. Worldwide eradication of rinderpest – the last case of which was detected and confirmed in Kenya in 2001 – has been possible because of four major factors: i) cattle are the only reservoir for the virus; ii) an effective thermo-stable vaccine that confers lifetime immunity after a single application was developed in the late 1980s; iii) national governments cooperated closely in the eradication effort, which was coordinated through the Global Rinderpest Eradication Programme (GREP); and iv) farmers had major incentives to vaccinate their cattle, given the high mortality associated with rinderpest and the many high-value contributions cattle make to farmers' livelihoods (Otte and Upton, 2005; Roeder and Rich, 2009). After GREP began, IAEA (1998) reports that in Mali, for example, annual beef output increased by 21 percent, milk off-take by 33 percent, and hide production by 17 percent, while annual herd growth increased from less than 1 to 8.5 percent.

In India, Operation Flood, which ran from 1970 to 1996, promoted the creation of a national dairy industry by linking small-scale farmers, with two to five cows each, to markets. The programme established a network of farmers' cooperatives, at the village level for collecting milk and at the district level for operating processing plants, and state federations for milk marketing and the coordination of interstate sales. By linking production (farmers) to consumption (market and business opportunities), Operation Flood motivated farmers and other actors along the supply chain to invest in milk production and related activities: in 2008, about 13 million farmers were members of dairy cooperatives, and India is currently the largest milk producer in the world:

Operation Flood focused not only on boosting milk production, but also on developing a strong marketing system for milk. The architects of Operation Flood continuously analyzed the rising demand for livestock products and designed an integrated and comprehensive program to meet this demand, complete with supply-chain management systems and centralized quality control. (Cunningham, 2009)

FMD is a highly contagious viral disease that affects cloven-hoofed animals and results in substantial production losses in dairy cattle. Countries that have eradicated FMD impose strict zoosanitary barriers on imports of animal products from infected countries, thereby creating a premium market for livestock products from FMD-free countries. In 1995 Uruguay, where beef represents more than 21 percent of exports in value terms, entered the group of non-vaccinating FMD-free countries and gained access to premium world beef markets – including the United States of the America – for the first time in many decades. The success of the Uruguayan FMD eradication effort is attributed to the active role of producer associations in designing and implementing the strategy in collaboration with national animal health authorities, as the elimination of FMD from the national livestock herd would bring potentially very high returns for producers, as well as for the government. In April 2001, however, Uruguay reported an outbreak of FMD in Soriano state, near the border with Argentina, and at the time of the World Organisation for Animal Health (OIE) May 2010 report, the country had not regained its status of FMD-free without vaccination (it is currently FMD-free with vaccination), largely because of limited collaboration among the concerned stakeholders. Following this outbreak, beef producers lost trust in the public veterinary authorities' capacity to conduct animal disease surveillance and tackle epidemics (Jarvis *et al.*, 2001; Rodriguez Gustá, 2008; OIE Web site,²⁶ 10 January 2011).

Experimentation

Policies and institutions should provide “not-so-poor” livestock keepers and other private and public actors with the right incentives to make good use of their productive resources and, particularly, to set up sustainable livestock enterprises. However, putting these broad principles into practice is far from straightforward.

There are no hard and fast rules for what livestock institutions – such as ministries of animal husbandry – need to do to achieve their objectives; there are many ways of performing a given function and none is always better than the others. The tendency to concentrate on best practice institutions or policies risks creating blind spots while alternative institutional designs that might achieve the desired objectives at lower cost are overlooked (Rodrik, 2007; Banerjee and Duflo 2009). For instance, there are a variety of alternative and complementary options for improving the delivery of animal health services and veterinary supplies in rural areas, including decentralization (e.g., Uganda), subcontracting of private service providers (e.g., Morocco), support to veterinarians for opening animal health clinics in main livestock areas (e.g., India), provision of vouchers for farmers to purchase animal health services and drugs at market prices (e.g., Mali), joint supply of human and animal health services to reduce delivery costs (e.g., Chad), institutionalization of community-based animal health workers (e.g., Indonesia), and support to membership-based organizations providing animal health services to their members (e.g., India) (FAO, 2010a).

²⁶ www.oie.int.



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Implementation of the selected instrument(s) is also fraught with difficulty, because again multiple options are available. For instance, decentralization can mean delegation, deconcentration or devolution; veterinarians, para-veterinarians or NGOs may be subcontracted to deliver animal health services; private actors can receive grants or loans at preferential interest rates for setting up animal health posts in rural areas; and community animal health workers can be trained for a day or for one week, by NGOs or public veterinary schools.

Because there are many ways of performing a single function, such as delivering equitable and efficient animal health services in rural areas, decision-makers have to adopt a strategy for selecting the right instrument and ensuring that it is implemented as it should be. Some instruments may be totally unfeasible because of budget constraints (e.g., there may be no funds for providing grants to private veterinarians for setting up their own businesses in rural areas) or because they are inconsistent with the broader policy and institutional framework (e.g., there are no NGOs to which the delivery of veterinary services can be subcontracted). Decision-makers should concentrate on the one or two potentially feasible alternatives that appear the most promising according to evidence on the ground, research, experience from other countries, and the current political economy in the country.

It can never be certain that the proposed policy/institutional change will work effectively, because there is no such thing as a perfect off-the-shelf institution. To reduce uncertainty and identify the best institutional design for delivering some services, decision-makers may pilot a variety of institutional reforms in different areas, selected randomly from a larger set, and then scale up the most promising alternative to the country level at a later date²⁷ (Banerjee and Duflo, 2008; Duflo and Kremer, 2008). For instance, pilots can be designed to test whether the compensation schedule for subcontracted veterinarians should be fixed, linked to the number of villages visited or linked to the number of animals vaccinated; whether community-based

²⁷ Not all policies/reforms can be piloted; for instance, changes in monetary policy or infrastructural investments cannot be.

animal health workers should receive refresher courses every six months or every year; etc. The objective is to measure the average outputs of identified variables, such as milk productivity or off-take rate, for comparison with the results from groups of individuals who did not participate in the pilot. The costs and benefits of different options can then be compared, so that decision-makers can scale up only the most effective institutional reforms.²⁸

This experimental approach is demanding, but it makes it more likely that major policy and institutional reforms have a positive impact on the ground. Too often, policies and programmes have failed and been abandoned because their institutional design was flawed, despite their valid and sound basic rationales.

Collaboration and coordination

Development of the livestock sector depends, often critically, on non-livestock sector policies and programmes at the macro and agriculture sector levels, such as monetary, trade and rural credit policies. Policies and institutional reforms addressing only animal health, breeding and feeding, which are within the traditional remit of the livestock department, are insufficient to promote sustainable growth of the livestock sector. For instance, public actions that focus exclusively on improving animal breeds and the quality and coverage of animal health services may fail dismally if farmers do not also have access to feed, water and other inputs, and to output markets. What are the incentives for livestock keepers to keep genetically high-potential livestock if they have limited access to feed? Where are they going to sell their surplus meat or milk if they lack access to a remunerative market?

The government institution in charge of the livestock sector therefore needs to design policies and institutional reforms that are consistent with the broader social and economic framework in which livestock farmers operate. It should also collaborate with other relevant ministries, the private sector and civil society. In many circumstances however, governments design and implement livestock sector policies that fail to take adequate account of prevailing sector policies/institutions and that are isolated from, or only loosely connected to, other actors. This is likely to result in misuse of public resources, which may be allocated to ineffective or even harmful public actions. Although individual livestock policies are important, it is the overall governance system – including all its policies and the (dis)incentives they create for actors in the public and private sectors – that ultimately determines whether the development pathway of the livestock subsector will benefit the poor (Pica-Ciamarra and Robinson, 2008).

The ministry/department of livestock's responsibilities are traditionally confined to animal and veterinary public health, breeding and feeding. This makes it difficult to create and build collaboration and partnership with other sectors. However, the current thrust towards market liberalization provides unprecedented opportunities for addressing other

²⁸ Unfortunately, there are no examples of experiments with different institutional designs in the livestock sector; the few experimental interventions so far have focused on the delivery of major public goods, such as health and education. For instance, there is agreement that provision of incentives based on school participation and performance can be an effective tool for improving the education level, but it is not clear whether children or parents should be rewarded. To investigate this question, Berry (2008) worked in India with the NGO Pratham to design a programme in which incentives for encouraging improved reading skills among children took the form of toys for the children or money for their parents. He found that rewarding the children was more effective in improving test scores (which are different from school attendance) than rewarding their parents was.



Credit: ©FAO/Sean Gallagher

binding constraints to livestock sector development. Market-based policy instruments, which are one-off interventions/investments to provide incentives to key actors along the supply chain, are not necessarily linked to the specific domains of the livestock department. For example, while livestock policy-makers are not responsible for regulating micro-credit in rural areas, they could urge financial institutions to explore ways of accepting farm animals as collateral for small loans (as in Uganda). They are not responsible for the national research policy, but they could set up competitive research grants (again pioneered in Uganda) or matching grants (as in Malaysia) to promote livestock research in a given domain. Livestock policy-makers are not responsible for road building, but they could support the establishment of periodic livestock markets (as in Kenya) or facilitate transactions along the supply chain by establishing marketing cooperatives (as in Armenia). They are not responsible for the broader environmental and trade policy framework, but they could promote experiments for sustainable land co-management (as in the United Republic of Tanzania) or contribute to the establishment of livestock export facilities (as in Djibouti) (FAO, 2010a).

Livestock sector policy-makers are primarily responsible for the supply of public goods and market-driven interventions in the major livestock sector domains, and not for promoting changes in the overall policy framework of, for example, the credit and research domain. However, within broader livestock development policy and strategy, they could make efforts to attract investment and entrepreneurship into the livestock domains where development is likely to make the largest contributions to livestock sector growth. One way of doing this is by facilitating partnerships and collaboration with other public and private sector actors that play essential roles in supporting livestock sector development.

NURTURING LIVESTOCK POLICY AND INSTITUTIONAL CHANGES

The political economy of policy-making involves complex interactions among the community, national and international levels, and in-depth analysis is required to understand the political, economic and social structures and institutions that cause livestock policies to be formulated and implemented in distinctive ways in different parts of the world. Within their national systems, smallholders are particularly disadvantaged because

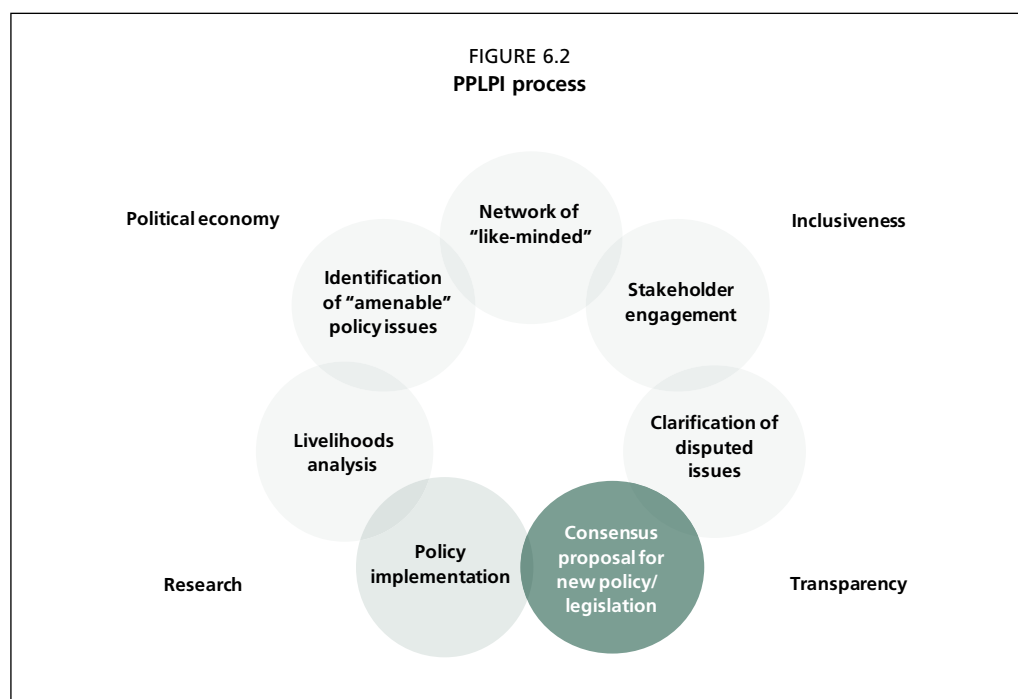
their political participation tends to be mediated through vertical patron-client linkages (Leonard *et al.*, 2010). The rural poor, who are often dispersed and have poor means of communication, face high opportunity costs for collective action, i.e., they cannot afford not to work in order to participate in lengthy and time-consuming policy processes whose outcomes are not immediate and are at best uncertain (Binswanger and Deininger, 1997). In the policy arena, smallholders' interests are therefore represented – if at all – by the better-off, who rarely promote policies targeting and benefiting the rural poor. Without outside help, smallholders are therefore unlikely to engage in effective political action on issues related to their collective interests as producers. A crucial weakness of poor producers is their lack of information on how the larger political system works and the kinds of policies that are feasible and would help them.

Experience shows that external actors can promote pro-poor policy and institutional change from the outside by building partnerships and knowledge exchange networks, rather than by providing policy advice. This approach involves facilitating policy processes, including by assisting stakeholders' access to different sources of knowledge, managing conflicting interests and ideologies, learning from the experience of other stakeholders within and outside the country, and incorporating these lessons into policy dialogues and implementation. Such processes are iterative and lengthy. They require long-term engagement, consistent commitment, and flexible and adaptive process management. As an example, Figure 6.2 depicts PPLPI's engagement in policy processes (see PPLPI, 2008 for details), which involved four main steps:

- identification of the areas where livestock are a livelihood priority;
- evaluation of the policy and institutional context within which livestock-dependent poor have to make their living;
- identification of the political economy – the policy measures or gaps that affect the livestock-dependent poor;
- formation of networks of partners to create or capitalize on opportunities for achieving pro-poor policy shifts.

Careful in-depth policy reconnaissance should precede decisions on where to engage, to ensure that engagement is geographically and temporally located where favourable outcomes are most likely to occur. External actors should therefore serve as catalysts for livestock sector change within broader change processes that have already begun or are being considered, rather than trying to create momentum for change from a standing start. It is also more effective to work with, and often strengthen, existing organizations rather than to create new ones.

External actors can play an important role in fostering pro-poor policy processes only when they are seen as trustworthy partners – respected outsiders with no vested or other interests to protect or promote beyond the highly visible one of seeking a pro-poor outcome. This trust is usually strengthened by partnering/recruiting highly respected national professionals with first-hand experience of the issues involved, who can rapidly gain (or already command) the respect and trust of the disparate parties. Trust is also reinforced by the evidence-based inputs that external actors, such as project staff and consultants, provide to the policy process. Conducting or commissioning research and desk studies that draw on local expertise provides these actors with credible evidence for encouraging policy



and institutional reform. Diffusing charged and emotionally based arguments by introducing carefully considered authoritative evidence is very effective in addressing contentious issues and formulating rational and acceptable ways of moving forward.

An important role for external actors is in facilitating broad, inclusive stakeholder engagement and dialogue. Again, it is undoubtedly easier for outsiders to undertake the tricky process of bringing together groups of people who would not normally meet, and who seem to share little common ground. The identification and involvement of local "champions" – personalities who can articulate the views of specific groups – often proves beneficial in strengthening the voice of marginalized and poor stakeholders who are not usually part of the policy-making process and who lack a channel for communicating their views to government. A lasting legacy of many such processes is the increased capacity of livestock and related associations to engage with government and other authority figures, by continuing to demand rather than timidly asking for their rights.

Another important feature of approaches for spurring pro-poor policy processes is that they must be flexible, to provide stakeholders with the space and freedom to operate. For example, when it becomes desirable to expand the range of stakeholders involved in a process, the time and funding needed for this should be made available. Flexibility also allows creativity in finding solutions and resolving difficult situations. There must be willingness to take risks and try different approaches, otherwise the change processes are very likely to stall.

Principles and lessons emerging from successful experiences in nurturing policy and institutional change in the livestock and other sectors, and which could enable more effective policy assistance, suggest that factors for success include: i) partnerships and participation; ii) national ownership and local champions; iii) flexibility and long-term commitment;

iv) technical, economic and political economy analyses; v) an emphasis on gradual and tailored policy reform; and vi) a dose of opportunism and risk-taking. These are largely known, but have rarely been systematically applied and documented.

DISCUSSION AND CONCLUSIONS

Formulating and implementing policies, and establishing sound institutions capable of nurturing inclusive and pro-poor growth of the livestock sector are more complicated tasks than they seem, as many different policies and institutional arrangements may promote livestock sector growth that benefits the less well-off. However, some “high-order” guiding principles can be identified. At the broader level, functional institutions are a precondition for sustainable growth in all productive sectors, including livestock. At the sector level, livestock policies should:

- be consistent with the broader agricultural and macroeconomic policy framework;
- focus on relatively small and targeted changes rather than attempt to address all the constraints affecting sector development;
- target defined groups of livestock keepers, and enhance the incentives underpinning the investment decisions of these groups;
- build on cooperation and synergies with a variety of actors, both within and outside the livestock sector.

Beyond these generic recommendations, it is difficult to prescribe which livestock sector policies and institutions are the best and how they should be organized to support sector growth and poverty reduction. Even in countries where the overall institutional framework is far from optimal, the livestock sector can record remarkably high growth rates. In Southeast Asia, for instance, military-ruled Myanmar has one of the weakest institutional architectures, Viet Nam is a successful fast-growing country in transition, and the democratic Philippines has gone through several economic up- and downturns in the last two decades. Given these remarkably different economies, the net per capita livestock production index²⁹ developed in some unexpected ways between 1990 and 2009, with Myanmar witnessing the fastest growth rate and currently recording higher labour productivity for milk (measured by the ratio of total production to economically active population working in agriculture) than either the Philippines or Viet Nam, but lower labour productivity in meat production (FAOSTAT, 2010).

In general, a good mixture of public and private sector goods should ensure that the right incentives are in place for farmers to increase their production levels and efficiency. Regardless of the quality of the overall policy and institutional environment, a risk-taking experimental approach to instigating changes and providing incentives to livestock producers is possibly one of the most effective elements for promoting growth of the livestock sector in ways that are inclusive and benefit the poor, as producers or consumers and through the multiplier effects that livestock generate in the broader economy.

Policies and institutional arrangements are essential in mediating how the livestock sector develops, how current and former livestock keepers fare, and how well the needs of consumers – rich and poor, rural and urban – are served. An important insight from PPLPI’s

²⁹ The value (in PPP dollars) of net national livestock production per person compared with that in the base period of 1999 to 2001.

experience is that at the sub-national, national or even regional level, pro-poor policy and institutional changes in the livestock sector can be brought about with relatively few direct inputs into policy processes. Rather than imposing a policy, such inputs need to focus on providing incentives and opportunities for diverse stakeholders to interact effectively.

Potential problems associated with this approach, which may deter more conservative donors or implementation organizations, relate to the length of time required to achieve impact and the difficulty of attributing cause and effect for complex processes. The iterative open-ended nature of policy processes means that policy change does not occur quickly, and once it has occurred, more time is needed to implement the changes, and yet more time before impacts can be observed. Such lengthy timeframes do not fit well into the short, inflexible cycles of most projects. However, this drawback may be more than compensated for by the far-reaching nature of the eventual impacts.

SUMMARY AND KEY POINTS

The basic principles for effective livestock policy-making and promotion of policy and institutional change can be summarized as follows:

- Livestock sector policies should be consistent with the broader institutional and policy framework directing growth in agriculture and in the economy in general.
- Global and national macroeconomic policy contexts can be as important to poor livestock producers as are sectoral policies. There should be balance between: i) macroeconomic policies and sectoral ones (agriculture, livestock); ii) economic policies and social/distributional policies to support the poor; and iii) policies for sector growth and for sustainability.
- Most attempts to carry out wholesale reform of the livestock sector have proved ineffective, and piecemeal implementation can create more harm than good.
- Small tailored policy and institutional changes can generate remarkable returns through enhancing the livestock sector's contribution to economic growth and poverty reduction.
- A wide range of policies and institutions can support livestock sector development, but the specifics of each country setting make a copy-and-paste approach to policy and institutional reform unlikely to work.
- Experimentation is an effective way of identifying the most appropriate institutional and policy reforms for supporting sector growth in different countries. However, it requires a risk-taking approach and willingness to accept failures as well as successes.
- Policy reforms in the livestock sector should 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.
- Policy reforms should generate incentives for behaviour change for both public and private sector actors, in the livestock sector and beyond.
- 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 sector development may call for further institutional changes. In other words, the process of designing and implementing policies that sustain inclusive and pro-poor growth of the livestock sector is endless.

- Most governments do not deliberately formulate policies that are anti-poor, but they fail to realize that economic growth, although necessary, is not always sufficient for poverty reduction.
- Conventional approaches in which policy advice is simply transferred to policy-makers and practitioners are unlikely to have much impact; partnerships and knowledge exchange networks and mechanisms should be established to provide policy advice, rather than relying on “authorities”. However, such processes are long, iterative and uncertain in their outcomes.