

CHAPTER ELEVEN

Sheep and Goat Economics of Production and Marketing

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Objectives

1. To explain problems related to marketing of sheep and goats and methods to solve marketing problems.
2. To explain the role of cooperatives in solving problems related to marketing of sheep and goats.
3. To explain the role of microfinance institutions in providing financial services to resource poor farmers and pastoralists.

Expected outputs

Users will be able to train farmers and pastoralists to be market-oriented producers, who have some basic knowledge of computation of costs and returns of sheep and goat production and marketing.

11.1. Introduction

Small ruminant production is important due to the fact that sheep and goats are easily managed, require a relatively small initial investment and their short generation interval lends itself to a fast return on investment. In Ethiopia, smallholder farmers raise sheep and goats as a major source of meat and immediate cash income. International demand for sheep and goat meat is increasing. Given the potential of Ethiopia in terms of livestock and geographic location, the small ruminant sector is not making a satisfactory contribution due to market-, breeding-, and management-related problems. Thus, understanding these problems and the socio-economics and marketing of sheep and goats is vital for future improvement of the sector. The material covered in this chapter is designed for sheep producers at various levels of sophistication. It will help inject economic concepts and the idea of market-oriented production, beginning with small-scale farmers and pastoralists. Some information will be especially useful to producers with clear market objectives.

11.2. Sheep and Goat Production as a Business Venture

To obtain the largest possible benefit from a sheep and goat business venture, producers should conduct an enterprise analysis that includes production, marketing and financial analyses.

Production analysis –Related to the analysis of physical performance measures like percent lamb/kid crop, lambs/kids produced per ewe/doe, weight of weaning lambs/kids, feed consumed per head, etc. These have been dealt with in detail in previous chapters. In production analysis, production efficiency is the main goal.

Marketing analysis – Related to the availability of markets for inputs and products, market calendar, market facilities and market information on sheep and goat transactions.

Financial analysis – Deals with the analysis of the profitability of the sheep/goat enterprises.

Most farmers and pastoralists spend much of their time planning production activities. However, marketing plan and financial analyses are also equally important for optimizing income. It is essential that Ethiopian sheep and goat producers become market- and business-oriented.

11.2.1. Production relationships

Profit is the driving force for taking risk in putting time and money into a given business venture. Farmers need to make decisions about allocation of their resources on a day-to-day basis as well as on a long-term basis. This includes decisions related to the whole farm such as what crops to grow, what animals to raise, what production system and inputs to use and how to market products. A farmer or pastoralist has to answer four basic economic questions:

- What should the farm produce?
- How much should be produced?
- How should it be produced?
- How should it be marketed?

Farmers obtain outputs when they use inputs. The farmer decides the amount of inputs he will use to meet his output goals. The amount and quality of the sheep and goat outputs (meat, milk, skin, etc.) are related to the type and amount of inputs (feed, medicaments, etc.). The value of outputs is also linked with the values and costs of other related products.

In real farm situations, farmers do not use levels of inputs that maximize profits, because:

- Their knowledge of the value of resources is imperfect and they are unsure of input/output relations.

- They are faced with risks such as uncertainty in future prices or future yields. Farmers forego future returns to reduce risk.
- They have a shortage of capital to buy the necessary inputs that will maximize profit. In this case, credit is a good method of financing inputs that allow farmers to produce the level of output that maximizes profit.

The farmer will need to know the relative price differences between alternative inputs and the output prices. This will help to decide which combination of inputs to use to produce a certain level of output.

There is also a relationship known as product–product relationship. In this relationship, two outputs are produced when the level of inputs is fixed. The farmer desires to produce an optimal combination of outputs for a number of fixed inputs. The farmer aims to maximize revenue since the cost is fixed.

There are two optima in transforming inputs into output through a production process: the biological optimum and the economic optimum.

Biological optimum is attained when the maximum output level is reached. As an example, if an animal in a fattening operation ceases to increase in weight while still being fed, that is the point of biological optimum.

Economic optimum is reached when, for instance, in the same fattening operation, the additional cost of feeding is equal to the additional return obtained due to the additional feeding. The additional cost is the marginal cost and the additional return is the marginal revenue. In most cases, economic optimum is reached before the biological optimum. Further feeding after the economic optimum will reduce the profit as the additional cost is greater than the additional return. Fattening length (duration) should coincide with the economic optimum to earn the highest possible profit.

11.2.2. Planning and budgeting of sheep and goat production

Sheep and goat production planning is a program outlining all production activities drawn up in advance. Planning here is the process of developing the program.

Sheep and goat production planning includes taking an inventory of resources (feeds, land, labor and capital), devising alternate uses for these resources, estimating costs and returns associated with the alternate uses of these resources, and choosing the best alternative of producing sheep and goats.

Budgeting is the process of estimating costs, returns and net profit of sheep and goat enterprises. A budget is simply the plan translated into monetary form.

Budgets help the farmer or pastoralist to organize financial and physical planning. Sheep and goats can be raised through different alternatives, for example, grazing, stall-feeding, combination of grazing and supplementation, etc. By employing budgeting principles, a farmer or pastoralist can compare costs and benefits of alternative plans of action for a sheep and goat business and use the best alternative.

Costs are the total amount of funds used for the production of sheep and goats. Costs can be categorized as variable and fixed costs.

- **Variable costs** are costs incurred directly to the enterprise being budgeted, such as feed, fuel, and hired labor. These costs vary with the level of output. Example, feed costs to produce three sheep are less than feed costs to produce five sheep.
- **Fixed costs** are costs that occur whether the enterprise is operated or not, so long as one continues to maintain the farm. Taxes, insurance, interest on capital and depreciation are examples of fixed costs.

Variable costs related to the production of sheep and goats include:

- **Feed costs:** Concentrates, grass and hay, mineral/supplements, grain, water, etc.
- **Other variable costs:** Medicines/vaccines, breeding fees, supplies, marketing, transportation, utilities, labor, stock replacement, etc.

Fixed costs related to the production of sheep and goats include: housing, beginning stock cost, land rent, depreciation, taxes, interest, etc.

Farmers and pastoralists should know the prices of inputs and outputs in order to compute costs and returns. The price of inputs and outputs differ from place to place. While analyzing the profitability of sheep and goats, farmers and pastoralists should use the farm gate price for inputs as well as outputs.

Farm gate price is the monetary value of the item at the production point. For example, the cost of concentrate purchased for Ethiopian Birr (ETB) 25 in town with a transportation cost of ETB 6 is 25 + 6, which is equal to ETB 31 at the farm gate.

The minimum price or the lowest price accepted by a farmer or a pastoralist is the price level which covers the entire cost of production until the sheep and goats are ready to sell. A selling price that is lower than the cost of production means a loss for the business.

The minimum price can be calculated in two ways:

1. The minimum price for the entire farming period, by taking into account the initial capital, fixed costs and the cost of raising the animals.

$$\text{Minimum price per animal} = \frac{\text{initial capital(Birr)} + \text{fixed costs(Birr)} + \text{production cost(Birr)}}{\text{total number of animals for sale}}$$

2. The price for one production process, for instance in the case of fattening, includes all costs from buying the animals to selling them.

$$\text{Minimum price per animal} = \frac{\text{Production cost(Birr)}}{\text{Total number of animals for sale}}$$

There are four main types of budgets available to help farmers or pastoralists in the decision-making process. Each budget is specific in its application, but each uses the same principles. The main budgets are:

- Whole farm or ranch budget
- Enterprise budget
- Partial budget
- Cash flow budget

11.2.2.1. Whole farm or ranch budget

The whole farm or ranch budget is a detailed listing of resources of the entire business along with a plan to use these resources to achieve long-term goals. The whole farm or ranch budget sets the direction the business will take and helps the manager achieve long-term goals.

11.2.2.2. Enterprise budget

The enterprise budget is a physical and financial plan for a specific crop or livestock enterprise. The enterprise budget estimates expenses and receipts for a specified period of time using a specified set of production practices.

A budget is based on a specified set of production assumptions and is designed to cover a stated period of time, frequently one year. It is in reality a projection of what is likely to happen. The budget sets up two basic categories, one of costs and the other of revenues, the difference in which is the projected profit or loss.

In the short run, farmers and pastoralists may go into the sheep and goat business if it pays more than the variable costs. That is, the producer is at least paying part of the fixed costs. It should be obvious that the producer cannot continue to operate in such a fashion forever. The short-run operating decision is based on gross margin (revenues minus variable costs).

The longer-run operating decision is based on an excess of revenues above total costs, both fixed *and* variable, and is called the operating profit or loss. Table 11.1 presents a sample budget, complete with assumptions, revenues, costs, gross margin, and operating profit:

Table 11.1. Meat goats, 50 head unit, costs and returns per buck per year.*

Particulars	Per buck	Per unit
<i>Revenue</i>		
Sale of market animals (150 @ ETB 200)	200.00	30,000.00
Total Revenue	200.00	30,000.00
<i>COSTS</i>		
<i>Variable Costs:</i>		
Concentrate (0.8 kg × 70 days × ETB 1.25/kg)	70.00	10,500.00
Hay (2 kg × 80 days × ETB 200/ton)	32.00	4,800.00
Animal health	3.00	450.00
Salt, minerals	1.00	150.00
Marketing, transportation	5.00	750.00
Supplies	1.00	150.00
Interest on operating money (ETB 16800 × 12% / 3)	4.48	672.00
Overhead (8% × ETB 17472)	9.32	1,397.76
<i>Total Variable Costs</i>	125.80	18,869.75
<i>Fixed Costs</i>		
Land (1 ha × ETB 150)	1.00	150.00
Interest on Capital Expense (11250 × 12%/3)	3.00	450.00
<i>Total Fixed Costs</i>	4.00	600.00
<i>Total Costs</i>	129.80	19,469.75
<i>GROSS MARGIN (Revenue – variable costs)</i>	74.20	11,130.25
PROFIT (LOSS) (Revenue – total costs)	70.20	10,530.25

*Assumptions

- 50 heads per unit, three fattening periods per year
- Selling prices: ETB 200 per goat
- Interest rate 12%
- Purchase price ETB 75 per buck.

This budget may not look attractive in its present state. To make better sense, it must be applied to an individual farm. And even then, it should be used as a planning tool. That means making adjustments which can improve the bottom line (profit).

The appropriate short term decision is based on gross margin. In the above example, the gross margin of ETB 74.20 per buck is positive. In addition, the ETB 74.20 would be ample to cover fixed costs of ETB 4. We are left with a projected annual profit of ETB 70.20 per buck.

Possibilities for improving the budget include: 1) looking for a better market; 2) Reducing feed costs; and 3) Lowering of marketing and transportation costs. Good managers can find other factors, but these three offer substantial opportunity.

11.2.2.3. Partial budget

Partial budgeting helps the farmer or pastoralist to evaluate the economic effect of minor adjustments in some portion of the sheep and goat business; for example, a change in feeding practice. It is used to evaluate and decide to accept or not accept a new technology or practice. For example, if a producer is not using concentrate supplementation, the decision to use concentrate supplementation will be analyzed by using partial budgeting.

Many changes that do not require a complete reorganization are possible on a farm or ranch. Given a fixed set of resources, the producer can employ these resources in more than one way in response to changes in product price levels, feed costs or carrying capacity. Partial budgets are useful to evaluate changes such as:

- Expanding an enterprise.
- Implementing different production practices.
- Hiring a custom operation rather than purchasing equipment.
- Making a capital improvement.

Partial budgeting is based on the principle that a small change in the organization of a farm or ranch business will have one or more of the following effects:

- Eliminate or reduce some costs (positive economic effect).
- Eliminate or reduce some returns (negative economic effect).
- Cause additional costs to be incurred (negative economic effect).
- Cause additional returns to be received (positive economic effect).

The net effect will be the sum of positive economic effects minus the sum of negative economic effects.

The typical partial budget usually consists of a seven-point plan. The seven components are additional costs, reduced returns, reduced costs, and additional returns, totals of the first two and the second two, and a net difference. Table 11.2 shows the basic form of the typical partial budget.

Table 11.2. Partial budget form.

Column I	Column II
Additional cost _____	Additional returns _____
Reduced returns _____	Reduced costs _____
A. Total additional costs and reduced returns _____	B. Total additional returns and reduced costs _____
	Net change in income (B minus A) = _____

Each of the cost and return categories is used to estimate the effects of a proposed change in a business organization.

Column I in Table 11.2 estimates the negative economic effects that result from the proposed change. Additional costs are those that occur if the change takes place. However, this doesn't include costs common to the present and proposed business organization (i.e., any cost that does not change should not be included in the partial budget).

Reduced returns are returns that are not received under the proposed change. The total of additional costs and reduced returns is an estimate of the total negative economic effects of making the proposed change.

Column II in Table 11.2 estimates the positive economic effects of the proposed change. Additional returns are added receipts that are received if the alternative plan is adopted. Reduced costs are those that are no longer incurred if the change in the organization is initiated. Additional returns and reduced costs are totaled at the bottom of Column II.

The difference between positive and negative economic effects is an estimate of the net effect of making the proposed change. A positive net change says it would be economically wise to proceed with the alternate plan. A negative amount implies that it would not be economically profitable to proceed with the change.

The most important step in performing partial budget analysis is the proper identification of data on the costs and benefits associated with the alternative technologies in sheep and goat production.

The following essential data must be collected:

- Quantities of inputs which vary between alternative technologies.
- Prices of these variable inputs.
- Yields or productivity levels resulting from the alternative technologies.
- Prices of the outputs valuing non-market inputs or products opportunity cost (the value of the resource or product in its next best alternative use, e.g., family labor compared to market labor wages).

Important products of sheep and goats include reproductive capacity (offspring), milk yield, meat yield (weight gain), manure, skins and wool.

Inputs depend on the technology being used. Input costs should include cash costs (e.g., feed) and non-cash costs (family labor, capital costs, depreciation costs).

All benefits and costs should be calculated using farm gate prices (the actual price which the farmer pays for the inputs or receives for his products). Input prices should account for all costs. A farmer selling animals will encounter transportation costs, storage charges and marketing costs. If a technology affects the quality of the sheep and goats, market prices should reflect the quality factor.

11.2.2.4. Cash flow statement

A cash flow budget helps establish cash needs of the business over a specified planning period, usually a year. Further, the cash flow budget helps plan repayment of existing loan obligations, determine repayment capacity or ability to repay new operating loans or longer-term loans, and establish the cash feasibility of a major capital purchase.

Sheep and goat enterprises require an initial investment. It may be in the form of breeding stock and will likely include equipment, feed, and supplies.

The money needed to start the venture may come from savings or a loan. Revenues are not expected to begin for a time. This means there may be a period when cash is short, unless the shortfall is properly budgeted.

All expense items create an obligation, usually specific as to time. In other words, farmers and pastoralists know when they will need cash to meet those obligations. They also should know when they will have cash available based on when they have sheep and goats to sell. Almost certainly, the two flows of cash (the inflows and the outflows) will not match. However, if they estimate the cash flows fairly accurately, they can plan for the deficit periods.

A cash flow statement, just like the budget, is also a look into the future. It takes the individual income and expense items and separates them by period, usually by month, but sometimes by quarter. The cash flow statement need not be complicated and is usually fairly subjective.

Looking first at income, when will the kids be ready for market? How many? And what will they be worth? The sale of breeding stock can also be planned. When will they likely be sold? Cull nannies probably will be disposed of after weaning. These items can be totaled for each month.

Moving on to expenses, and beginning with the first item on the list of budget expenditures, when will concentrates be fed? What about hay? The same reasoning can be applied to animal health and labor. Utilities (like telephone service) might reasonably be divided equally throughout the year.

Once the farmers and pastoralists know what the expected income and expense totals are on a monthly basis, they can use this information to keep track of their budget, item by item. As they proceed through the year, they may find that their original budget needs adjustment. At other times, they receive a warning that they are letting certain items get out of hand.

Table 11.3 presents a division of one revenue and four expense categories for the first four months of the year, taken from the budget values shown in Table 1. Note that the percentages allocated for each particular month are also given, so that the cash flow entries can be checked against the totals shown in the budget.

Table 11.3. Cash flow statement form.

Particulars	Months						Total 100%
	Jan	Feb	Mar	Apr	Dec	
Revenues							
Sale of market animal							
Costs							
Variable costs							
Concentrate							
Animal health							
Supplies							
Overhead							
Total cost							

Once the monthly figures for each revenue and expense item have been estimated, a cash flow summary can be prepared. Table 11.4 shows the components of a cash flow summary.

Table 11.4. Cash flow summary.

Particulars	Months						Total 100%
	Jan	Feb	Mar	Apr	Dec	
Beginning Cash Balance							
Add in revenues							
Less expenses							
Surplus/Deficit							

The cash flow summary helps producers deal with their lender. By checking the surplus/deficit line, they can estimate when they will need additional money, or when they are likely to have some to pay back. Just imagine, they go in to their lender and say, "I've been looking at my numbers and it looks like I'm going to be short by about ETB 2,000 in April, but I'll be ahead by around ETB 5,000 by June."

11.3. Specialization in Sheep and Goat Production

Without market facilities, areas must maintain diversified activities to produce their own food, shelter, tools and other needed goods. In the presence of a market, however, an individual can specialize in one activity and sell the surplus in order to purchase other needed goods.

There are two measures that are commonly used to determine whether an individual or a country is "best" at a particular activity: absolute advantage and comparative advantage. An individual (or country/ region/ locality) possesses an **absolute advantage** in the production of a good if the individual (or country/region/locality) can produce more than other individuals (or country/region/locality) can.

Opportunity cost is the value of the next best alternative. For example, suppose a farmer had a choice of rearing sheep and/or goats, or producing crops. Since she or he chose goat rearing, her or his opportunity cost of rearing goats is the sheep rearing or crop production that can give him or her the highest return. The individual is likely to specialize on the basis of a **comparative advantage** in that activity for which he or she has some special resource or ability and can produce at lowest opportunity cost.

A comparative advantage exists when an individual or country can produce a good, relative to the price of other goods, more cheaply than another individual or country. In livestock production, comparative advantage is often the result of agro-ecological conditions particular to a country, making it suited to certain specialized activities.

The agro-ecological basis for production results in-country comparative advantage, whereby all areas with that common agro-ecological base share the ability to produce the good relatively more cheaply than another area. Ethiopia is a country with diversified agro-ecologies suitable for production of different crops and livestock. These crops and livestock can be found in the range of the agro-ecologies. For example, sheep and goats are found across the range of different agro-ecologies. But, there are differences in the dominance of sheep and goats in these different areas. In pastoral areas, the number of goats is more than double that of sheep. The number of sheep in the highlands is by far greater than the number of goats.

A business person residing in the pastoral area has a comparative advantage of producing goats. He can specialize in goat production and purchase other necessary items such as grain from other producers in the mid-altitude.

Specialization enhances economic growth. If each country specializes in the types of production for which they are best suited, the total amount of goods and services produced in the world economy will increase.

Table 11.5. Production possibilities of wheat and mutton for Country A and Country B.

Proportion (%) of land devoted to:	Production ('000 t)					
			Country A		Country B	
	Wheat	Mutton	Wheat	Mutton	Wheat	Mutton
100	0	90	0	25	0	
50	50	45	30	12	25	
0	100	0	60	0	50	

In this very simplistic example, countries A and B produce both wheat and mutton. The two countries have an equal amount of productive land. Country A, however, has more favorable agro-ecological conditions than B for both mutton and wheat. Table 11.5 shows the relative production potential of both countries for different proportions of land devoted to each product.

The trade-off ratio between wheat and mutton for country A is $3/2$ (i.e., 90/60 under complete specialization; 100% of land devoted to each) while for country B it is $1/2$ (i.e., 25/50). The trade-offs for the two countries can be expressed as:

	<i>Wheat</i>	<i>Mutton</i>
Country A:	1 t	$2/3$ t
Country B:	$1/2$ t	1 t

Note that country A can produce more of either wheat or mutton than country B. Thus, Country A has an absolute advantage for both wheat and mutton over country B. However, when we consider the trade-off ratios between wheat and mutton for individual countries, we find that to produce 1 t of mutton, country A has to give up the production of $3/2$ t of wheat, and Country B only $1/2$ t of wheat. Therefore, Country B has a comparative advantage in the production of mutton and Country A has a comparative advantage in the production of wheat.

The important point is that both countries would benefit if they could trade with each other in the item for which each has a comparative advantage.

If we look at the total production of wheat and mutton in the two countries, we find four possible situations:

	<i>Total production ('1000 t)</i>
1. Countries A and B devote half of their land to each product	$45 + 30 + 12 + 25 = 112$
2. Both countries specialize in wheat	$90 + 25 = 115$
3. Both countries specialize in mutton	$60 + 50 = 110$
4. Country A specializes in wheat and Country B in mutton	$90 + 50 = 140$

The largest amount of production results from each country specializing in the product for which it has a comparative advantage. Both countries will, however, end up with more of one good than they need and none of the other. So, for the benefits from comparative advantage to be realized, trade must occur.

Specialized activities lead to trade. The gains from trade will be the value of additional production made possible through specialization and trade.

The exact gains from trade will depend on the market prices of the goods with and without trade. This concept applies equally to individuals, who use their comparative advantage to specialize in one task, selling their products to trade for the other goods they need.

You have to advise farmers and pastoralists to produce those commodities in which they have comparative advantage and trade.

Ethiopia, as a country, has comparative advantage in livestock trade due to the relatively huge numbers of exportable surplus livestock resources, proximity to the export markets, presence of substantial demand for livestock and meat in the strategic markets, liberalization of the trade, and government support to the export trade.

11.4. Sheep and Goat Marketing

11.4.1. Market and marketing concepts

Market, in its physical or conceptual term, is a place where exchange takes place. Marketing is the performance of all business activities involved in the flow of goods and services from the point of initial production until they are in the hands of the ultimate consumer.

Marketing involves the transformation of goods in space, time and form from producers to consumers. These transformation processes should be efficient, i.e., accomplished at the lowest possible cost consistent with consumer preferences and incomes.

The marketing system must provide information flows from the consumer back to the producer through the processing, transportation and storage functions. The producer responds to the price signals by producing commodities in relative quantities dedicated by prices and costs. The efficient marketing system responds by providing goods and services over time and space and in the form consumers want at the lowest possible cost.

11.4.2. Types of sheep and goat market

Sheep and goat markets can be classified as primary, distributive and terminal depending on the purpose of animal buyers.

Primary markets are markets in which the majority of the animals are bought for reproduction and resale. Example, markets in remote rural areas.

Distributive markets are markets in which the majority of the animals are bought for resale and consumption. Example, markets in small towns. Figure 11.1 shows the Adillo distributive market in the Southern Region.

Terminal markets are markets in which the majority of the animals are bought for consumption. Example, markets in big towns and cities like Addis Ababa and Nazareth.



Figure 11.1. Adillo sheep market during Ethiopian New Year.

11.4.3. Marketing systems: functions, agents, enterprises and channels

A marketing system is comprised of a number of elements: the particular products (e.g., live sheep and goats) and their characteristics being transferred from producer to consumer; the characteristics of participants (e.g., the producer, the trader, and the consumer); the functions or roles that each participant performs in the market; and the locations, stages, timetable and physical infrastructures involved.

11.4.3.1. Marketing functions

Marketing functions can be classified as follows:

- **Exchange functions** involve finding a buyer or a seller, negotiating price and transferring ownership (but not necessarily physical transfer).
- **Physical functions** enable the actual flow of commodities through space and time from producer to consumer and their transformation to a form desirable to the consumer. They are:
 - ◆ assembling;
 - ◆ transport and handling;
 - ◆ storage;
 - ◆ processing and packaging; and
 - ◆ grading and standardization.
- **Assembling** or concentrating the product at convenient points allows its economical transport (i.e., getting enough animals together to transport cheaply).
- **Storage** allows the commodity to be held until peak season demand, thereby stabilizing supply.
- **Processing** transforms the commodity into the products desired by the consumers.
- **Grading and standardization** allow the consumer to be more confident of the characteristics of the good being purchased.
- **Facilitation** functions:
 - ◆ financing and risk-bearing,
 - ◆ market information,
 - ◆ demand and supply creation, and
 - ◆ market research.

Financing and risk-bearing are two important facilitating functions. The owner of goods at any marketing stage must sacrifice the opportunity to use the working capital needed to buy those goods elsewhere, or the owner must borrow that capital. In either case, capital must be provided by the trader or by some lending source. Regardless, cost is involved. Further, there is an implicit cost in the risk of losing all or part of that capital through theft, spoilage, mortality or changing market conditions. No stage of the market chain could function without the willingness to provide the capital and to bear these costs.

Marketing functions create marketing environment whose elements are as follows:

- Market and facilities — including the entire physical infrastructure upon which a market may depend.
- Market information and intelligence — including informal and formal communication systems and standard weights and grades on which market information depends.
- Institutional environment — including the government policy environment, regulations and supporting legislation.

11.4.3.2. Marketing agents

Marketing agents or participants involved in sheep and goat trades are producers, country buyers, wholesalers, commission agents, brokers, processors and retailers. Country buyers often carry out the initial task of assembling animals from dispersed farms or local rural markets. These buyers may be farmers, shopkeepers, or some cooperative or government buying agency.

- **Wholesalers** transfer goods from producer and country buyers to retailers or other wholesalers.
- **Commission agents** act on behalf of wholesaler for a percentage of the price paid. Although they act in the same way as wholesalers, the risk remains with the owner of the goods.
- **Brokers** offer an intimate knowledge of the market and act to bring buyers and sellers together. They are paid a negotiated price.
- **Processors** transform the animals either partially or completely into the form to be consumed.
- **Retailers** present the animals to the consumer in the manner, location and form desired, e.g., butchering.

11.4.3.3. Marketing enterprises and channels

Enterprises of four types normally fulfill the roles of middlemen. These are:

- Independent, locally-based private enterprises: example LUNA, ELFORA, SAFI and MODJO slaughter houses.
- Cooperatives.
- Marketing boards and other state enterprises.
- Transnational companies — companies operating in countries other than that of their headquarters.

A marketing channel describes the movement of a product or commodity from the site of production to the place of consumption. It may include transportation, handling and storage, ownership transfers, processing, and distribution. Figure 11.2 shows a hypothetical sheep and goat marketing channel. Reduction in a marketing chain enhances the income of the producer by cutting unnecessary market margins received by market agents.

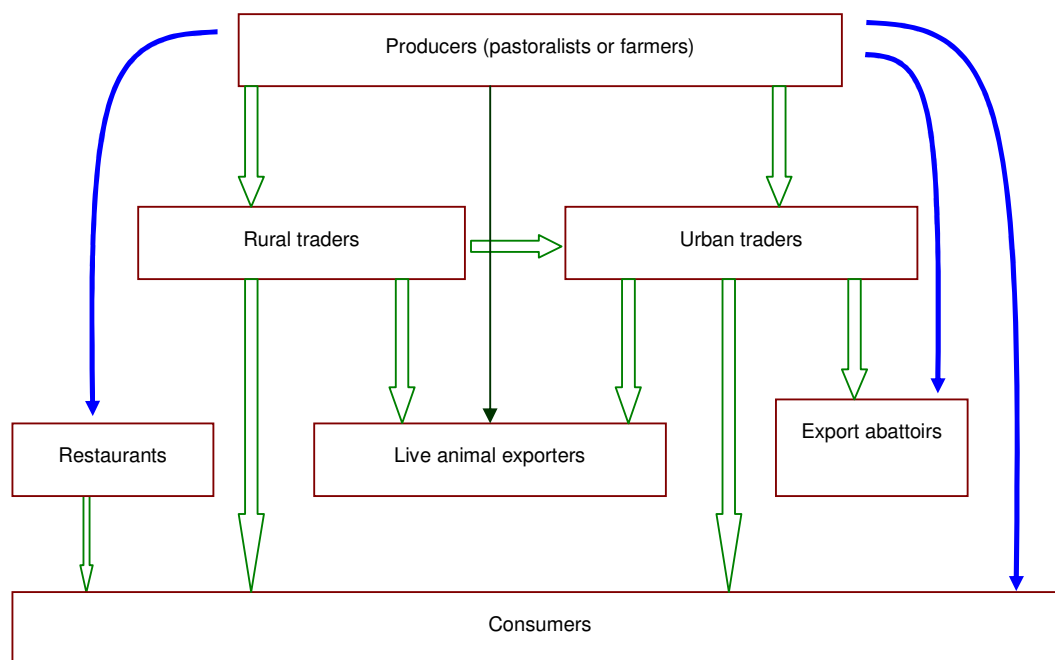


Figure 11.2. A hypothetical sheep and goat market channel.

An example market structure and route of sheep and goats from Bulbula market

Price of sheep and goats at the Bulbula market, East Shoa Zone, depends on age, color, source, sex, and condition of the animal. More goats are supplied to the market than sheep, as male goats 13–30 kg are in demand by abattoirs for export to the Middle East. At the same time, the price of goats is relatively higher than that of sheep. Sheep are supplied from the highlands of Arsi Zone (Assassa). The surrounding farmers also buy more breeding female goats than sheep because they say that goats are better suited to the environmental conditions in the area.

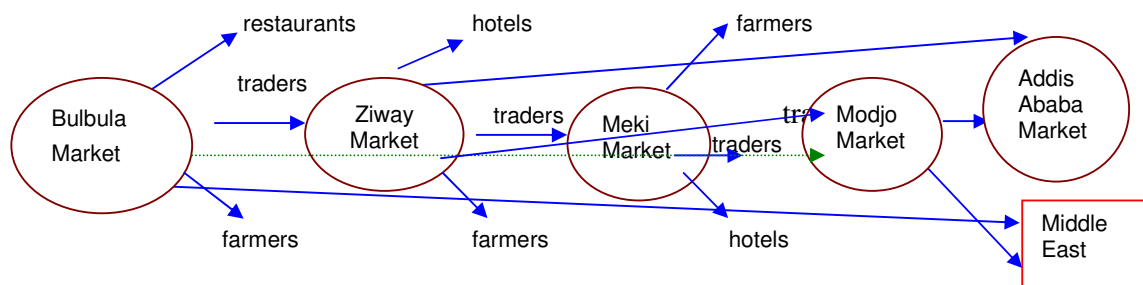


Figure 11.3 Market routes and channels of sheep and goats (Adami Tulu area).

11.4.4. Marketing margin, a measure of market efficiency

A common means of measuring market efficiency is to examine **marketing margins**. This is an attempt to evaluate economic or **price efficiency**.

The overall marketing margin is simply the difference between the farm gate price and the price received for retail sale. That difference can then be considered to be the cost of marketing and all that is entailed in getting the animals from the producer to the consumer in the desired form.

The question to be evaluated is whether the marketing services being provided are “worth” the cost of this margin.

Marketing margins can be calculated for different levels of the market, so that:

$$\text{Marketing Margin} = P_1 - P_2$$

where, P_1 = the price at one level or stage in the market.
 P_2 = the price at another level.

There are several types of marketing margins, based on the market level being considered.

The **wholesale margin** is the difference between the price paid by the wholesale trader (or the processor) and the farm gate or producer price.

The **retail margin** is the difference between the price the retail trader pays and the retail price he charges to consumers.

When the margin is expressed in monetary terms, it is called the price spread. Expressed as a percentage, it is known as the percentage margin.

The mark-up is the price spread between two levels in the market divided by the selling price expressed as a percent.

Example

A rural goat producer sells a 25 kg goat to a trader for ETB 150. The trader sells the goat to a butcher in an urban area for ETB 200. The retailer in turn sells the goat meat to his consumers for ETB 30/kg. If the carcass weighs 50% of the live goat weight and the skin from goat is sold for ETB 10, then:

Retail price	=	$[(25 \times 50/100) \times 30] + 10 = 385$
Wholesale margin	=	trader price – producer price = $200 - 150 = 50$
Retail margin	=	retail price – trader price = $385 - 200 = 185$
Total price spread	=	wholesale margin + retail margin = $50 + 185 = 235$
Percentage margin	=	wholesale margin / wholesale buying price $\times 100$ = $(50/150) \times 100 = 33\%$
Retail mark-up	=	retail margin / retail selling price $\times 100$ = $(185/200) \times 100 = 92.5\%$

In an efficiently operating market, the competitive environment should keep the marketing margin to a minimum. Market prices should then reflect two elements: the actual costs of marketing plus **normal profit margin**. A normal profit is one which provides returns to investment comparable to available rates of interest plus some compensation for the risk borne by the marketer.

At different stages in the marketing system, the “product” (e.g., animal or meat) is sold and bought. Normally, at each successive stage, the price per unit bought or sold is higher and we say that **value has been added**. This refers to the fact that some marketing service has been provided, whether transport, processing or one of the other marketing functions, and the value of that service is now included in the product price (and presumably the desirability of the product has been likewise increased). Again, at each successive stage, it can be split into two categories: the part which is reflected in the real additional costs of adding value and the part which reflects the extra “profit” made.

Some of the additional costs incurred at each marketing stage are obvious; for example, taxes and market fees, transport costs (e.g., hiring a truck or paying trekkers accompanying the goats or sheep), feed purchases for the animals, any interest paid on a loan taken to finance the purchase, and animal upkeep.

Some approaches to estimating market margins

The commonly used approaches to determine marketing margins are to:

- Sample the price of uniform products at each market stage cross-sectionally at one point in time across a variety of market agents.
- Sample prices of uniform products at each market stage through time (time-series), relying on data from a smaller number of sources. This means in different months or years.
- Examine gross receipts and expenses of marketers at each stage, and divide by number of units traded.

11.4.5. Market demand and supply

The price of sheep and goats is determined by the interplay of demand and supply which may vary weekly, seasonally as well as for particular religious festivals and holidays.

Under a given supply situation, prices may vary among sheep and goats within a market day arising from differences in animal characteristics (sex, age, body condition, color, and breed type) and a buyer’s skill, bargaining ability, access to price information and purpose of buying (reproduction, resale or consumption).

11.4.5.1. Demand for sheep and goat

Demand is the quantity of a good that buyers are willing and able to buy at a given price over a time period, other things held constant. Demand describes the behavior of buyers at every possible price and reflects their preferences.

Domestic demand

Because of population growth and recent preference change towards goat meat, the demand for mutton and goat meat is escalating (Table 11.6). Now it is common to find goat meat restaurants in towns and cities.

Table 11.6. Domestic demand forecast – (population figures in tens of millions).

Category	2002	2003	2004	2005	2006	2007
Human population in millions	70	72	73	75	77	79
Local low land consumption:						
Beef ('000)	32200	33120	33580	34500	35420	35340
Mutton ('000)	9800	10080	10220	10500	10780	11060
Goat meat ('000)	9800	10080	10220	10500	10780	11060
Livestock equivalent ('000 heads):						
Cattle	293	301	305	314	322	330
Sheep	980	1008	1022	1050	1078	1106
Goats	1089	1120	1135	1167	1198	1229
Camels	53	54	54	55	55	55
Highland demand for cattle ('000 heads)	92	93	94	95	97	98
Total domestic demand ('000 heads):						
Cattle	385	394	399	409	419	428
Sheep	980	1006	1022	1050	1078	1106
Goats	1089	1120	1135	1167	1198	1229
Camels	53	54	54	55	55	55

Source: Belachew and Jamberu, 2003.

International demand for meat and live animals

Meat

The world meat import stood at 2,759,192 t for the year 2000. Out of this, beef and veal constituted 67% while mutton and goat meat accounted for 31 and 2%, respectively.

The annual meat import by African countries is estimated at 86,043 t with a value of 92 million dollars. The percentage share is 39 and 61% for beef and mutton, respectively.

Bahrain, Egypt, Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates and Yemen together have a total population of 207 million people with annual growth rates of 2.2 percent. Their annual meat demand is estimated at 206,846 t and valued at 399 million dollars. Of this, beef and veal account for 48% while the share of mutton and goat meat is 46 and 6%, respectively.

Live animals

The world demand for live animals stood at 26,477,214 head in the year 2000. Out of this number, cattle accounted for 31.5%, and sheep and goats together for 68%.

African countries imported 3.2 million head of live animals at a value of 480 million dollars in the year 2000. Sheep and goats accounted for 74% of the total. The share of cattle and camels stood at 25 and 1%, respectively.

The Middle East countries have, on average, an annual estimated import of 12 million head of live animals (cattle, sheep, goats and camels). The total import value is estimated at 656 million dollars.

The major import animals are sheep, accounting for 83% of the total, followed by goats (14%). Cattle and camels constitute 3%.

There is a great demand for hides, skin and wool in the marketplace. Ethiopian tanneries, on the other hand, are running at less than full capacity due to poor supply and quality issues. There is a need to improve the hides and skins sector from quality and quantity standpoints. Processors must use techniques that satisfy the international market. Further information can be found in Chapter 10.

11.4.5.2. Supply of sheep and goats

Supply is the relationship that exists between the price of animals and the quantity supplied in a given time period, other things held constant. It is important to distinguish between supply and the quantity supplied. Supply describes the behavior of sellers at every possible price. The quantity supplied is only meaningful in the context of a particular price.

Exportable surplus is annual off-take minus domestic consumption. Table 11.7 shows estimated exportable surplus. From the table, estimates of 1.237 million sheep and 4.287 million goats were available for export in 2007.

Table 11.7. Livestock available for export ('000 heads).

Category	2004	2005	2006	2007
Annual off-take:				
Sheep	2275	2297	2319	2343
Goats	5364	5412	--	5516
Domestic consumption:				
Sheep	1022	1050	1078	1106
Goats	1135	1167	1198	1229
Available for export (surplus):				
Sheep	1253	1247	1241	1237
Goats	4229	4245	4263	4287

Source: Belachew and Jamberu, 2003.

11.4.6. Synchronizing sheep and goat production and sales plans

Most farmers and pastoralists in Ethiopia are not market oriented. They sell sheep and goats when they need money. Especially in pastoral areas, people sell animals during the dry season. At this time, the price is low due to over supply. In the wet season, immediately when the pastoralists get lush pasture for their cattle, they stop supplying sheep and goats to markets. This has created serious problems for export abattoirs in getting the required type and quantity of animals on a regular manner. The pastoralists also do not benefit for they sell their sheep and goats at a time when prices are low due to very high supply of animals.

Planning sales when market prices are high is very important for farmers and pastoralists to earn more money. Abattoirs will also have a steady supply of animals for export. To develop a synchronized production and sales plan, knowledge of "what the buyer wants" is essential. The major buyers are export abattoirs, live animal exporters, restaurants and individual consumers. To develop a synchronized production and sales plan, the producers have to identify the type of meat each group generally likes to consume and when. Other considerations include:

- Sheep or goats, age or weight of animal, restrictions on feeding prior to slaughter, restrictions on slaughter itself (Halal, Kosher), special preparation of carcass (singeing or scalding), preference in coloring of animal (pure white, black, etc.)?
- Are there special times of the year when there will be a greater demand, such as holidays?
- What are the dates of those holidays?
- What type of meat do they want for each holiday?

Then make a table of the information found for goats and another for sheep.

Table 11.8. Goat meat chart.

Group	Time goat is eaten	Description of animal wanted	Live weight	Special slaughter	Special carcass	Special feeding
Eastern Orthodox Christians	Easter	Unweaned, 4–12 weeks old, plump.	15–20 kg	None	None	All milk
	Christmas					
Muslims	Eid al-Adha	Lean, male or female, yearling “one tooth” (two permanent teeth), unblemished, uncastrated.	25–35 kg	Halal	None	No pork products (lard or bone meal) must not use these within 40 days of slaughter
	Festival of Sacrifice					
	Regular eating and some other holidays	Lean, male or female, kid, under a year old (with milk teeth only)	25–35 kg			

Table 11.9. Holiday dates.

Holiday	2008	2009	2010
Eid al-Adha	December 8	November 28	November 17
Festival of Sacrifice			
Muharramn/ Islamic New Year	January 10	---	December 8
Mawlid al-Nabi Prophet’s Birthday	March 20	March 9	February 26
Start of Ramadan/ month of fasting	September 2	August 22	August 11
Eid al-Fitre	October 2	September 21	September 10
Festival of Fast Breaking			
Passover/Pesach Jewish holiday	April 20-27	April 9-16	March 30-April 6
Rosh Hashanah Jewish holiday	September 30	September 19	September 9
Channukkah Jewish holiday	December 22-29	December 12-19	December 2-9
Western Roman Easter	March 23	April 12	April 4
Eastern Orthodox Easter	April 27	April 19	April 4
Christmas	December 25	December 25	December 25

11.4.7. Marketing facilities and information network

There are many animals that could be sold, but it is difficult to get them to market because of the lack of transportation and the poor condition of roads. Diseases can also spread in the market places resulting in loss of production or sale price.

Many markets have no scales. It is difficult to assess the value of animals and set prices without knowing the weight. Farmers can use a tape measurement to determine the weight of their animals before they go to market as described in the Management chapter.

Farmers can also determine the meat value of their animals through simple body condition scoring techniques. These techniques can be learned quickly and easily and will enable the farmer to argue for better prices.

Because of the lack of information on prices, farmers may not receive a price that reflects the true value of the animals. Farmers often do not know what prices are being paid in other markets, which puts them at a disadvantage with traders.

In many countries, the government lists livestock prices on the radio and in newspapers daily so that current prices are known. This prevents dishonesty. In areas without electricity, some towns buy a hand crank or battery-powered radio, assigning a person to listen to the livestock reports. Farmers then check for these prices before going to market, so they know the going rates for sheep and goats.

If farmers know the weight and condition of their animals, and they know the market price, they have bargaining power. If a single farmer cannot get higher prices from traders, then farmers have the option of forming a cooperative and bargaining as a group.

11.4.8. Contractual arrangements in sheep and goat production and marketing

A contract is an agreement between two or more parties to carry out obligations agreed on by all parties. There are two types of contracts: informal and formal contracts. An informal contract is a contract made between two or more parties without the involvement of a legal entity. This is typically a verbal contract. A formal contract is a written contract agreed on and signed by all parties with the involvement of a legal entity.

Farmers and pastoralists can sign contracts with processors and traders to increase production and also to avoid marketing risks. Written contracts should clearly indicate the responsibility of the sellers and buyers so that both will be protected from loss. The contract should address the responsibilities of all parties and state the penalties levied for breaking the contract.

Transferable Messages

1. As a development agent, you can assist farmers and pastoralists in developing contracts with traders and processors that clearly lists the responsibilities of each party.
2. You also have to assist farmers in producing higher quality animals to increase profits for themselves and for the exporter for the coexistence and further development of the business.

11.5. Introduction to Cooperatives

11.5.1. Cooperatives — definition, values and principles

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

There are seven principles or guidelines by which cooperatives put their values into practice. These are:

1. Voluntary and Open Membership: Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2. Democratic Member Control: Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives, members have equal voting rights (one member, one vote) and cooperatives at other levels are also organized in a democratic manner.

3. Member Economic Participation: Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

4. Autonomy and Independence: Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

5. Education, Training and Information: Cooperatives provide education and training to their members, elected representatives, managers and employees so they can effectively contribute to the development of their cooperatives. They inform the general public — particularly young people and opinion leaders — about the nature and benefits of cooperation.

6. Cooperation among Cooperatives: Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, and international structures.

7. Concern for Community: Cooperatives work for the sustainable development of their communities through policies approved by their members.

11.5.2. Agricultural marketing cooperatives

Cooperatives can be classified as agricultural and non-agricultural. Non-agricultural cooperatives can be further classified as industrial, housing, saving and credit, and consumers' cooperatives. Agricultural cooperatives can be classified as agricultural marketing cooperatives, agricultural saving and credit cooperatives.

Objectives of marketing cooperatives

The objectives of marketing cooperatives are to:

- reduce the number of middlemen;
- enhance bargaining power;
- provide market information; and
- provide storage facilities, e.g., a temporary holding center for sheep and goats.

Importance of agricultural cooperatives

- Agricultural cooperatives play great roles in agricultural development by improving production and marketing of agricultural inputs and products. They reduce production, marketing and processing costs by way of providing farm inputs, transportation facilities and processing plants at reasonable prices.

- Dividend payment: from the total profit of the society, a payment, or dividend, is distributed to members based on participation.
- Improved services: cooperatives may provide financial, postal, telephone and electricity services to members.
- More market power due to greater size, brand identification, quality control, etc.
- Assured source of supply: reduced dependence on external sources and guaranteed supply of inputs.
- Provide education, training, and information to members, board directors, cooperative officials and managers.
- Contribute to national capital formation through mobilizing resources and savings.
- Extend democratic principles as all members have equal rights in decision making.

11.5.3. Cooperative structure

There are three cooperative structures.

- Primary cooperative societies:
 - ◆ Formed at village or *kebele* levels.
 - ◆ Only individual membership is allowed.
 - ◆ Market members' products, supply farm inputs at reasonable costs, and provide members with financial services.
- Center or district cooperative societies:
 - ◆ Operate in a district or cover a wide area in a district.
 - ◆ Also called unions.
 - ◆ Engage in buying and selling of agricultural products and extending credit facilities to primary cooperatives.
- Regional cooperative societies:
 - ◆ Apex level cooperatives which serve the state as a whole.
 - ◆ Both primary and union cooperatives are members of these cooperatives.
 - ◆ Basic functions include interstate trade, import–export, procurement and distribution of inputs and consumer goods, dissemination of market information and granting of credit facilities, etc.

Cooperatives have the potential to improve marketing efficiency. They can reduce marketing costs. For example, a village livestock marketing cooperative could coordinate the production schedules of small farmers so that sufficient animals reach market age at the same time allowing truck transport to markets that would lower per unit transport costs.

Cooperatives can also be used to counteract imperfect competition among buyers by creating greater bargaining power among producers. Typically, they are used to distribute credit or subsidized inputs.

In order to be successful in the long run, a cooperative must be able to carry out marketing functions with lower cost or effort than other available alternatives. If this ability is not perceived by members, cooperatives are likely to break down. The ownership of cooperatives, by definition, lies in the hands of those who use its services (and who are thus entitled to any profits).

Farmers in a cooperative have the possibility to sell directly to brokers by pooling animal numbers. Groups of animals could also be sold directly to retailers (grocery stores).

One or two people act as market coordinators, negotiate the price with the broker, let the others know what type of animal the broker wants, and set a final date for the roundup of animals. Everyone brings their animals. The animals are then weighed, transported and delivered as one group.

Many farmers do not have a way to get their animals to market. If they form a co-op, they can through time buy trucks together and ship their animals as a group. They can pay for the truck by hauling goods/products of other people and charging transportation fees. Someone has to be a driver and someone has to organize and pay the bills.

11.6. Credit Facilities

- Finance is the life blood of any business.
- There are two major sources of finance: savings and credit.
- Savings can play a minimal role as the majority of our farmers and pastoralists are capital-starved due to the vicious circle of poverty (Figure 11.4).

Credit may play a major role in financing crop and livestock production activities. There are three financial institutions in Ethiopia providing financial services to the public: conventional financial institutions, non-conventional formal financial institutions, and informal financial institutions.

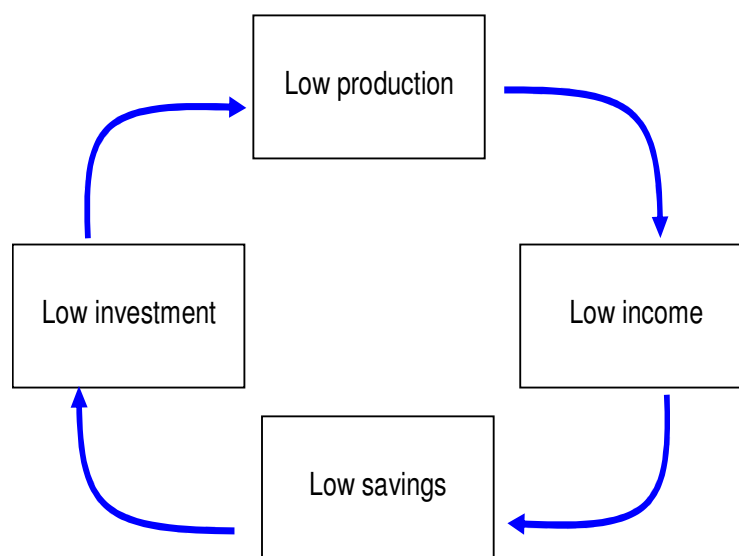


Figure 11.4. Vicious circle of poverty.

11.6.1 Conventional financial institutions

These are the National Bank of Ethiopia (NBE), the Commercial Bank of Ethiopia (CBE), the Development Bank of Ethiopia (DBE), the Construction and Business Bank (CBB), and private banks (example, Dashen, Nib). These banks are operating in urban areas and require collateral to advance loans. Thus, they are less important for smallholder farmers and pastoralists.

11.6.2. Informal financial institutions

Informal finance sources are commonly credit given by relatives and friends, traders, neighbors, local moneylenders and indigenous rotating savings groups. The most noticeable rotating savings groups are *Iqqub*, *Iddir*, and *Mahiber*.

Informal sources of credit appear to have considerable appeal to rural communities because of their characteristics such as accessibility, speed of transaction, small loan size, availability of loans for consumption, minimal and flexible collateral requirements, flexible repayment arrangements, privacy of information, freedom of utilization of borrowed money, i.e., absence of control and restrictions on the use of the loan.

Local money lenders are the most important rural financial markets. They charge interest ranging between 50 and 120%. Loans obtained from friends and relatives are generally interest-free. Traders provide loans on the basis of commission or profit share.

11.6.3. Non-conventional formal financial institutions

These are institutions giving microfinance to the disadvantaged poor through loans, savings, and other basic financial services. Most microfinance institutions are non-governmental organizations committed to assisting some sectors of the low-income population. Other microfinance institutions are credit unions, cooperatives, government owned projects and programs. There are about 27 microfinance institutions registered under the National Bank of Ethiopia delivering financial services to over 1.7 million clients.

Credit enables the poor to use their human and productive capital more profitably and to build up their asset base. In addition to credit, savings and insurance services are used by the poor to plan for future lump-sum needs and to reduce their exposure to income changes or unforeseen expenses. Saving services are available through some informal relationships, such as rotating savings, credit associations and mutual insurances, which have the tendency to be erratic and insecure.

Microfinance institutions are very good alternatives since they provide financial services at a reasonable cost without demanding collateral from the borrower's side.

To benefit from micro-credit, a pre-existing level of ongoing economic activity, entrepreneurial capacity and managerial talent is needed, i.e., microfinance is designed to benefit the economically active or able poor.

Additionally, the client that may benefit from credit is the one who:

- is healthy;
- has skill;
- is confident and has a minimal financial base;
- can undertake different activities;
- is honest, has integrity and is prompt;
- is stable, has a low degree of mobility; and
- has client discipline.

Client discipline means that poor people take responsibility for their decisions, agreeing to and making on-time payments of their principal and an amount of interest that will cover the full cost of the service.

Timeliness, cost (interest rate) and accessibility are the major issues to be considered when selecting one or a mix of institutions for credit service.

11.7. Sheep and Goat Business Plan

- A business plan is a document that clearly and concisely defines the goals and objectives of a business, outlining the methods for achieving them.
- The business plan is the most essential document involved when starting, building and managing a successful business and it is an effective tool for raising the necessary capital as well as capturing the interest of investors. Many businesses fail due to lack of planning and preparation.
- The two business plan guidelines developed by Business Development Service of Ethiopia are: Business Plan 1 (for micro- and small enterprises) and Business Plan 2 (medium-sized enterprises).
- Business Plan 1 describes the type of business, how and where it functions, and all financial and managerial aspects. The business format includes the following basic components:

- ◆ personal data;
 - ◆ work premises at the disposal of the operator;
 - ◆ yearly sales plan;
 - ◆ equipment owned and to be purchased;
 - ◆ yearly raw material requirements;
 - ◆ yearly operating expenses;
 - ◆ yearly production/service plan; and
 - ◆ yearly profit and loss statements.
- Business plan outline for micro-enterprises — Ethiopian application

Business plan

1. Full name of the business operator:

2. Address:

Woreda *Town*

Kebele *House No.*

3. Type of the plan/work/business in which the operator is/to be engaged:

.....

4. Year of the plan: from to

5. Work premises at the disposal of the operator:

.....
.....

Specify, if there is any problem:

.....
.....

6. Yearly sales plan:

Ser. No.	Product/service to be sold, marketed/year	Unit	Quantity	Unit price	Total price	Remark
	Total sales					

Months during which sales are expected to be high:

.....
.....

7. Equipment currently owned by the operator:

Ser. No.	Type of equipment	Unit of measure	Quantity	Unit cost	Total cost	Remark
	Total cost of equipment					

8. Equipment to be purchased by the operator:

Ser. No.	Type of equipment	Unit of measure	Quantity	Unit cost	Total cost	Remark
	Total cost of equipment					

9. Yearly raw material requirement:

Ser. No.	Type of raw material	Unit	Quantity	Unit price	Total price	Remark
	Total yearly raw material cost					

Source of raw material

10. Other yearly operating expenses (e.g., labor costs, sales expenses, depreciation, taxes, etc.):

Ser. No.	Types of expense	Amount of expense in Birr	Remark
	Total expense		

11. Yearly production/service plan:

Ser. No.	Types of production/ service to be produced or rendered	Unit	Quantity	Unit cost	Total cost	Remark
	Total cost					

12. Financial plan:

Capital requirements	Equity	Loan	Total
Investment capital:			
1. Machinery + equipment			
2. Furniture + fixture			
3. Business premises			
4. Any other initial and significant outlay			
Working capital:			
1. Salary/wage			
2. Raw material and/or supplies			
3. Rent			
4. Maintenance			
5. Business promotion			
6. Other cash out of the business to meet short-term and recurrent expenditure			
Total:			

13. Yearly profit and loss plan:

Profit + Loss Statement Format:

	Particular (in Birr)	Amount (in Birr)
I	<i>Receipts</i>	
II	<i>Expenses</i> <i>Operating expenses of costs</i>	
	Total operating expenses	_____
	<i>Fixed expenses or costs</i>	_____
	Total fixed costs	_____
III	<i>Net cash income</i>	
IV	<i>Net operating income</i>	
V	<i>Net farm income</i>	

Transferable Message

1. As an extension agent, you can play an important role by advising farmers and pastoralists. You can change the current practice of selling a few small ruminants in times of need, into planned, long-term marketing of livestock to increase farm income and enhance family and community financial security.
2. Sharing information, including financial information, is a good way to learn. You can provide market training programs for farmers and traders to teach them what laws and regulations apply to marketing.
3. You can train farmers and pastoralists to analyze and respond to market demands such as knowing the animal size, weight and quality preferences of their customers.
4. You can train farmers and pastoralists to read and to do simple mathematics through informal, adult education.
5. You can train a few people from each cooperative on how to do basic accounting so they can apply for and repay loans.
6. You can provide training in running a small business.

Exercises

1. What is a sheep and goat enterprise analysis?
2. How can you help a farmer or pastoralist conduct a profitability analysis of sheep and goat raising as a business venture?
3. What is specialization? How can you advise farmers or pastoralists to specialize in sheep and goat production?
4. What is marketing? How intense is the problem of sheep and goat marketing in your area?
5. How can cooperatives solve sheep and goat marketing problems in your area?
6. Is cash constraining farmers and pastoralists in you area? What sources of credit are available in the area?
7. Is there a microfinance institution in the vicinity? Do people take loans for sheep and goat production?

Glossary

Average daily gain: Kilo of live weight gained per day.

Budget: An estimate of the receipts and expenses of a proposed plan.

Capital: The livestock, dead stock (buildings, machinery, stored products, etc.) and money necessary for carrying on a business.

Cost of gain: Total of all costs divided by the total weight gained.

Depreciation: The loss in value of capital items due to age and wear and tear.

Enterprise: A section or department of a farm.

Fixed costs: Costs which do not vary with the size of an enterprise and cannot be avoided by discontinuing production.

Gross margin: The difference between the value of total production and variable costs.

Interest: A payment made in return for the use of borrowed capital.

Man-day: The work of one person for one day.

Man-hour: The work of one person for one hour.

Market price: Local sale value.

Mortgage: A loan obtained by offering land or buildings as security.

Opportunity cost: The value of the return which would have been obtained if a productive resource had been employed in the best alternative way.

Profit: The gain from a business activity. The excess of total production over cost.

Valuation: A statement of the value of capital on a farm.

Variable costs: Costs which vary with the size of enterprise and can be avoided by discontinuing production.

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