

How to do

Livestock value chain analysis and project development

Sustainable inclusion of smallholders in agricultural value chains



How To Do Notes are prepared by the IFAD **Policy and Technical Advisory Division** and provide practical suggestions and guidelines for country programme managers, project design teams and implementing partners to help them design and implement programmes and projects.

They present technical and practical aspects of specific approaches, methodologies, models and project components that have been tested and can be recommended for implementation and scaling up. The notes include best practices and case studies that can be used as models in their particular thematic areas.

How To Do Notes provide tools for project design based on best practices collected at the field level. They guide teams on how to implement specific recommendations of IFAD's operational policies, standard project requirements and financing tools.

The **How To Do Notes** are "living" documents and will be updated periodically based on new experiences and feedback. If you have any comments or suggestions, please contact the originators.

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List of acronyms

AI	artificial insemination
COSOP	country strategic opportunities programme
EU	European Union
FFS	farmer field school
IP	innovation platform
LITS	livestock identification and traceability system
LPG	livestock producer groups
MFI	microfinance institution
PPPP	public-private-producer partnership
R&D	research and development
VC	value chain

Introduction

Most newly designed projects at IFAD are value chain (VC) projects, or at least use a VC approach to achieve core objectives. Projects in the livestock sector are no exception.

Livestock contributes to the livelihoods and food security of about 1 billion people around the world, particularly the rural poor in developing countries. Livestock accounts for more than 30 per cent of the agricultural GDP of developing countries and for between 2 and more than 33 per cent of household income. For example, beef production and marketing support 70 million people in West Africa; dairy supports 124 million people in South Asia and 24 million in East Africa; and small ruminant production supports 81 million people in West Africa and 28 million in Southern Africa.¹

Demand, especially for edible livestock products, has increased as a result of growth in domestic consumption and exports and is predicted to more than double in 20 years. The emergence of the modern retail sector has led to higher standards for meat and dairy products in increasingly large parts of the world.

With the right approach, supplying this growing demand can be a pathway out of poverty, especially for small-scale livestock keepers at the upper and middle levels of the pyramid,² provided that they are organized and have access to the necessary inputs, services and finance. Livestock keepers at the bottom of the pyramid, and even landless people, can also participate in livestock VCs as service providers, feed suppliers or simply workers.

A thriving livestock VC supports other agricultural VCs, as it “pulls” demand from the small-scale crop producers who grow fodder crops or supply crop residues to livestock producers.

What is a value chain? A VC is the pathway of processes that a product follows as it moves from the primary producer to the final consumer. In principle at least, *value* is added at each stage of the chain, hence the term “value chain”. Value addition is determined by the market and is not necessarily increased by processing or physical transformation. For example, a VC for fresh, open-range, organic beef with little physical transformation can generate greater value for the farmer (and other VC actors) than a VC for highly processed beef sausage.

Vcs are “meso-level” structures in that they fall between the macro-level of the economy and the micro-level of individual livestock producers. VCs can be defined quite narrowly, such as “the VC for 1-litre tubs of yogurt in the Republic of Moldova”, or very broadly, such as “the beef livestock VC in Botswana”.

Livestock VCs can be short and quite simple, such as the VC followed by a bucket of milk from a farmer’s cow that is sold to the farmer’s neighbour, or they can be quite long and complex, such as the VC from a small-scale Angora goat keeper in Lesotho to a mohair sweater sold in Europe. Figure 1 maps a VC for mohair sweaters.

Using this How To Do Note

This livestock value chain note is part of the Commodity Value Chain Toolkit. The note focuses on livestock-specific issues and examples. For more general guidance on the design and implementation of value chain development projects please refer to:

Camagni and Kherallah, 2014
http://www.ifad.org/knotes/valuechain/vc_howto.pdf

¹ Herrero, M., D. Grace, J. Njuki, N. Johnson, D. Enahoro, S. Silvestri, and M.C. Rufino. 2013. The roles of livestock in developing countries. *Animal*, 7(s1): 3-18; Staal S., J. Poole, I. Baltzenweck, J. Mwacharo, A. Notenbaert, T. Randolph, W. Thorpe, J. Nzuma, and M. Herrero. 2009. *Targeting strategic investment in livestock development as a vehicle for rural livelihoods*. Bill & Melinda Gates Foundation (BMGF) and International Livestock Research Institute (ILRI) Knowledge Generation Project. Nairobi, Kenya: International Livestock Research Institute (ILRI).

² This typology is adapted from Vorley B., L. Cotula, and M.-K. Chan. 2012. *Tipping the Balance: Policies to shape agricultural investments and markets in favour of small-scale farmers*. Oxford, United Kingdom: Oxfam International.



Source: IFAD (2014)

Figure 1: Mohair sweater value chain

A VC map is a simplified representation of a complex and dynamic reality. The inputs and services that go into each step of the VC, and the enabling environment that affects the VC, cannot easily be shown on a VC map but are vitally important. Key *inputs* and *services* include feed, veterinary drugs and services, extension advice, market information and finance.

Key elements in an *enabling environment* include:

- the institutional, policy, legal and business environment – access to grazing land, licensing restrictions on para-veterinarians, etc.
- cultural, social, religious and gender-based systems and practices – control of cash from animal products, etc.
- rural infrastructure – delineated stock routes, watering holes, etc.

IFAD's livestock VC projects are designed to be inclusive and pro-poor. That is, they seek to upgrade and improve the efficiency of VCs primarily to benefit IFAD's target groups – small-scale livestock keepers and the rural poor. Through successful VC projects, these target groups become more dynamic actors in the VC and benefit from:

- higher income levels
- more stable income streams throughout the year
- greater resilience to shocks induced by weather, disease or market fluctuations.

The position of small-scale livestock keepers can be improved through various upgrading strategies:

- **Product and process upgrading** aims at “doing things better and/or bigger” and includes enhancing the efficiency of production processes and the quality of products to comply with buyers' requirements. For example, a poultry keeper may use improved feed formulation and vaccinate her birds to produce more eggs per bird. A dairy farmer can avoid adulteration practices or can chill milk immediately after milking to produce a higher-grade product. These interventions focus on the production stage.
- **Functional upgrading** involves producing new goods or services either upstream or downstream in the VC. Examples of upstream interventions include livestock keepers producing high-quality lucerne as fodder for their animals or for sale. Downstream, farmers may make yogurt from the raw milk. Another form of functional upgrading occurs when farmers involved in a VC enter another closely related one, such as when egg producers expand their activities to produce broilers.

- **Upgrading of coordination and business models** often implies helping to formalize and make more transparent (through contracts) both the horizontal relationships among livestock farmers in the same VC segment, such as among the different groups of dairy farmers who sell to a single cooperative, and the vertical relationships between actors in different VC segments, such as between dairy farmers and a milk processor.

In all cases, upgrading should be in response to a clearly identified market opportunity that promises a positive return on investment, such as cattle fattening in IFAD-funded projects in Lao People's Democratic Republic, Swaziland and Viet Nam. In all cases, upgrading projects must work with livestock keepers who are willing and able to move from subsistence livelihood strategies to commercial production.

A step-by-step approach to value chain analysis and project design

The step-by-step approach to VC analysis and project design follows the basic IFAD project design cycle. Each step is briefly described and followed by guiding questions for the project design team. The VC approach should be adopted early in the project cycle, such as when developing project concept notes for a country strategic opportunities programme (COSOP).

In practice, the timing of VC project design often depends on the results of earlier projects, the ongoing relationship between IFAD and the host government, the experience of other development partners in the livestock sector, etc. Even when a project is already being implemented, a VC analysis can help inform and strengthen existing activities and identify new partners and activities for better achieving project goals.

For many VCs in many countries, there is already a great deal of published information from projects and the government. This information should be analysed first so that the design team can focus its primary research and fieldwork on areas where there are gaps or the need for updated information.

Development of the value chain concept

Step 1: Preliminary assessment of livestock systems

During the preliminary assessment, background information on the livestock sector or subsector is gathered from the country, provincial and/or district levels – depending on the project and country context (Box 1). The data are used to:

- develop a shortlist of priority subsectors (cattle, poultry, goats, etc.) and commodities (meat, milk, eggs, fibre, etc.) for VC analysis
- assess the conditions under which each VC operates
- identify how rural communities could participate in each VC, focusing on the opportunities and constraints for women, women-headed households and landless people.

Box 1. Guiding questions for preliminary investigations on livestock systems

- What are the major livestock production systems – sedentary crop-livestock, nomadic pastoral, pure pastoral, etc.? What is the scale of production – smallholder, medium-holder, large-holder?
- What types of livestock production systems are present, broken down by gender when relevant – pig breeding or fattening, primarily beef or dairy, small ruminants for occasional sale or for fattening for sale, poultry meat or eggs, etc.?
- For each system, what activities are undertaken by household members?
- What new livestock production systems or markets are of interest to the community? What have been the results of any ventures into new areas or production systems?

The following main aspects should be included:

- overview of the livestock sector/subsector(s), including the production system and productivity, with historical background to put the current situation into context
- characterization, structure and size of livestock holdings on smallholder farms and in rural households
- basic characteristics of the socio-economic conditions and livelihoods of rural communities, with a gender perspective and a focus on livestock systems and practices.

Step 2: Analysis of target groups

The design team needs to analyse the aspirations and abilities of the target groups, and the variations within target groups. Rural populations are not homogeneous and there will be diverse answers to the following questions (Box 2), based on the socio-economic status, personal preferences, abilities, etc., of people in the project's target group. These differences need to be weighed and considered.

Box 2. Guiding questions for assessing target groups

- What are the main reasons for the household to keep livestock at the current level? What are the primary reasons for not increasing (or decreasing) this level?
- What are the household's main sources of water and of pasture for livestock in the wet and dry seasons? What access or payment issues are there?
- What are the household's primary sources of income – crops, livestock, fish, non-farm, etc.?
- Over the year, what is the household's income and expenditure stream from its farming, livestock and other operations? Are there cash shortages or food security issues at particular times of the year – “hungry seasons”?
- When and for what does the household hire labour or other services for farming/livestock production/marketing/processing? How much does it pay for these services? What payment mechanisms does it use – cash, share of production, etc.?
- What are the respective roles and responsibilities of women and men within the household and within the community for livestock production, processing, marketing and cash management? Who controls the cash? What is the money used for?
- What livestock producer groups or other associations that incorporate livestock activities – cooperatives, farmers' associations, etc. – are active in the community? What are their basic characteristics – formal or informal, gender-based or mixed, specifically for livestock production, marketing or joining associations/cooperatives, etc.? What are their roles in supporting input supply, service provisions, training, marketing, etc.? Who controls them? How financially viable are they?
- What is the food security status of the community? How important are the livestock sector and its products/by-products?

The design team should identify:

- the target population's strengths, weaknesses, opportunities and threats, such as in:
 - infrastructure – roads, stock routes, watering points, etc.
 - agroclimatic conditions – water availability, pasture quality, etc.
 - human capital – knowledge, skills, etc.
 - social capital – organizations, etc.
 - access to finance, inputs and services;

- the target population's aspirations regarding:
 - livestock as a productive asset versus as a sign of wealth or prestige
 - new livestock species or products with better income potential, but possibly at higher risk
 - risk reduction – diversification, etc.
 - better productivity or markets for existing livestock and products
 - part-time income that does not interfere with other livelihoods or childcare responsibilities
 - employment – off- or on-farm
 - use of surplus income – for example, the farmer may want to invest her scarce funds in her daughter's education rather than in VC upgrading such as buying improved feed.
- Smallholder livestock producers and other rural poor people are often the main consumers of the livestock products and by-products of some VCs. Assessment of the nutrition/food security status of the community will help determine how important a criterion this consumption should be in VC selection, taking into account alternative means of addressing nutrition/food security, such as crops or non-farm livelihoods.

Step 3: Preliminary market assessment

The preliminary market assessment (Box 3) gives an overview of:

- market requirements in terms of quality, quantity, pricing, timing and marketing points
- core market actors and their roles in getting the product from farms to customers.

Box 3. Guiding questions for preliminary market assessment

- What are the current market demands/trends – local, domestic and export – for the livestock commodity?
- What are the production volumes and trends, and the major cost drivers – labour, inputs, transactions, transportation, possible losses?
- What are the quality requirements for the primary product at important buying points? How does the current product compare with market requirements?
- At what prices and volumes is the commodity sold at different marketing stages – local, regional and international – over the year?
- Are there demands for certain qualities or types of the product that are not currently produced but for which there is potential for smallholder production – certified organic, free-range, humane, etc.?
- What are the current sources of supply? What are the price and quality differences among these?
- What are the seasonal variations in supply and demand of the product? When is there unmet demand for or seasonal oversupply of the commodity? How do these fluctuations link to prices?
- What are the main constraints to marketing of the product for smallholder livestock producers? What are the particular constraints, or opportunities, for women?
- What major government policies affect marketing of the commodity and what are their impacts?
- What are the status of and trends in public- or private-sector investments that affect market demand for the product – in slaughterhouses, chilling plants, etc.?
- What are the main policy constraints to pro-poor market access? Who are the primary decision makers and champions of change?

Decision-making regarding the scope and nature of preliminary market assessments should focus on the market actors that matter to small-scale livestock keepers and rural poor people. These actors will vary from VC to VC.

In the mohair wool example (see Figure 1), substantial processing is done at the national and international levels, and the final customer is distant from the producer. Market assessments should, therefore, focus on market requirements for the raw (greasy) wool produced by smallholders and *not* on consumer preferences for sweaters.

For poultry producers seeking to compete against inexpensive frozen imports of chicken in domestic markets, understanding national consumer preferences may be more important. However, even in these cases, local poultry processors in many VCs will translate domestic consumer demand into the specifications required from small-scale farmer outgrowers – here too the processors' requirements will be more important than those of consumers.

Step 4: Selection of value chains for analysis

The assessments in steps 1-3 provide the basis for selecting the more promising livestock VCs, targeting beneficiaries and defining the geographical focus for detailed VC analysis.

The criteria for selecting promising VCs for analysis should include:

- VC growth potential – current and potential demand for the product, taking into account competition from similar products or product substitutes, both domestic and imported
- inclusiveness – potential for the rural poor to increase their household incomes and reduce risk by producing the product or supplying inputs or services to the VC in ways that meet their aspirations, including those of the women within a household, the women-headed households within a community, and landless people or those without livestock
- complementarity/competition with existing or potential alternative VCs/livelihood activities – other livestock, cropping or non-agricultural activities
- environment, natural resources, climate resilience – the levels of natural resource endowments (land and water) that are currently and potentially available; climate risk factors in the value chain; and the possibility of making the livestock chain more climate-resilient
- regulatory, policy and business environment – the environment for pro-poor participation in the livestock VC and the potential for policy dialogue for pro-poor change
- nutrition – the contribution that the VC can make to increasing the volumes and decreasing the prices of nutritious food and bringing more reliable supplies closer to poor consumers, especially in production areas.

A VC project may not be the optimal solution for some IFAD target groups. Viable market opportunities may be lacking or the target group may not be in a position to exploit such opportunities. In these cases, it may be advisable to invest in improving on-farm productivity for improved household food security.

Even for IFAD target groups that are ready for commercialization, a pure VC approach may not always be the right design. For example, lack of access to agricultural finance may be a binding constraint not only for small-scale livestock producers but also for all smallholder farmers. In these cases, depending on what would have the greatest impact, project designers should decide whether to focus on financing VC solutions, such as the fattening of livestock under contract, or to take a more systemic approach to unlocking agricultural credit.

Value chain analysis

Step 5: Value chain analysis

When one or more VCs have been selected and validated, the project team then undertakes a more in-depth VC analysis. Ideally, this is carried out early in the project design process.

As the resources and time available for IFAD project design – and hence for VC studies – are usually limited, the analysis should focus on points in the VC that have the most impact on IFAD target groups. The object of the VC analysis is to identify the main opportunities and their bottlenecks, and the most promising partners and partnership modes. Exhaustive research on every step of the chain is therefore not necessary. VCs can be highly dynamic and many details of a VC analysis can be out of date as soon as they are published.

Step 5.1: End-market analysis

Markets drive VCs, while consumer behaviour drives markets. This section of the project design should provide an initial review of end markets.³ Detailed studies involving visits to export markets and consumer surveys are beyond the scope of most IFAD VC studies. However, further market analysis or exposure visits by market actors are often parts of VC projects.

The following issues should be analysed (Box 4):

- global markets and trends
- current trade patterns, from the exporting country to the world
- major export market opportunities, including the European Union (EU), the United States, emerging markets such as China and India, and regional markets
- domestic markets – formal and informal.

Box 4. Guiding questions for assessing end markets

- Who are the consumers in the end markets of the VC product? What types of consumer are they – individuals or institutions such as schools, hotels, restaurants, hospitals, etc.? What is their location – rural or urban, domestic or international, etc.?
- What are the specific consumption habits – qualities and quantities – of consumers? For example: their food preferences – frozen or fresh meat, fresh or UHT milk, etc.; and their expectations regarding quality standards – pasteurization, certification by the bureau of standards, branding/packaging, etc.?
- What are the consumption patterns? Where/from whom do consumers purchase? What are the consumption patterns within households – e.g. most fresh milk may be consumed by children?
- How much do consumers pay for the product? What enhancements in product quality would be interesting to consumers and what might they pay for these enhancements?
- What factors guide consumption patterns in the different categories of consumers – of meat, milk, etc. – such as social norms, taboos, values and beliefs?
- What are the quality specifications, certification requirements and trade laws for reaching markets?
- What substitutes for the products are available to consumers? How do consumers view the substitute(s)? How do prices, value and quality compare?
- What competing products, including imports, are available? How do prices, value and quality compare?
- What are the constraints to more frequent/greater consumption of a given commodity – availability, affordability, quality, etc.?

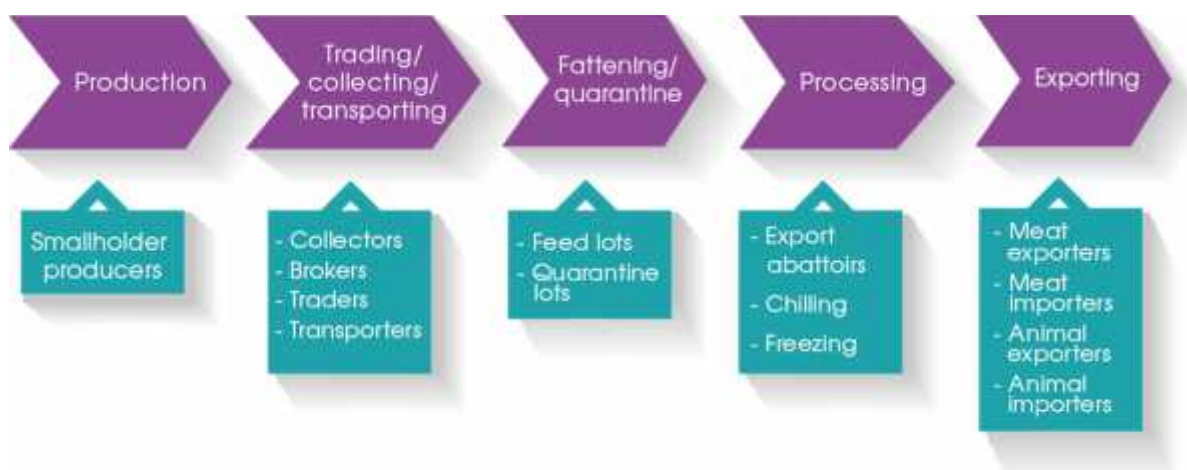
³ For a good example of end-market analysis, see United States Agency for International Development (USAID). 2013. *Agricultural Growth Program-Livestock Market Development: End Market Analysis for Meat/Live Animals, Leather and Leather Products, Dairy Products Value Chains*. Washington, D.C.: USAID.

Step 5.2: Value chain map, marketing channels and points of leverage

A VC map illustrates the flow of the product and the major processes and transformations it undergoes between the producer and the consumer. A VC map helps build holistic understanding of the chain and its performance, and communicates this understanding in a concise form.

VC maps should be kept as simple as possible to provide a clear picture for the general reader. Including every type of actor and every detailed process in the VC map is counterproductive. Some VC maps are so complex and cluttered that only specialists can really understand them (and specialists do not need them!). VCs can be dynamic and for most VCs the details on the map may be out of date shortly after it is produced.

VC maps may be drawn in many different ways. Figure 2 provides an example of a simple and clear VC map showing the key steps and principal actors from the farmer to the exporter in the VC for live cattle and red meat exports.



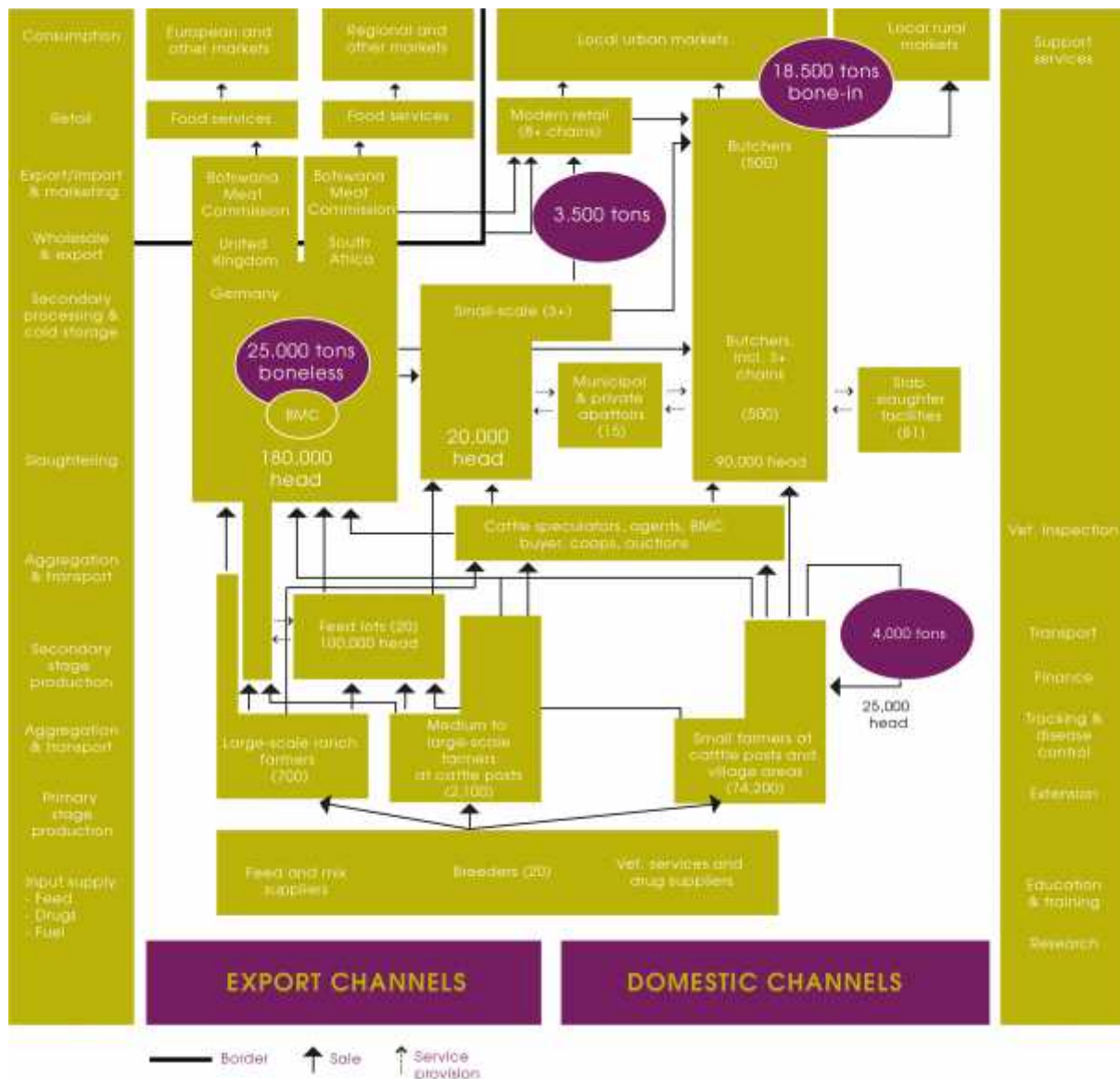
Source: GDS (2013)

Figure 2: Live cattle and red meat export value chain map

More complex VC maps may be required for more broadly defined VCs, such as when more than one marketing channel is being analysed. Figure 3 shows the various marketing channels for the beef VC in Botswana.

The VC map should be accompanied by descriptions of the key actors in the marketing channel(s) shown on the map.

The project design team should identify the major points of *leverage* within the VC map, where project activities can have the maximum positive impact on the VC and on IFAD's target groups. These points can be physical, where many commodity flows or many VC stakeholders interact. It is often more effective to focus on entry points up or down the chain rather than directly on the livestock producer. For example, if livestock traders' access to finance is a critical bottleneck in the VC, increasing access to finance for traders downstream from the producer may be a priority. Upstream, if access to high-quality inexpensive feed is a bottleneck, extension services for farmers who supply such feed to producers may have large payoffs. Elements in the enabling environment – economic, policy, legal/regulatory or social incentives and structures – can also be constraints. For example, government control over animal vaccination in Bangladesh limited dairy farmers' access to vaccines and prevented them from participating in the VC more profitably.



Source: van Engelen, A., P. Malope, J. Keyser, and D. Neven. 2013

Figure 3: Beef value chain in Botswana

Step 5.3: Production

Livestock producers can range from nomadic households selling animals only for special events to sedentary livestock keepers grazing their animals on communal land to which they have no guaranteed access, and on to large-scale ranches or feed lots. While an understanding of the basic characteristics of all producers is necessary, VC analysis for IFAD tends to focus on IFAD's target group – small-scale livestock keepers (Box 5).

Small-scale livestock producers may participate at different levels, which are not mutually exclusive. For example, they may:

- participate only in local trade
- engage in occasional sales, such as of surplus animals to meet cash needs
- contribute to seasonal market supply
- engage in regular sales
- carry out commercial-oriented production.

To survive in a competitive VC, small-scale livestock keepers have to function as entrepreneurial small businesses. Only a fraction (about 10-30 per cent) of these entrepreneurs can be expected to succeed in competitive VCs. In the medium term, most small-scale livestock keepers will need to find employment or non-farm business opportunities to escape poverty. These farmers are in agriculture as a survival strategy, and not from choice.

In addition to understanding livestock producers as individual agents, there is also need to explore their horizontal linkages (e.g. cooperatives and societies) and their vertical linkages (e.g. between primary cooperatives and a secondary or apex cooperative).

Box 5. Guiding questions for assessing livestock producers

- What type of livestock related to the VC do smallholder farmers commonly rear? On average, how many animals of each livestock type does each household keep over the year?
- What quantities are produced, consumed, traded, gifted and sold?
- Do producers sell at the farm gate, at village or district markets, and/or to cooperatives, collection points, traders, butchers, supermarkets, etc.? What roles do women livestock keepers have in selling and marketing?
- How do the producers sell – individually/collectively, through traders, directly to the local/district/city market, under contractual arrangements?
- What are the constraints to producing the quantities and quality demanded?
- What are the revenues and gross margins? What are the major revenue and cost drivers?
- What different prices are there, depending on the place of sale, buyer and quality? What are the costs and benefits of these different marketing strategies?
- What problems and challenges do different livestock producers face – in access to inputs/veterinary services, animal diseases/mortality, labour availability, price structure, etc.?
- What skills in animal husbandry and business do producers have?
- Do different producers – women and men – have adequate, reliable and affordable access to improved breeds, feeds, inputs and services? What are the charges for these inputs/services?
- What barriers to participating in the VC do members of the target group face? How can these barriers be overcome?

Step 5.4: Aggregation, transport and trading

Traders/collectors/brokers. Efficiently aggregating, storing and transporting small volumes of products from widely dispersed small-scale livestock keepers can create major challenges for competitive participation in VCs. Aggregation services such as milk collection centres can be offered by cooperatives, other producer groups, traders or other specialized intermediaries, processors or exporters (Box 6).

Small and large actors in a VC interact in a complex network and can be aggregated at multiple levels (individual collectors, cooperatives, individual traders at the district and higher levels, larger traders and collection centres, etc.) and in different processes and nodes along the VC.

These actors can play vital roles in transmitting information to and from buyers and producers, aggregating small volumes of product into economically viable amounts, moving livestock from areas with low prices to areas with high prices, arranging transport and storage services, handling cash, etc. For example, traders can provide rural farmers with inputs (commercial feed, new stock, etc.) either on a cash basis or on credit to be repaid when the livestock is sold. However, traders can also act in a predatory fashion by charging high margins on their transactions relative to the value that they add.

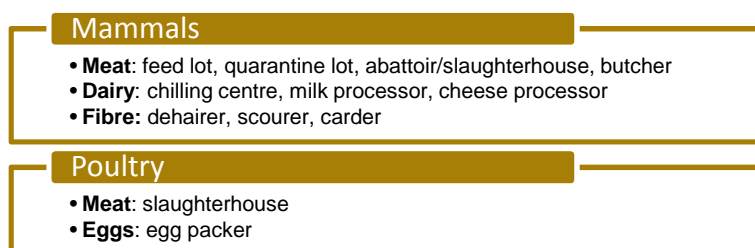
Box 6. Guiding questions for assessing aggregators, traders and transporters

- Who are the key traders at each node of the livestock VC?
- How do different target groups – women, youth, landless people and smallholders – participate as traders?
- What opportunities do traders offer to the target group(s)?
- What embedded services do traders offer to livestock keepers – information, credit, etc.? What are the charges – transparent and hidden – for these services?
- How do traders share essential information on market quantities and quality with producers?
- What net costs and benefits do traders add relative to the gross margins of livestock producers?
- What level of trust is there between traders and producers?
- What volumes of livestock or livestock product do traders collect over the year?
- What are the approximate revenues/margins earned from trading, including weight loss/gain during handling? What are the major drivers of costs and revenues? What share of the market do traders have?
- What role do traders play in arranging transport? What costs are incurred and how are these costs passed back to the producer?
- What access do traders have to facilities for preserving produce safely and in line with relevant standards – cold stores, etc.? How do they use these facilities?
- Where are the collection and distribution centres and the end markets – the farm gate, live animal markets in villages or towns, wet markets, slaughterhouses, supermarkets, small shops, restaurants, etc.?
- What modes of transport are utilized?
- What costs and time are required to reach the market by each mode of transport? What other terms and conditions apply?
- How does the quality or availability of transportation affect the product quality of meat, milk, etc.? Does transport result in animal losses – livestock weight decrease, deaths, theft, predation, etc.? What is the estimated financial impact?

Step 5.5: Processing

Processors transform livestock or livestock products and, therefore, vary depending on the characteristics of the VC being analysed. In traditional, simple VCs, livestock producers may carry out one or more processing operations and may even produce finished products. For example, sheep farmers may dehair the wool by hand, spin and weave it, and produce garments. More modern, complex VCs involve a considerable degree of specialization and multiple processing points along the chain.

The distinction between processors and service providers can be blurred. For example, contract processors who provide farmers with services for a fee but do not purchase products are better categorized as service providers. Major livestock subsectors and examples of the main processing actions are shown in the following list.



As always, the analysis should focus on the processors closest to the small-scale livestock keepers on whom the project is likely to concentrate its activities (Box 7).

Box 7. Guiding questions for assessing processors

- What types of processor of livestock products are there along the VC? What is the corporate status of these processors? Are they stand-alone or integrated?
- What other activities in the VC do processors perform – finance, technical assistance, inputs, etc.?
- How do women, youth and landless people participate in processing? Are there cultural or social barriers to their engagement?
- What opportunities could each type of processing offer to women, youth and landless rural poor people?
- What are the capabilities and limitations of processing facilities in meeting quantity requirements and quality standards? How aware of/compliant with good hygiene and safety practices and standards are the processors?
- What knowledge and skills do processors have? Where do they obtain up-to-date information on processing, regulatory and market requirements?
- Where are the processing facilities located relative to producers' villages and market outlets?
- What access to water and electricity do processors have?
- What access to credit for fixed or working capital requirements do processors have? What credit facilities do they offer livestock keepers? What terms do livestock keepers offer them – waiting five days for payment, etc.?
- What are the approximate revenues and gross margins of operations? What are the main drivers of costs and revenues? What level of dependence on donor or government funding is there?
- What is the scale and market share of the processors' activities? What are the trends in the competitive positions of the different actors performing the same operation within the VC – informal butchers versus supermarket operations, etc.?
- What processing associations are there? What services do they offer? How are they linked to other VC actors?

Step 5.6: Distribution

Importers, retailers and wholesalers. Retailers and wholesalers are critical VC actors because they are the final links to consumers.

In certain localized VCs, power and market information are concentrated in distributors. In these cases, market information is viewed as a competitive advantage to be kept from small-scale producers rather than a tool for creating win-win relationships. However, small-scale producers can compete to some extent by selling milk or meat at the farm gate.

In localized VCs, independent retail and wholesale institutions may be important partners in helping to ensure that rural producers achieve returns commensurate with their investments (Box 8).

Box 8. Guiding questions for assessing retailers and wholesalers

- What types of retailer and wholesaler of livestock products are there?
- How many of each type are there? Where are they located? What shares of the market do they control?
- Which retailers and wholesalers fall into IFAD target groups – women, youth, landless people, smallholders?
- Which retailers and wholesalers could provide opportunities to people in IFAD target groups?
- What other services do retailers and wholesalers provide in the VC?
- What are their interests in establishing relationships and linkages with other VC actors, especially smallholder producers or those who serve smallholder producers?
- What sale volumes and gross margins do retailers and wholesalers have?
- What quality/certification standards do they require? How well are these adhered to?

Step 6: Inputs, services and systemic issues

The various types of supporting service are described in the following sections. These services can be provided by specialized providers, such as veterinarian and extension services, animal insurance, feed and credit provided by a dairy processor/hub. However, in many VCs, inputs and services are provided by other VC actors. For example, traders can offer credit, while input suppliers can offer technical assistance and training.

Step 6.1: Inputs

Input and equipment suppliers. The main inputs for smallholder livestock development include:

- animal inputs – breeding stock, semen for artificial insemination (AI)
- veterinary drugs and vaccines
- feed inputs – formulated feeds and supplements, forage/fodder crops and tree seeds/seedlings
- fertilizer
- feeding and watering equipment
- shelter
- processing and storage equipment.

A wide range of VC actors can supply small-scale livestock producers with inputs/equipment, including the smallholders' peers, larger-scale farmers, local agrodealers, para-veterinarians, veterinarians, veterinary drug stores, agricultural service centres in major towns and cities, and cooperatives (Box 9).

Box 9. Guiding questions for assessing input and equipment suppliers

- What types of supplier of inputs for livestock production are there in the target area? Where are they located relative to the target communities? What access to their services do vulnerable groups such as women have?
- What range of supplies do they provide? At what prices? Are the supplies appropriately packaged and labelled for smallholder livestock keepers?
- What form of organization or ownership do they have – cooperatives, agrodealers, government stores, etc.?
- What intermediaries are there and how important are they – cooperatives, livestock producer groups (LPGs)/associations, private agents, etc.?
- What are the payment terms – cash, credit, barter, etc.?
- What supply issues arise during the year – periodic shortages/lacks of certain items, etc.?
- What technical knowledge, business skills and supportive tools, such as equipment and transportation, do input suppliers have? How do these capacities affect the suppliers' ability to serve their customers?
- What training or support services do suppliers offer or arrange to facilitate the effective and safe use of the inputs and equipment that they supply? What other services do they offer?
- Are inputs packaged and labelled in ways that facilitate simple and safe use by small-scale livestock keepers?
- Are there government policies or practices that restrict availability (e.g. of vaccines or drugs) or discourage provision by the private sector (e.g. subsidies)?
- What opportunities are there for rural poor people to be involved in the supply of inputs or equipment – acting as agents, installing/maintaining equipment, etc.?
- Are smallholder livestock keepers able to evaluate the cost-effectiveness of different inputs? Are they willing or able to pay a premium for high-quality inputs?
- If production increases significantly, how will the input supply system respond?

Step 6.2: Services

Livestock service providers. Major livestock services for smallholder livestock development include:

- veterinary services – vaccination, parasite removal, castration, disease treatment
- extension and training – covering animal husbandry, fodder production, breeding
- animal breeding – stud (breeding) services, AI
- animal care – herding
- certification/inspection – organic certification, health and safety inspection.

There are a wide range of service providers, many of which are also input/equipment providers. Veterinary service providers include qualified veterinarians, veterinary technicians and para-veterinarians/community animal health workers. Extension can come via government agencies and also from peers (e.g. students of farmer field schools [FFS] or LPG members), cooperative staff, staff of private companies (supporting the marketing of inputs and equipment) or buyers seeking higher quality, steady supplies or lower costs (Box 10).

Box 10. Guiding questions for assessing livestock service providers

General

- What types of service provider offer services for livestock production? How do these providers interact with livestock keepers and what access do livestock producers have to them? Where are they located relative to the target communities? What are the access issues for vulnerable groups such as women?
- What services do they provide? At what prices? What is the quality of the services and how cost-effective are they?
- What are the payment terms – cash, credit, barter, etc.?
- What factors affect accessibility – more powerful/wealthy groups monopolizing services, etc.?
- What technical knowledge, business skills, tools and equipment do service providers have? How do these characteristics affect their ability to serve their customers?
- Are there government policies or practices that restrict service provision (e.g. of poultry vaccination) or discourage private-sector provision – by providing free or subsidized services, etc.?
- What opportunities are there for rural poor people to become involved with service provision – as community animal health workers, etc.?
- Are smallholder livestock keepers able to evaluate the cost-effectiveness of different service options? Are they willing to pay a premium for better services?

Animal breeding

- What breeds are kept in the target area – exotic, crossbred, indigenous, etc.? What are the main breeding practices and production systems? What are the main advantages/disadvantages of each system from the local perspective? Are there any differences between the breeds, practices and systems of women and men?
- What are the major problems related to breeding that constrain the development of livestock production in the area? What are the possible solutions to these problems?
- What are the products, services and trends related to animal breeding/AI? Are there any access issues? What are the costs and payment terms – cash or credit?
- Where are the suppliers' operations located? Are these locations accessible for target communities?
- What are the differences in quality and price among different service providers?
- What are the main constraints to the management of animal breeding – land, labour, capital, information and knowledge, etc.?

Animal health and veterinary services

- What economically important animal health issues are there – prevalence, morbidity, mortality rates, causes, impact, disease control strategies used, treatments, etc.?
- What veterinary drugs and vaccines, acaricides, insecticides and other chemical treatments are available? How reliable are they? What volume of sales do they each have?
- What service providers – public, private, community-based – are commonly used? What are their relative advantages and disadvantages?

Livestock identification and traceability

- What livestock identification and traceability systems (LITS) are used? What are the costs and benefits of compliance with these? For which markets are they important?

Animal feeding and fertilizers

- What feeding practices are applied – feed sources, types and quality; feed and water availability (by season); supplementary feeding strategies; feed and supplements collected/purchased (by season); feed conservation/storage systems; coping strategies for forage scarcity. What are the main constraints to feeding?
- What are the relative productivity and resilience of the different forages available?
- What quantity of feed is purchased – crop residues, green fodder, industrial by-products, etc.? What are the main sale and purchase channels? What prices are applied in these channels in wet and dry seasons?
- What advice on feeds and feeding is available, and from whom? What is the quality of the advice?
- What systems are used for seed production and supply?
- What are the prices of the different feeds and fertilizers available? Are they affordable for poor people/IFAD target groups?
- What are the payment terms? When do seasonal price increases and decreases for feed and other inputs occur?
- What are the production and sale volumes of feeds and fertilizers?
- Are the locations of feed and fertilizer suppliers accessible for target communities?

Extension

- What technologies do smallholder livestock producers and their service providers use? What level of skills do they have? What indigenous/traditional knowledge is used?
- What are the status and capacity of public, private and community-based extension systems?
- How are extension services delivered – via FFSs, traditional training, model farm days, exchange visits, etc.? How effective are these channels? What gaps are there?

Food safety/quality control and certification

- How is food safety/quality control exercised and organized? Who provides services for food safety/quality control and certification? How are services paid for?
- What are the sanitary and phytosanitary requirements for trade?
- To what extent are certificates of origin and health inspection issued? To what extent does the market require them?
- How aware of standards and certification processes are smallholder livestock producers?

Other supporting service providers. Competitive VC actors may use other supporting services, including market information and business consulting. These services should be identified and analysed (Box 11).

Box 11. Guiding questions for assessing other supporting service providers

Market and business services

- What gaps are there in the business skills of livestock producers?
- What marketing and business skill services are available to target groups?
- What are the costs of the services provided? Are there credit terms? How cost-effective would it be for the IFAD target group to utilize these services?
- How do livestock VC actors obtain access to reliable market information on prices, trends, types of product, quantities and quality demanded by buyers, suppliers, etc.? Where does the information come from? What are the gaps in information and the possible solutions for these gaps? What are the costs of obtaining information?
- How could service gaps be addressed – by building the capacity of existing service providers, forming producer cooperatives, establishing linkages to the private sector, etc.?

Step 6.3: Finance

Financial service providers. The major financial services for smallholder livestock producers include the following:

- **Savings** in individual or group accounts. Saving services are typically provided through semi-formal groups, such as village savings and lending associations, or through banks. Improved services for financial savings are important in helping smallholders to move away from dependence on livestock as their sole – often risky – means of savings. Once VC actors have established a track record in savings, it is easier to obtain credit for VC upgrading.
- **Animal purchases** for longer-term restocking and shorter-term fattening activities. Animal purchasing can be funded by microfinance institutions (MFIs), banks, in-kind provision by the buyers of livestock products (especially for animal fattening) or NGOs using “pass on the gift” schemes, such as Heifer International.
- **Input and other working capital** – typically short-term loans of less than one year. Working capital often comes from MFIs, banks, product buyers or input suppliers. It can be in-kind or in the form of cash.
- **Equipment and infrastructure finance** – loans of greater than one year. This finance can take the form of instalment purchases, leasing and term lending. IFAD projects can often cofinance these loans through components of infrastructure projects/the Adaptation for Smallholder Agriculture Programmes. Examples of this kind of finance include investments in climate-resilient shearing sheds in Lesotho’s wool and mohair VC, and dip-tanks for disease control in Malawi’s beef VC.
- **Animal insurance** – for animal losses resulting from mortality, natural perils, fire, theft, poisoning, diseases, the risk of calving, etc.; and losses of feed/fodder crops resulting from excessive rain, floods, drought, hailstorms, cyclones, insect/pest attacks, frost, wind, fire, etc. A variety of different livestock insurance schemes for smallholder livestock keepers are available in some countries. Livestock insurance is often required by MFIs and included in loan packages as a means of covering risks. An innovative example from Mongolia, where risks are shared between private insurers and the government, is described in Box 12.
- **Trader/embedded credit.** In these schemes, traders advance credit to livestock producers and deduct the loans when they pay for the producers’ products. Provision of finance by buyers/traders is often known as “embedded finance” because the financial services are embedded in a physical transaction. There can be lack of transparency in the terms of embedded finance. Traders can act in a predatory fashion by charging high effective rates of interest or marking up the cost of the goods so that even if there is zero nominal interest, the actual cost to the borrower is high. However, not all embedded credit services are predatory. Larger-scale buyers in the formal sector can borrow at favourable terms, such as bank prime lending rates, or make bulk purchases of products at considerable savings and then lend them on to small-scale livestock producers at more attractive terms than those offered by an MFI or trader.⁴

⁴ For an interesting case study of embedded credit from traders, see Tay Nouyen University, CIAT, VCN, ILRI, ICERDA, CGIAR. 2011. *Credit through traders – enabling the poorest to engage in cattle fattening*. Enhancing Livelihood of Poor Livestock Keepers through Increased Use of Fodder. Addis Ababa, Ethiopia: International Livestock Research Institute (ILRI).

Box 12. Livestock insurance for Mongolia – public- and private-sector risk sharing

In response to massive livestock losses from severe winter weather that killed a third of all livestock in 2000-2002, the Government of Mongolia entered into a credit agreement with the World Bank to implement the Index-Based Livestock Insurance Project (IBLIP). This project applies an approach that combines self-insurance, market-based insurance and a social safety net. Herders bear the cost of small losses that do not affect the viability of their businesses, larger losses are transferred to the private insurance industry and only the final layer of catastrophic loss is borne by the government. Shortly after its launch, the project was hit by three consecutive years of high livestock losses, with 2010 being the worst year in recent history. Despite these severe losses, insured herders received the full indemnities due and the insurance companies have remained committed to the project. International reinsurance was obtained in 2010. As of 2012, the project has been scaled up to the national level and is available in all 22 provinces of Mongolia.

Sources: IFAD (2012); ILO (2012), World Bank (2001)

These are just a few examples of the finance provided to livestock keepers. A VC approach also analyses the availability of finance throughout the VC and how this availability might affect smallholders (Box 13). For example, if exporters have difficulty obtaining pre-export or post-shipment finance, export volumes will be constrained, with negative effects on demand and – ultimately – impacts on smallholder farmers. In these cases, it may make sense for a VC project to facilitate export finance, even if smallholders themselves are not exporting.⁵

Box 13. Guiding questions for assessing financial service providers

- What financial services are required for VC upgrading? What services are available?
- What are the views/experiences of financial institutions regarding the provision of finance for inclusive VC upgrading?
- What financial institutions for livestock production are available in the target area – insurance companies, banks, MFIs, leasing companies, etc.? What financial services relevant to smallholders do they offer?
- What less formal providers of finance are available – village lenders, village savings and loan associations, other group savings/credit associations, community banks, etc.? What financial services do they offer?
- What other sources of finance are available – project revolving funds, community-based organizations, etc.? What financial services do they offer?
- What embedded financial services do suppliers and buyers offer?
- What are the terms of the various finance options relevant to the target group or to main VC actors – lengths of loans, collateral requirements, interest rates, grace periods, fees/commissions, etc.?
- What are the net costs of each finance option in the gross margins of livestock producers?
- What experiences have smallholders had of using the financial services? What are the barriers to access – collateral, need for viable business plans, gender issues, etc.?
- How well can livestock keepers evaluate the different financial products and services? To what extent do livestock keepers use animals for savings as opposed to income generation?

Step 6.4: Enabling environment

The cultural, institutional, policy, legal and business environment under which the VC operates need to be assessed to identify constraints or gaps and opportunities for engaging in policy advocacy or policymaking processes in the context of the project or country programme (Box 14).

The following aspects of the enabling environment should be examined:

⁵ For more background on value chain finance issues, see International Fund for Agricultural Development (IFAD). 2012. *Agricultural value chain finance strategy and design*. Technical Note. Rome: IFAD.

- institutional, policy, legal and business environment affecting the livestock VC, including access/user rights to land and natural resources, and research and development (R&D)
- cultural, social, religious and gender-based systems and practices
- rural infrastructure.

Box 14. Guiding questions for assessing the enabling environment

Institutional, policy, legal and business environment

- How do government policy, fiscal and regulatory interventions affect the production, volume, prices and margins of livestock products in the markets? In particular, what are the impacts on target groups?
- How do fiscal policies encourage/discourage livestock production and reduce/increase costs for producers – through subsidies, price stabilization, taxes and levies that restrict supply, etc.?
- How do market regulations limit the marketing of livestock or related products?
- What are the policies regarding veterinary service delivery?
- What policies influence breed choice and access to/use of AI?
- What are the rules and regulations on animal movement in the country?
- What are the rules, regulations and standards – both formal and informal – for food safety, product quality, etc.? Are they enforced? Do they affect participation of IFAD's target group?
- What smallholder and pastoralist institutions are there for supporting production and marketing, natural resource management and service provision, and for influencing policy? How effective and representative are they?
- What are the main livestock policies – pastoral mobility, governance/management of pastureland, delineation and protection of rangelands, demarcation of stock routes, integrated rangeland and landscape planning, legalization of grazing rights, etc.? What are their impacts on smallholders?
- What are the status of and investments in R&D on issues relevant to the VC – animal and veterinary health measures, improved forage crops, use of crop by-products, improved husbandry practices, local breeds, participatory research, etc.?

Cultural and gender-based systems and practices

- What land/natural resource user rights are there, by gender? How do these rights, or the lack of them, constrain smallholders' participation in the VC?
- What are the gender-based systems/practices that influence women's participation in the VC?

Rural infrastructure

- What gaps are there in infrastructure for all the processes required for VC development – roads, electricity supply, water supply, markets, etc.?
- What gaps are there in the equipment and facilities available to all processes and actors in the VC – processing facilities, storage facilities, drug kits for veterinarians, etc.?

Step 6.5: Governance

VC governance refers to the vertical relationships among actors along the VC that coordinate the range of activities required to bring the product from its inception to the end user. These relationships can range from spot market transactions to contracts and on to fully vertical integration. The main issue is that governance concerns power and the ability to exert control along and at any point in the chain.

Smallholder livestock keepers typically have little power in VC governance structures, as they are price takers who are subject to more powerful actors such as butchers, abattoir owners, dairy processors and

veterinarians. Smallholder farmers generally produce and sell when they need cash, want to restock, lack feed, fear cattle raiding, etc., rather than timing their production to match market demand. When VC governance is poor, information on market demand does not flow to producers and even when it does, producers are not equipped to respond.

Livestock keepers' organizations. Small-scale livestock keepers generally need to be organized to participate effectively in VCs. Organizations reduce production costs for their members by achieving economies of scale that reduce the costs of procuring inputs and collecting livestock products, and can enhance value-added through processing and better handling/storage. They can also be effective in promoting the interests and improving the bargaining power of farmers with buyers, suppliers and government policymakers.

National associations. National and regional organizations can play important roles in VC projects. There are various models of national association, each with different memberships and mandates:

- *National livestock associations*, such as apex-level cooperatives or farmers' unions, can be a highly effective means of facilitating dialogue between farmers and governments. However, due diligence is required to ensure that organizations are truly representative, responsive to their members and competent.
- *Sector associations* seek to bring all or most members of a VC together to work on programmes of interest to all. For managing some policy issues, these organizations can be useful partners in VC projects.

Initial project design

Step 7: Strategic analysis and recommendations

Step 7.1: Partnerships

One of the most important steps in the design and implementation of a VC project is identifying potential key partners in the VC that will address the needs of livestock keepers, and understanding the business models and risk/profit drivers of these partners. Good partners have the flexibility and motivation to make a VC project succeed. Key VC partners include buyers of products, suppliers of goods and services, farmers' organizations, national associations and financial service providers.

Partnerships can provide access to the inputs, services and finance that enable smallholder livestock producers to participate competitively in markets. It is important that projects work only with companies that have a good reputation, and the project team should screen candidates accordingly. Does the potential partner honour its commitments? Does it operate in a safe and sustainable fashion?

The most sustainable and scalable forms of partnership are market-based – when all parties benefit tangibly and financially from the relationship, the shared activities flourish.

Market facilitation. Commercial, win-win partnerships can be promoted through use of emerging tools such as market facilitation (see Box 15), the market systems approach or the “making markets work for the poor” approach. All of these techniques are based on the same fundamental principles:

- understanding of the motivations and incentives driving market actors
- use of networking, linkages and *limited* amounts of technical assistance, training and time-bound schemes for reducing financial risk
- demonstration of successful pilot business models that market actors will adopt, adapt and bring to scale.

Box 15. The building blocks of a market facilitation approach

Identify partners. The best partners for market facilitation approach are those that could find a long-term business interest in the commercial success of the target group. As once the partner is making money by serving the livestock producer, the partner will remain interested.

Build interest. Commercial service providers are attracted to market opportunities. So, the market facilitation approach starts with building interest by demonstrating the opportunities offered by doing business with small-scale livestock keepers, directly or indirectly. Small to medium-sized companies will be primarily interested in short-term sales opportunities. Larger-scale companies often have a longer-term business objective; they are willing to take the long view and invest in ways of building the market and improving their competitive position within that market.

Ways to build interest:

- This could be in the form of market information (e.g. number of small-scale livestock keepers, number of animals) or on how to reach the small-scale livestock keepers (e.g. identifying the location and capacity of agrodealer shops and their locations).
- Subsidies can be useful in building interest but they must be “smart subsidies”, carefully targeted to reduce the initial risks of a service provider entering a new market. The project must not subsidize ongoing commercial transactions. Examples of smart subsidies include a grant to redesign packaging so that the portion size and labelling are appropriate for smallholders, or providing to-be-decided (TBD) equipment on a low cost lease for a pioneering service provider for a trial period.
- Instead of providing a matching grant for feed processing, the market facilitation approach would lease or lend feed processing equipment for a service provider. The service provider tries it for a year or so, and if small to medium-sized companies find it useful, they buy it on a commercial basis.

Build capacity. Once interest is generated, the market facilitation approach then builds the capacity of private-sector service and input providers to serve the small-scale livestock holder. The capacity-building measures vary widely and depend on the needs and desires of the service providers. The market facilitation approach can encompass a wide range of activities, including technical training, business skills training, developing customer information systems, marketing campaigns, support for new, smallholder-appropriate packaging, planning demonstration farms, etc.

Scale up: Market facilitation activities demonstrate pilots to provide “proof of concept” of a business model. The project should not continue to support ongoing commercial activities but help expand and modify the model to reach more smallholders with better services more cost effectively.

The market facilitation approach is not the only tool for VC projects. In many cases, effective VC participation depends on essential “public goods” provided by the government, such as animal quarantine services, meat safety regulations or adequate rural roads. In a surprising number of cases, however, the market facilitation approach can provide at least some of what were previously considered public goods.⁶

PPPPs. In situations where services and inputs cannot be delivered by the market alone, and where both government and the private sector see a long-term strategic advantage, a public-private-producer partnership (PPPP) approach may be employed. A PPPP acts as a profit and risk-sharing mechanism that overcomes market failure. It combines the expertise and resources of private-sector actors with the capacity of the public sector to mitigate risk and improve the enabling environment – both physically and legally. A good example of where a PPPP may be appropriate in the livestock sector is in the development of LITS. For instance, a LITS may not be profitable as a commercial service but provide an invaluable service to the export beef/livestock VC as a whole. Many governments do not have the resources to manage an LITS efficiently. In such cases, a PPPP could be created through which the government delegates responsibility for implementing the LITS to an independent agency with a governance structure

⁶ For more detailed information on using a market systems approach, see Department for International Development (DFID). 2008. *Making Value Chains Work Better for the Poor: A Toolkit for Practitioners of Value Chain Analysis*. Making Markets Work Better for the Poor (M4P) Series. London, United Kingdom: DFID.

that reflects a true private-public partnership. The government's role would be to help capitalize and audit implementation of the LITS.⁷

Key partners

Livestock and livestock product buyers are fundamental partners that are included in nearly all VC projects. Selection of these partners should focus on buyers that are or could be interested in purchasing from the project's target group – either directly or indirectly (Box 16). These buyers can include village butchers, wholesalers, milk collection centres, traders, feed lots or export abattoirs, depending on the livestock VC.

Livestock buyers are usually private-sector businesses – with some notable government-run exceptions, such as the Botswana Meat Commission – and range in size from small, local/village agrodealers serving the target group to multinationals, which increasingly view small-scale farmers and their associations as viable business partners, customers or suppliers.

Box 16. Guiding questions for assessing livestock buyers for partnerships

- What price, quantity, quality, timing and other criteria do buyers apply?
- What experiences of buying from small-scale producers/traders do buyers have? How have buyers overcome difficulties and scaled up successes?
- What are the motivating factors for buyers to work with small-scale farmers on a fair and sustainable basis? Examples include:
 - access to alternative supplies, at different times of year, in different areas
 - more attractive prices
 - higher quality.
- What resources could buyers bring to a business relationship – technical skills, equipment, infrastructure, etc.? Under what circumstances?
- What are the buyers' interests in exploring long-term relationship?
- Where are buyers operating and where are the areas of strategic interest to them?

Suppliers of inputs, services, finance and equipment. Upgrading production to meet buyers' demand requires access to improved inputs, such as feed and pharmaceuticals; services such as AI, transport, storage, certification, marketing and market information, extension and business development; and equipment/infrastructure such as animal shelters, watering points, stock routes and marketing structures (Box 17).

Box 17. Guiding questions for assessing suppliers for partnerships

- How well do the suppliers understand small-scale livestock keepers as a market segment – in terms of current and potential demand for products and services, etc.?
- How do suppliers serve small-scale farmers or other members of the target group – directly and indirectly? What have they learned from this experience? How do they address the risks and costs of working with small-scale producers?
- How can the business models of suppliers be modified to serve the target group more effectively – through changes in packaging, distribution, branch network, staffing, etc.?
- What short-term support could be provided to leverage suppliers' interest in the smallholder livestock market – market research, training of supply chain intermediaries, access to funds, etc.?

⁷ Camagni, M., and M. Kherallah. 2014. *How to do commodity value chain development projects*. Rome: IFAD. International Fund for Agricultural Development (IFAD). 2014. *A Field Practitioner's Toolkit: Institutional and organizational analysis and capacity strengthening*. Rome: IFAD. It provides a helpful framework for analysing organizations (public/private), developing capacity-strengthening plans, and tracking institutional and organizational change in PPPPs.

Box 18 provides an example of a market facilitation approach for improving veterinary services in the Somali region of Ethiopia, where livestock is the main livelihood and pastoralists account for nearly 40 per cent of the population.

Box 18: Market facilitation/market systems – the case of veterinary services for small-scale livestock holders in the Somali region of Ethiopia

In the Somali region of Ethiopia, the USAID-funded RAIN project identified two main constraints limiting livestock health and productivity: *poor availability of quality pharmaceuticals* and the *limited outreach of animal health services*. Underlying these constraints were three immediate causes of system underperformance:

- **Weak pharmaceutical distribution network.** Limited access to a supply of quality pharmaceuticals enabled the informal market to flourish. Causes included weak linkages between national wholesalers, regional wholesalers and private veterinary pharmacies (PVPs).
- **Limited service outreach of PVPs.** Services are limited largely to urban/peri-urban centres. Causes included low commercial incentives for PVPs to invest in expansion and limitations in the prevailing operating model of most PVPs.
- **Limited scope of community animal health workers (CAHWs) services.** Coverage is patchy of active CAHWs, the majority relying solely on income from administration of government vaccination campaigns. Causes included weak linkages between CAHWs and PVPs, poor business models and/or acumen of many CAHWs and market distortion by donor-funded support.

After careful analysis and consultation, the RAIN team determined that the PVP played a pivotal role within the animal health inputs system and that this was a key entry point into the value chain. The following activities were undertaken:

- **Workshops** strengthening PVPs vertical linkages with pharmaceutical wholesalers. As a result, PVPs forged connections both within and between regions and at different levels of their supply chain, breaking down cultural boundaries and improving the flow of information.
- **Input trade fairs.** RAIN organized a series of input trade fairs to “buy down” this investment risk and provide an opportunity for PVPs and regional “wholesalers” to undertake informal market research. The first fair included a subsidized discount of 33 per cent on all products, up to a maximum of US\$1,000 per PVP, paid to PVPs directly on presentation of receipts. The subsidy aimed to incentivize PVPs’ participation and to explore the marketing implications of product discounting. The second fair offered a fixed US\$200 transportation stipend complemented by prizes for overall sales performance and marketing innovation. The second fair attracted fewer but more highly committed PVPs.
- **Business and marketing training.** RAIN developed a capacity-building programme to provide key skills, including drug administration and handling and warehouse management, and supported the regional wholesalers to deliver the training to PVPs. The aim was to establish and consolidate linkages between regional wholesalers and PVPs, as well as encourage embedded training and information service development.
- **PVP start-up finance.** RAIN offered a grant for PVPs to open satellite stores in underserved regions, paid only after the store was open and stocked.
- **CAHW-PVP linkage facilitation and CAHW capacity-building.** Market analysis showed that CAHWs with commercial linkages to PVPs could significantly impact animal health. CAHWs were offered refresher training held simultaneously with mini-trade fairs with PVP participation and were offered discounts on drug/equipment kits.

The results have been encouraging. Stronger commercial linkages between wholesalers at regional and national levels have developed. Tropical Pharma, the prime national wholesaler selling to the Somali region reported that product sales to the region have increased by around 70 per cent since RAIN’s Addis Ababa workshop. This has translated into a significant increase in trade volumes with, for example, the Jijiga regional wholesaler increasing his monthly sales more than eightfold over a two-year period. These significant figures can be attributed to increased demand from PVPs in the Somali region.

The sector has seen rapid innovation in embedded services provided by wholesalers, many of which are being passed on to PVPs and subsequently to CAHWs. Regular information flows on new and existing products, their usage and feedback on customer preferences have become commonplace between national wholesalers, regional wholesalers and PVPs (while two years ago only 43 per cent of PVPs received any information, 93 per cent now receive information).

More than twice the number of PVPs can now access credit from wholesalers and three times as many PVPs are provided support with transportation. PVPs now offer price discounts and credit to trusted and regular CAHW clients, and promotions and greater information and advisory support to customers and CAHWs. Indications suggest significant advance in the “access frontier” in the Somali region, particularly of pharmaceutical services and products. With RAIN support, seven PVPs have established satellite retail outlets in underserved areas, enabling them to access wider client and CAHW networks and secure further economies of scale from suppliers. A variety of salaried and commission-based arrangements have evolved around these satellites, with many managed by trained CAHWs.

Step 7.2: Policy advocacy

Policy advocacy is a fundamental tool for VC projects. The main policy issues are identified during the policy analysis undertaken as part of the VC study. Additional policy constraints and bottlenecks will emerge during implementation of the project. For example, in IFAD’s Support to Small-Scale Traditional Rainfed Producers in Sinnar State (SUSTAIN) Project in the Sudan, para-veterinarians were trained and equipped as independent village-based service providers. However, they were constrained by policies that prevented them from carrying out relatively simple operations, such as providing Newcastle vaccination services, without the supervision of a veterinarian. This reduced the services that the para-veterinarians could offer, lowering their earning potential and constraining access to services in remote villages that veterinarians never visited.

Innovation platforms (IPs) are a key mechanism for building consensus around policy advocacy. IPs provide a forum for major stakeholders and policymakers at the local and national levels to identify ways of improving policy for inclusive VCs.⁸ In addition, site-specific solutions for aligning production with market requirements emerge during project implementation, resulting in better returns for producers.⁹

Step 8: Validation of the value chain analysis and development of a stakeholder vision

Validation is essential. Design teams cannot simply design a VC project and present it to stakeholders as a fait accompli. The findings, results and recommendations from VC analysis must be presented to stakeholders at all levels to obtain validation, feedback and ideas, and to facilitate the creation of a shared vision for the VC.

VC validation workshops at the regional and national levels are appropriate mechanisms. The design team should participate in the design and implementation of these workshops. All key stakeholders should be invited and – to the extent possible – be encouraged to take active roles in implementing the workshop, as rapporteurs, resource personnel, members of panels, etc. Looking ahead to implementation, VC validation workshops help identify key players who could participate in an IP.

As an outcome of the validation workshops, a *vision* can be articulated that captures the objectives of the strategy, is realistic and stimulates the imagination of stakeholders. The vision should be assessed in terms of the “triple bottom line” of economic, social and environmental objectives, and be compatible with, or seek to influence, existing national development plans for the sector.

The vision should be a succinct summary of what the bottom-line goals are. The following is a recent example of a vision for the Botswana beef sector:¹⁰

Our vision of a highly competitive beef value chain is one that:

⁸ Examples of IFAD projects that have incorporated IPs include Small Ruminant Value Chains as Platforms for Reducing Poverty and Increasing Food Security in Dryland Areas of India and Mozambique and the Integrated Livelihoods Support Project in India.

⁹ For more information on IPs, please refer to Homann-Kee Tui et al. 2013. *Innovation Platform Practice Brief*. Consultative Group for International Agricultural Research (CGIAR). Research Program on Integrated Systems for the Humid Tropics. Nairobi, Kenya: International Livestock Research Institute (ILRI).

¹⁰ van Engelen, A., P. Malope, J. Keyser, and D. Neven. 2013. *Botswana Agrifood Value Chain Project: Beef Value Chain Study*. Rome: Food and Agriculture Organization of the United Nations (FAO).

- produces, in harmony with wildlife and from a national herd of 4 million head of cattle, 125,000 tons of beef annually, of which 100,000 tons are exported, generating US\$600 million in export earnings
- supplies a range of natural rangeland beef products that are globally perceived as meeting the highest standards of quality, safety, service delivery, social inclusion and natural resource management
- is characterized by a transparent, liberalized market in which the government's main role is that of facilitator and enforcer of regulations that are in line with the strictest global market standards, and in which well-informed, well-supported and well-organized farmers, from the smallest scale to the largest scale, can profitably sell into a wide range of markets, including the EU
- is characterized by PPPs that are facilitated through a national beef council (or similar) and that drive continuous investment, upgrading and innovation using cutting-edge technologies and management practices all along the chain, from range management, through breeding, cattle rearing and processing to marketing
- is characterized by all stakeholders in the value chain sharing a common vision and continuously seeking ways to improve vertical coordination in order to create, capture and fairly share end-market value.

While this is a good example of a crisp, succinct vision statement, it does not include the vision for smallholder livestock producers and the rural poor. For an IFAD project, the vision statements would add:

- creates meaningful, decent work opportunities for rural poor people and offers market access opportunities to commercially-oriented small-scale livestock producers willing to invest in upgrading their capabilities.

Final project design and quality assurance

Step 9: Finalization of project activities and partner selection

Guided by the validated VC analyses and stakeholder vision, the VC project will use a range of activities to open up opportunities for and remove bottlenecks to VC upgrading. These are the activities described in this note. IFAD has been implementing them for many years in its projects:

- market facilitation – services, inputs, finance
- upgrading of business models, such as contract farming
- PPPs
- policy advocacy, including through IPs
- institutional capacity-building, such as extension, research, cooperatives/farmers' associations, sector councils
- infrastructure development.

The objective of all VC projects is to empower smallholder livestock keepers and the rural poor to upgrade their production activities, based on market demand and requirements:

- **Process or product upgrading** involves producing the same product more efficiently by using new inputs, technologies and management methods, or producing a better-quality product.
- **Intra-chain or functional upgrading** involves producing new goods or services either upstream or downstream from the producer.
- **Coordination or business model upgrading** involves improving coordination and organization along the VC, resulting in higher incomes for IFAD's target groups.

Step 10: Monitoring and evaluation

Identifying and tracking results is essential for managing and evaluating VC projects. Successes can be highlighted, publicized and scaled up. Failures can be identified and corrective action taken.

Both quantitative and qualitative indicators are important for effective monitoring. A maximum of three indicators for overall impact and three for each project outcome should be sufficient for measuring results. The following list provides possible indicators for pro-poor livestock VC projects but is not exhaustive. All indicators should measure only the changes that are induced by or can be attributed to project activities; where appropriate and possible, they should be disaggregated by gender.

Impacts at the beneficiary household level	<ul style="list-style-type: none"> ▪ Annual income ▪ Stability of income flows throughout the year ▪ Physical assets and savings
Market performance	<ul style="list-style-type: none"> ▪ Off-take of livestock and livestock products from target producers, per VC actor ▪ Number of new market channels providing access for producers and each actor, and the relative importance of these channels ▪ Numbers of smallholders, landless, poor and young people participating in and benefiting from the VC, by gender, with estimates of the impacts of participation
Access to inputs and services	<ul style="list-style-type: none"> ▪ Volumes and values of services and inputs to which target groups have access ▪ Number of suppliers/service providers for target groups
Household livestock production and sale	<ul style="list-style-type: none"> ▪ Livestock production – number of livestock, volume of production ▪ Livestock productivity – return on investment ▪ Product quality – in US dollars or equivalent per kilogram ▪ Sales of livestock and livestock products
Enabling environment for pro-poor participation	<ul style="list-style-type: none"> ▪ Number of rural infrastructure works completed, and estimated economic impact ▪ Policies approved or changed in relation to the VC, and estimated economic impact ▪ R&D investments, and estimated economic impact

Concluding remarks

- A market-oriented VC approach is important for the livestock sector.
- Applying a VC approach ensures that products meet market requirements, establishes market linkages and translates into increasing incomes for IFAD's target groups.
- It is important that the scaling up of VC approaches using market facilitation techniques is considered early in the project implementation process (see Scaling up note: A value chain development approach to scale up results in agriculture. IFAD, 2015)

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Websites

http://livestock-fish.wikispaces.com/VC_Toolkit



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