Value chains, linking producers to the markets

The livestock value chain can be defined as the full range of activities required to bring a product (e.g., live animals, meat, milk, eggs, leather, fibre, manure) to final consumers passing through the different phases of production, processing and delivery. It can also be defined as a market-focused collaboration among different stakeholders who produce and market value-added products.

Value chain analysis is essential to an understanding of markets, their relationships, the participation of different actors, and the critical constraints that limit the growth of livestock production and consequently the competitiveness of smallholder farmers. These farmers currently receive only a small fraction of the ultimate value of their output, even if, in theory, risk and rewards should be shared down the chain.

Access to markets and distribution of risks and gains along different steps of livestock value chains varies also according to the gender of producers (e.g., rights to income generated from livestock); processors (access to processing technologies and information); market agents (access to transportation, safe market spaces and overnight accommodation, risk of sexual harassment and abuse); and according to the economies of scale (bringing women together to improve their market position).

Traditional marketing channels with ad hoc sales are being gradually replaced by coordinated links among farmers, processors, retailers and others. In this context, the question is not whether, but how to include the different actors in the value chains, including women, applying a balanced approach that takes into account both competitiveness and equity issues. The result, combining the strengths of value chain analysis with the needs of poor livestock keepers, should be a market-based, commercially

1 IDRC, 2000.
2 Donor Committee for Enterprise Development, 2006.
viable and sustainable solution that, in the long term, will equally benefit all the various actors of the chain.

Although lower-income rural households generally receive smaller absolute gains from the livestock value chain than others do, the relative benefits to them are greater. This further strengthens the case for livestock as a pro-poor policy instrument, where the marginal effect of improving livestock supply conditions will disproportionately benefit the majority of a country’s rural poor. ¹

According to the IFAD Strategic Framework 2007-2010, worldwide changes in agricultural marketing systems and production technologies are opening up opportunities for some small farmers in developing countries. But the poorest and most marginalized rural people rarely benefit. ² For this reason, a key objective is to ensure that poor rural people have better access to – and the skills and organization to take advantage of – transparent and competitive markets. Within this framework, expanding the capacity for livestock production and its marketing outlets is a potent catalyst for rural poverty reduction.

Challenges
1. **Empowerment**: Empowering poor smallholders, men and women, so that they can provide high-quality, sustainable livestock production with an identified market destination (by assuring adequate access to basic production inputs, credit, capacity-building, market-related information);

2. **An enabling environment**: Facilitating poor farmers’ and livestock keepers’ access to markets as a catalyst for rural poverty reduction (by improving their business management skills and marketing strategies, ensuring that they have the knowledge and technologies required to meet quality and sanitary standards, providing adequate infrastructure);

3. **Equity**: Ensuring that the economic gains in value chains are fairly distributed among the various actors, including poor farmers and livestock keepers (by reducing marketing distortions, building relationships among various chain actors, strengthening farmers’ organizations and livestock traders’ associations).

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¹ FAO, 2007.
² The livelihoods of about 600 million people who earn an average of less than a dollar a day depend significantly on livestock.
³ “Sustainable livestock production” refers to raising animals using a system that favours the long-term availability of the inputs necessary to continue in operation, along with satisfactory returns for the farmer. Unsustainable practices are those that cause damage to the environment and increase the risk of disease.
Livestock marketing: Constraints and needs

In developing countries, most livestock produced by smallholder pastoralists and farmers are marketed by private entrepreneurs who, operating as a marketing chain, collect, regroup and distribute the livestock and livestock products to terminal markets. 6

Although the marketing chain is well known, the economic and institutional barriers to livestock marketing (transportation costs, quality standards, inadequate and uncoordinated livestock market information systems) limit livestock-sector development, with a consequent negative impact on the welfare of the large population of smallholder producers and others who depend on the sector for their livelihoods.

The potential exists for an improved and well-functioning market that will enable smallholder producers to derive greater benefits from their production activities.

Constraints

The following are some of the main constraints:

- **External constraints:** Adverse macroeconomic conditions (high taxes, high interest rates), lack of institutional support;
- **Quality constraints:** Little understanding of processors’ requirements, lack of laboratories and instruments for quality control, price and quality of the veterinary services;
- **Financial constraints:** Lack of capital to invest in assets, equipment and inputs that would improve quality;
- **Gender constraints:** In comparison to men, women face higher disadvantages, in particular in terms of mobility, access to assets and to productive resources, and access to market information, with the result that they find it more difficult to access and maintain profitable market niches and capture a larger slice of incomes;
- **Infrastructure constraints:** Lack or inadequacy of, among others, roads, electricity, weighing stations, cattle dips, slaughtering and processing facilities (which raises transaction costs, exacerbates information asymmetries between producers and traders, and discourages investment in processing);
- **Information constraints:** Limited access to market-related information (e.g. on prices, value chains, competitors, consumer preferences);
- **Skills and knowledge constraints:** Lack of business management skills (e.g. production planning) and, in particular, inadequate access to the knowledge and technologies needed to meet rising sanitary standards, making it extremely difficult for smallholders to gain credible certification of compliance with marketing requirements; and
- **Market constraints:** Low demand, a multiplicity of intermediaries (which increases the charges and shades the transparency of the operation).

Needs

- Secure and adequate access to basic production inputs together with risk-coping mechanisms for natural disasters and price shocks;
- Dissemination of livestock market information to livestock producers;
- Strong relationships among various chain actors (including commitments from these actors to cooperate on mutually beneficial actions/investments) and strengthened farmers’ organizations;
- Policies and strategies to enhance the ability of smallholders and small-scale market agents to compete in livestock product markets;
- Standards and branding mechanisms to identify high-quality livestock products;
- Kick-starting of domestic markets to allow the poor to exploit market opportunities;
- Reduced fees on the sale or slaughter of livestock;
- New or adapted marketing strategies (for example, promotion of alliances with fair-trade chains);
- Adequate responses to volume demand and ability to expand to match increased demand;
- Product differentiation to create niche markets; and
- Linking of poor livestock keepers to expanding urban markets.

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Lessons learned

- It is better to produce for an identified market, rather than trying to sell what the farmers have already produced and then seeking new market opportunities.
- Livestock trade is more competitive and functions better within countries (domestic segment) than between countries (cross-border segment). This is mainly due to the high capital outlay, lack of credit and increased risk of losing animals associated with cross-border trade.
- Transportation and handling costs are the single largest component of marketing costs. These can be reduced by lowering tariffs and official taxes, including fuel tax. The elimination of illegal taxation along trade routes could also contribute to improved market performance.
- Direct communication between end buyers and producers can be a powerful tool in helping producers to understand the implications of competitiveness.
- Learning and innovation are essential for sustaining competitiveness.
- Low market integration can best be overcome by developing and effectively deploying livestock market information systems at national and regional levels.
- Market institutions, such as livestock traders’ associations, and intermediaries, both at local and national levels, can play a key role in reducing transaction costs, facilitating livestock trade and achieving market integration at the regional level.

Key issues and questions for project design

The demand for livestock products is predicted to double in the next 20 years due to world population increases, urbanization and economic growth. The rapid growth in this sector, especially in developing countries, will have a strong impact on world markets, creating opportunities for the rural poor but also posing significant threats.

Trade chains are becoming more complex, while the standardization and food safety requirements imposed are making it increasingly difficult for poor livestock keepers to participate in livestock markets.

In a fast-changing sector, many other factors limit smallholder participation (including low market prices, inadequate infrastructure, quality standards, financial constraints, difficulties in accessing productive assets, lack of knowledge). Within this context, development practitioners are called upon to support the integration of small-scale and poor farmers into formal livestock markets as an important step towards reducing rural poverty.

Attention should be focused not just on increasing productivity and improving animal health services, but also on increasing advocacy efforts through improved farmers’ organizations, and building the capacity of local institutions to deal with the standards and regulations of regional and international markets.

Effective, market-oriented livestock production can potentially increase output quantity, quality and prices; and improve margins with more efficient production and distribution technology.

In this overall framework, key issues for project design are to

- Identify opportunities for the poor, especially women, to participate in value-added production of livestock and livestock products, thereby capturing a greater share of additional value within the livestock production and marketing chain;
- Develop a thorough understanding of how formal and informal markets for various livestock species and products operate, and particularly how these local, national and international markets include or exclude poor livestock keepers;
- Identify policies and strategies that reduce transaction costs and barriers to market access for poor livestock keepers, and explore policy options that might reduce these market distortions;
- Identify areas of institutional change that could strengthen poor livestock keepers’ links to mainstream livestock and livestock product markets;
- Design supply chain interventions so that they benefit vulnerable groups capable of benefiting from a supply chain approach;
- Improve livestock sector infrastructure and provide greater incentives for market participation and productivity;
- Build resource-poor producers’ livelihood assets and strengthen their capacities to manage the chain or chain activities.

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Figure 2
Value chain analysis and poor farmers and livestock keepers

Step 1. Value chain selection

Step 2. Value chain analysis

Step 3. Identification of constraints & opportunities

Step 4. Identification of market-based solutions

Step 5. Selection of market-based solutions

Step 6. Assessment of solutions

Step 7. Identification of interventions

Step 8. Selection of interventions

Communication/transport

Input/Services

Quality/standards

Relationships

Market information

Business development services

Equity

Knowledge

Competitiveness

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Input/Services
Box 1: The dairy milk chain in Uganda

Farmers, processors, intermediaries, government institutions and NGOs are the key players in the dairy industry in Uganda.

In the existing market structure, farmers are organized at production level as groups or cooperative societies, and registered with the dairy regulatory arm of the Government. Registered farmers are free to establish linkages with support agencies (including NGOs).

Milk processors and other intermediaries ensure a stable supply of milk and milk products. They preserve milk in the form of pasteurized milk and processed milk products (yoghurt, ice cream, cheese, powdered milk, ghee) to satisfy the increasing demand.

The Dairy Development Authority (a government institution) provides coordination and guidance to achieve/maintain self-sufficiency in the production of milk. It promotes production and competition in milk collection and processing, and serves as a monitor for milk and dairy product markets.

The involvement of NGOs in the dairy industry contributes to expanding the dairy sector from subsistence to commercial production, and to promoting competitiveness in the sector to ensure that farmers find a ready market and consumers have access to safe, good-quality and nutritious milk and milk products.

Dairy subsector linkages among key players ensure a ready market for milk even in peak production periods when milk surpluses are likely. Member farmers also have access to (limited) credit services provided by their respective organizations in the form of dairy inputs, including access to veterinary services (drugs, artificial insemination services) and animal feeds.

Market constraints

- **Power imbalances in participation.** The dairy retail market is largely controlled by milk intermediaries who procure milk over large distances. These agents operate without self-policing and sometimes adulterate milk by adding water to increase volumes or chemicals to prevent the milk from turning sour;
- **Lack of a ready market for fresh milk and lack of modern technology for processing milk into milk products;**
- **Information asymmetry between producers and marketers.** This leads to overpriced inputs and under priced outputs, and also discourages increased production;
- **Low milk price.** Farmers are assured of a ready market for their milk by lowering the price. Moreover, they are not always paid promptly, which hampers their production;
- **Lack of or inadequate capital.** Because of capital constraints, very few dairy-based agribusinesses have access to modern farm inputs such as milk processing and preserving equipment; and
- **Weak/small formal sector, which contrasts with the large, undisciplined but dynamic informal sector (milk traders).**

Key recommendations

- **Stronger linkages among stakeholders in the dairy subsector could help harmonize activities, eliminate duplication and harness the ensuing synergies.**
- **Supportive measures and incentive structures are needed to encourage more formal sector participation in the dairy industry.**
- **Improved access is needed to basic dairy inputs, credit and animal health.**
Box 2: The dairy milk chain in the Sudan

The Western Sudan Resources Management Programme was launched in 2006 with an overall goal of improving the equity, efficiency and stability of the economy of the three Kordofan states, thereby enhancing poor households’ access to productive services and fair terms of trade. Particular attention is paid to developing efficient markets as vehicles for achieving economic development, and to creating effective market chains, accessible to both women and men, to produce added value.

Under this programme, a socio-economic analysis was conducted to assess (i) the typology of the actors and their socio-economic role in the milk supply chain, (ii) the options for community development associations involved in the milk marketing chain and (iii) the opportunities available to poor dairy producers to improve their income from the milk market, and the constraints they face.

Some of the main issues raised by the analysis were the following:

- Strengthening the role of poor dairy producers in the milk marketing sector, allowing them to produce more, improve quality, lower costs, and thereby gain higher bargaining power, will have positive effects on their livelihoods and on their access to productive and social services.

- Producers are the weakest actors in the milk supply/market chain, with the lowest bargaining power and the smallest economic benefit. They lack transport means to access urban markets directly, have poor-quality breeds and feeding concentrates, and complain of the high cost of animal vaccination.

- The intermediaries tend to be the strongest actors of the milk market chain because (i) they are highly familiar with the milk production zones; (ii) they have a deep knowledge of milk production peaks, pitfalls and year-round prices; and (iii) they rely on other activities (such as livestock husbandry and crop production) as safety nets.

- Poor milk producers should be organized in village-based micro associations grouped in a consortium, which would give them (i) higher bargaining power, due to the much higher quantity of milk they would control; (ii) a safety net in case of drought, overgrazing or sudden livestock diseases; (iii) improved knowledge in livestock husbandry and hygienic milk production; and (iv) peace-building mechanisms in the case of disputes among different tribal groups producers.

- The Pastoralist Union working as an education/training centre would (i) raise awareness about the importance of milk in infant and child development; (ii) share basic scientific knowledge of animal vaccination; (iii) train poor milk producers in feeding mixtures/concentrates, scientific breeding, and modern cattle and livestock husbandry systems; and (iv) act as a conflict resolution body among milk producer groups.

- Women have lower pricing power and less daily profit than men, mostly because of their lack of pricing information, but also because of difficulties in accessing markets (e.g. mobility, security, tradition).

- The creation of rural markets would benefit (i) the processors/cheese makers, who could regularly have a higher milk supply and lower logistic costs to collect the milk from the villages, as suppliers would come to the market; (ii) poor settled milk producers, who would earn more from their production, especially in the dry season when milk production levels tend to be low;

- Since it is highly difficult to bypass intermediaries, giving producers direct access to retailers and consequently higher sale prices, efforts should be made to exploit intermediaries’ perfect knowledge of the production zone, of suppliers and retailers, and of peaks and pitfalls of market milk demand and supply through “intermediary internalization”, that is, appointing some intermediary representatives as consortium members in charge of the logistics involved in getting dairy products from producers to retailers in the city market.
Box 3: The poultry value chain

Poultry (e.g. chickens, ducks, turkeys) rearing at the household level plays an important role in income generation and poverty reduction, particularly for poor rural women or where people lack land for crop cultivation or formal skills to participate in income-earning activities. Poultry scavenge in and around farmers’ homesteads, meeting most of their feed requirements in this way. Poultry contributes to household nutrition and provides income to buy food. Moreover, backyard poultry is mostly owned and managed, and sometime traded, by women, and therefore has high potential to advance women’s socio-economic empowerment.

Understanding the poultry value chain, and the value of poultry to owners and traders, is a starting point for understanding how small-scale poultry development can contribute to household income and well-being. Poultry value chains describe the processes through which birds and other inputs pass during the production process, including information on the place each process occurs and on the people involved. These value chains are affected by (i) reactions to market shocks, or long-term trends in supply and consumer preferences; (ii) price variations (short or longer term); (iii) access to knowledge and emerging technologies; and (iv) lobbies and other groups that can directly influence the dynamics of the value chain.

Other constraints:
- Lack of processing and preservation techniques for the extended storage life of eggs and poultry meat and for innovative value-added poultry products;
- Non-availability of quality feed;
- High cost of medicine and vaccine (generally in the hands of the private sector) and lack of disease control facilities;
- Lack of access to markets for small and marginal poultry farmers in the remote regions; and
- Poor quality of finished products (e.g. packaging, standards).

Box 4: Future perspective – market opportunities for organic meat and dairy products

The market for organic products has grown substantially, and in a context of expanding demand, marketing opportunities exist for developing countries to export organic meat and dairy products. Unfortunately for smallholders, meeting the certification requirements and production quality standards of the organic market are extremely demanding, and at present there is only very limited involvement of developing countries in the marketing of organic meat and dairy products.

However, by working with natural processes and making use of locally available assets, poor smallholder farmers can increase the productivity of their farms and avoid dependence on expensive external inputs. Therefore, traditional livestock production applied by poor farmers often matches the key principles of organic livestock farming. These include non-use of chemical fertilizers, pesticides, stimulating growth substances or hormones; recycling of crop residues for soil fertility; use of natural treatments for livestock; and rough grazing.

But there are significant constraints to the profitable production, processing and marketing of organic products. The main limiting factors are costs and risks in converting from conventional to organic livestock production; training and knowledge to meet organic certification requirements; access to certification procedures; and good management skills for animal nutrition and disease control.

The growing markets for certified organic meat, eggs and dairy products offer important income opportunities, but still remain extremely demanding. Achieving and maintaining the critical quality requirements of the major markets represent a significant constraint for the rural poor.
Figure 3 and 4
Poultry values chain

External
Exports

Urban
Rural

Formal/ Informal Breeders

Formal Commerical Broilers System

Formal Commerical Layers System

Informal Urban Multi-Purpose Production System

Informal Rural Multi-Purpose Production System

Informal Rural Fattening Layers

Informal Rural Markets

Informal City Markets

Formal Live Bird Markets

Higher-income Consumers

Lower-income Consumers

Rural Consumers

Formal Live Bird Markets

Live Bird Markets

Live Bird Markets

Retailing

Live Birds

Great-grandparents
Grandparents
Parents

Fattening Systems
Abattoirs
Processing Systems
Retailing

Pure Lines

Animal Health Products

Feed Mills

Day-old-chicks

Rustic Systems

Hatching eggs

Day-old-chicks

Traditional Systems

International
Urban
Wealthier

National
Rural
Poorer

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