



Learner Guide

Plant Production

Marketing of Agri-products

Course Name	National Diploma: Plant Production NQF 5 (249 Credits) SAQA ID: 49010
Module Name	Module 5: Marketing of Agri-Products Learner Guide
Unit Standards	10050, 116419, 116382
NQF Level	5
Credits	249

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Dear Learner

This Learner Guide contains all the information to acquire all the knowledge and skills leading to the unit standard:

Unit Standard ID	Unit standard title
10050	Integrate marketing plans with business process.
116419	Develop and implement food safety and quality management system in an agricultural supply chain.
116382	Manage an input chain

You will be assessed during your study. This is called formative assessment. You will also be assessed on completion of this unit standard. This is called summative assessment. Before your assessment, your assessor will discuss the unit standard with you.

It is your responsibility to complete all the exercises in the Assessor Guide. The facilitator will explain the requirements of each exercise with you. You will also be expected to sign a learner contract in your assessor guide. This contract explains responsibility and accountability by both parties.








On the document "Alignment to NQF", you will find information on which qualification this unit standard is linked to if you would like to build towards more credits against this qualification.

Please contact our offices if you would like information with regards to career advising and mentoring services.

Office: 051-4511120

Enjoy the learning experience!

Key to Icons

	<p>Important Information</p>
	<p>Quotes</p>
	<p>Personal Reflection</p>
	<p>Individual Formative Exercise</p>
	<p>Group Formative Exercise</p>
	<p>Summative Exercise</p>
	<p>Note-pad: Supplementary Information</p>

Alignment to the NQF

Elements of the Programme	
1. Name of programme	Marketing of Agri-products
2. Purpose of the programme	To ensure that the learners can demonstrate understanding of key concepts of marketing as well as food safety in the agricultural environment.
3. Duration of the programme	5 days
4. NQF level	5
5. NQF credits	19
6. Specific outcomes	See Unit Standard guide
7. Assessment criteria	See Unit Standard guide
8. Critical cross-field outcomes	See Unit Standard guide
9. Learning assumed to be in place	Communication at NQF Level 4 Numeracy at NQF Level 4
10. Essential embedded knowledge	See Unit Standard guide
11. Range statement	See Unit Standard guide
12. Recognition of Prior Learning (RPL)	Option is available
13. Learning Materials	Learner Guide, Assessor Guide with Model Answers, Learner PoE Workbook, Facilitator Guide
14. Links of the programme to registered unit standards, skills programmes, or qualifications	Registered qualification Title: National Diploma in Agriculture ID: 49010 NQF: Level 5 Credits: 240

Unit I

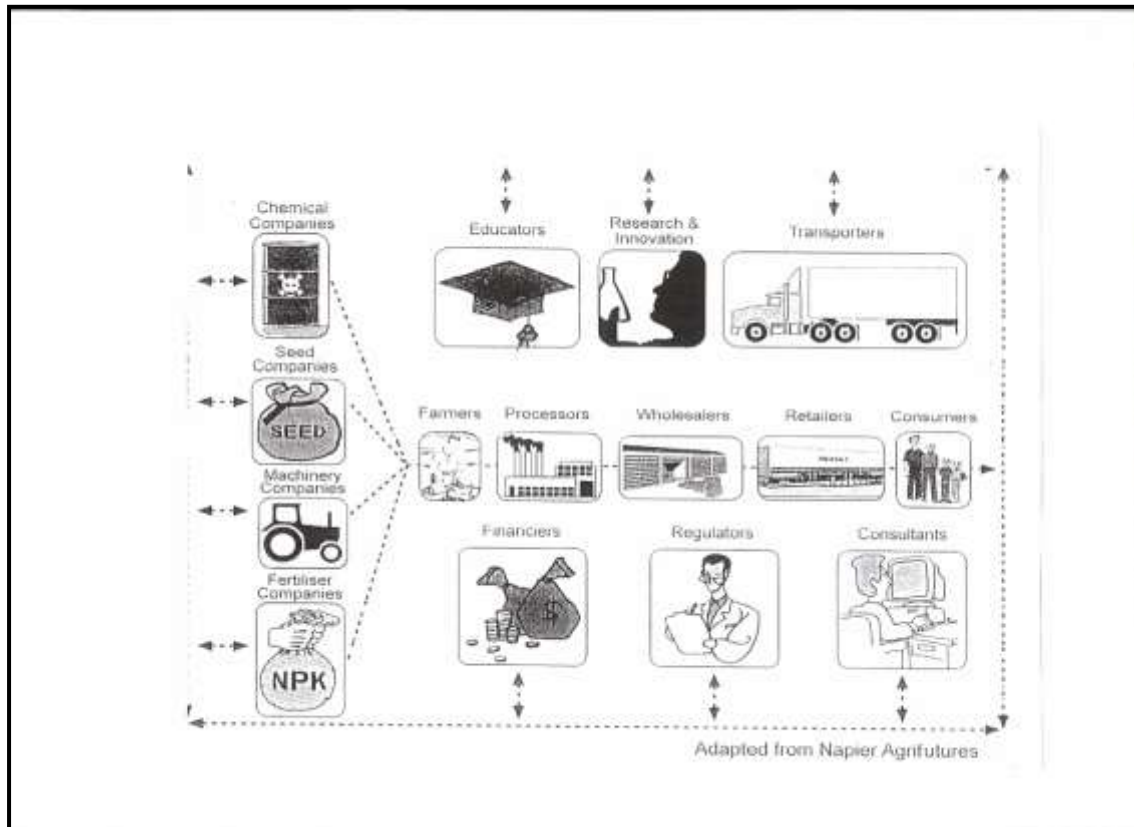
THE MARKETING ENVIRONMENT

AGRI MARKETING AND THE FOOD VALUE CHAIN

Unit Standard	
I 16382	Manage an input chain
I 0050	Integrate marketing plans with business processes
Specific Outcomes	
US I 16382	
SO1: Plan the flow chain of agricultural inputs.	
SO2: Implement a plan on the flow of agricultural inputs	
SO4: Evaluate and resolve eventualities that emerge during the flow of agricultural inputs	
SO5: Give accurate reports on the agricultural input flow chain.	
US I 0050	
SO1: Monitor the marketing environment and determine variables for marketing activities	
Learning Outcomes	
At the end of this unit you will understand:	
<ul style="list-style-type: none"> • The role of the value chain in marketing of products • The role of the producer in marketing • The role of producer organisations in marketing • How to add value to raw products and improve marketing • The implications of the value chain for farmers 	
Organising	Demonstrating
Collecting	Contributing
Science	

INTRODUCTION

When we study Marketing of agri-products, it is essential to view the whole environment influencing the product and product marketing. To contextualise the marketing environment, let's look at the agri-value chain:



In “Strategic Approach to Farming Success”, Nell and Napier ask: “When you get up in the morning. Do you say, “I am a dairy farmer” or do you say, “I am a food producer.” In which way do you talk to yourself? The really winning producers these days have redefined the way they view themselves. At the very least they say, ‘I am a food producer’. Now, when they say they are food producers, rather than sheep/grain farmers, they immediately think “I need to build relationships throughout the supply chain, all the way to the consumers and I need to think about what the market dictates- seeing that I am producing food for the market.” An average farmer with a good holistic strategy is in a much better position than an outstanding farmer who is only production focused.

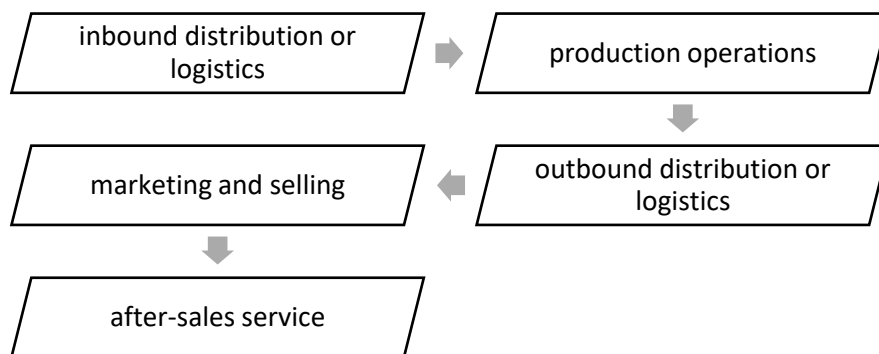
The new farm, the new farming business, and the new agriculture tell us that the farm cannot be a fragment or an isolated part of the food production system; it has to be integrated, planned, constructed and farmed with a live awareness of what is happening in the value chain.

What is a value chain?



Definition: Interlinked value-adding activities that convert inputs into outputs which, in turn, add to the bottom line and help create competitive advantage. The chain of activities gives the products more added value than the sum of added values of all activities.

A value chain typically consists of:

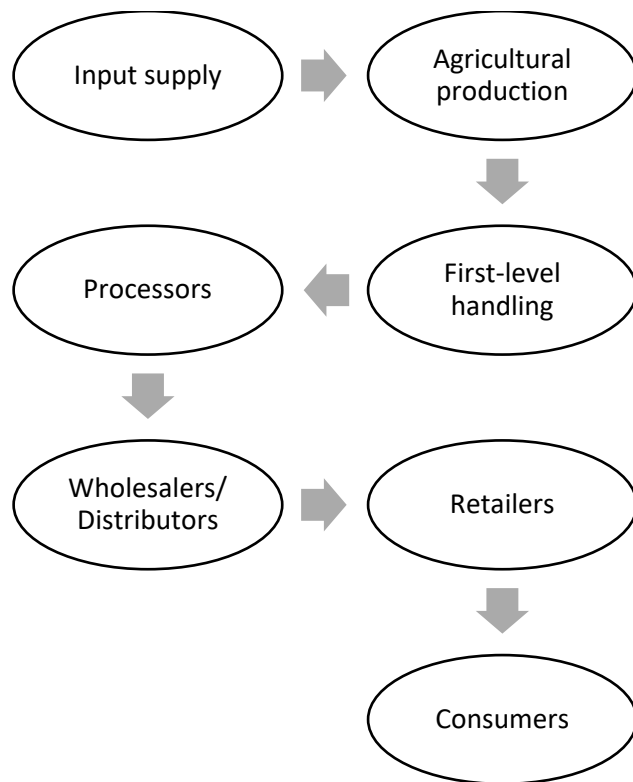


These activities are supported by:

- Purchasing or procurement
- Research and development
- Human Resource development
- Corporate infrastructure

The value chain concept provides a way of understanding relationships between businesses, methods for increasing efficiency, and ways to enable businesses to increase productivity and add value. Value-chain approaches in the agriculture sector are a vehicle for linking small businesses to markets and are essential for improving South Africa's economy and reducing poverty.

To understand your value chain, you could draw a simple diagram that shows the key processes and inputs that contribute to your final product. In general, the value chain of most agribusinesses looks like this:



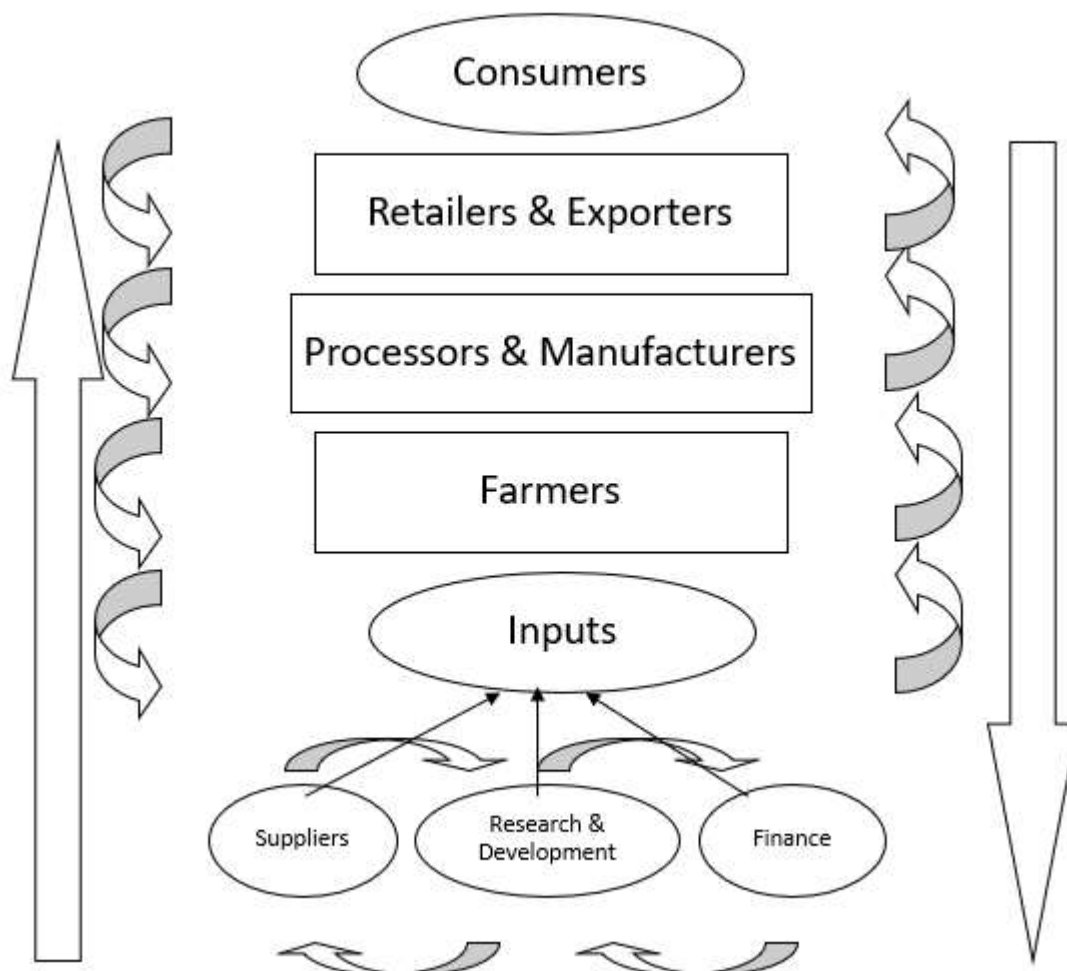
How the value chain works

At its simplest, a value chain is an activity path through an organisation, outlining what and how the organisation conducts its business.

Capturing the value generated along the chain is the new approach taken by many management strategists. For example, a fruit farm that needs its products to be packed will require its pack house to be located nearby its farm. This will maintain the quality of the product and minimise the cost of transportation.

A value chain can be a very helpful tool for understanding the difference between two organisations that appear to be functioning in similar ways in the same sector. This is because organisations can construct their value chains in very different ways, thus creating a competitive advantage.

The Value Chain Marketing System



In a value chain marketing system, farmers are linked to the needs of consumers, working closely with suppliers and processors to produce the specific goods required by consumers. Using this approach, and through continuous innovation and feedback between different stages along the value chain, the farmer's market power and profitability can be enhanced. Rather than focusing profits on one or two links, players at all levels of the value chain can benefit. Well-functioning value chains are said to be more efficient in bringing products to consumers and therefore all actors, including small-scale producers and poor consumers, should benefit from value chain development.

The market is based on integrated transactions and information. Consumers purchase products that are produced according to their preferences. The farmer becomes the core link in producing the products that the consumers desire.

Research and development, whilst including techniques targeted at increased production, are also focused on consumer needs, and attempt to take account of all of the links and dependencies in the

value chain, e.g. processing, environmental and social costs/considerations, as well factors such as health impacts, education and learning.

Communication is in both directions. It is important that both consumers and processors are made aware of factors limiting production, just as much as farmers and other producers are made aware of consumer requirements.

The value chain can help you analyse the external as well as the internal environment with regards to production and marketing.

External market analysis can include finding answers to the following questions:

- How the products you produce reach the final consumer.
- The structure (economic relationships) between players in the chain.
- How this structure is likely to change over time.
- The key threats to the entire value chain.
- The key determinants of your share of the profits created by your chain.

Internal product analysis (with the aim of marketing your product) can include finding answers to the following questions:

- How the products you produce reach the final consumer.
- The structure (economic relationships) between players in the chain.
- How this structure is likely to change over time.
- The key threats to the entire value chain.
- The key determinants of your share of the profits created by your chain.

Value chains can be used to identify sources of increased efficiency and to facilitate 'benchmarking' of how competitors create value and how their activities compare with yours.

Value chain analysis has four underlying elements:

- Identifying the cost of each activity
- Understanding what factors are driving the costs behind each activity
- Monitoring the processes of competitor organisations in relation to each activity ('benchmarking')
- Understanding the linkages in the chain and horizontal strategy opportunities.

You may find that even a quite simple overview of an organisation's value chain gives a great deal of insight into its relative strengths and weaknesses. It is also the case that imaginative approaches to reconstructing ('reconfiguring') the value chain can release new ways of clustering resources and therefore new types of capability within organisations.

Analysis of the value chain enables us to identify where an organisation's distinctive capabilities are based. They may arise from clear advantages functions (e.g. R&D, manufacture), or from the integration of individual functional capabilities. These distinctive capabilities give rise to core competencies, which are what make the organisation what it is. They are the key to the continued success of the institution, and effective strategies need to recognise and build on them.

Value chain analysis, together with an understanding of an organisation's key capabilities, can provide a basis for decisions about whether to integrate all stages of the value chain within the same organisation or to enter into partnerships with other organisations better equipped to deliver some of those stages. Equally, value chain analysis may allow an organisation to make decisions about whether to extend its activities up or down the value chain. Certain activities on any value chain might add a high proportion of financial value to the finished product or service: these are known as high value-added activities.

Know your markets, protect your profits and add value to your products

- Diversify enterprises
- Market outside the commodity supply chains and corporate vertical integrators
- Emphasize direct marketing and premium specialty markets
- Consider forming a cooperative with other farmers
- Add value through on-farm processing

The structure of the value chain will have a direct impact on you and your direct competitors' profitability.

To an extent, the amount of profit that can be obtained by you is dependent upon the final value that your entire value chain delivers to the consumer. It is also important to realise that your value chain also competes against other value chains that may be delivering products and services to the same customers that your chain delivers to. Agricultural businesses that focus only on the firms nearest to them in the value chain are not likely to anticipate major structural changes that can dramatically impact their profitability.

No matter how you end up adding value to your farm products, these principles apply:

- Start small and grow naturally

- Make decisions based on good records
- Create a high-quality product
- Follow demand-driven production
- Get everyone involved
- Keep informed
- Plan for the future
- Evaluate continuously
- Persevere
- Capitalise adequately
- Focus

Role of producer and other role players

As producer, the farmer plays a pivotal part of the value chain. The farmer converts inputs into outputs (e.g. fruit, wheat, milk, etc.) thereby adding value to the final product. The decisions they make regarding how to use resources (land, seed, cattle, labour, technology, soil, fertiliser, chemicals, equipment, etc.) and farming techniques, skills and processes will determine the value that is added at this stage in the value chain. Therefore, they should always seek to farm efficiently and effectively to maximise value.

Apart from focusing on the final product, value can be added by using and selling by-products from the production process. For example, peach pips can be sold to landscapers to use in gardens or inferior grade fruit can be juiced or dried for resale.

Each part of the supply chain adds value in a similar manner by using their resources, skills, techniques, etc., to add maximum value to the value chain. Value can be added by producing something, such as cheese, or by offering a service that enhances the overall value of the outputs from the values chain, e.g. marketing.

Role of producer organisations in the value chain

Producer organisations (POs), for example Milk Producers Organisation of South Africa, National Emergent Red Meat Producers Organisation, South African Sugar Association, South African Table Grape Producers' Association, and so on, go hand-in-hand with the increasing attention placed on the value chains that connect farmers with consumers. Such value chains demonstrate the interrelatedness

of the production, transportation, processing, and marketing of farm products. Improving the coordination of activities of different role-players in the chain can reduce transaction costs, help guarantee product quality and safety, and enhance the design of marketing strategies. Producer organisations are considered instrumental in increasing the value generated throughout the chain, such as by ensuring that the quality of products is in line with the standard demanded. They can also mobilise support from other stakeholders and can help farmers negotiate a fair share of the total profit generated.

Major changes are taking place in the markets for agricultural products. The liberalisation of markets, in many developing countries, including the dismantling of state-controlled marketing boards, have led to increased competition. The rise of international specialty value chains, such as those for organic and fair-trade products, has provided an impetus for the formation of new POs. Fair trade arrangements result in a premium price only for farmers who are organised. The growth of supermarkets as major outlets for food products has led to the restructuring of supply chains, because supermarkets tend to work with preferred suppliers that can offer them products of high volume and consistent quality. As individual producers are hardly ever large enough to supply all the stores in a supermarket chain, there is a need for organisations to collect, sort, grade and perform quality control of products from different producers.



The most recent World Development Report, *Agriculture for Development* (WDR 2008), makes the case for producer organisations as key actors in agricultural development. The report argues that they are a major part of institutional reconstruction, one that uses collective action to strengthen the position of smallholders in the markets for farm inputs and outputs. By reducing transaction costs, strengthening bargaining power and giving smallholders a voice in the policy process, POs are a fundamental building block of the agriculture for development agenda.

Enhanced product quality is key for getting market access in modern chains. POs can help their members achieve this in various ways. They can provide information to farmers about customers' quality requirements. Particularly with international chains, this includes assessing the many options for international certification schemes. POs can implement quality control systems. They can organise and facilitate innovation processes targeted at reaching higher product quality by, for instance, providing technical assistance to improve on-farm production methods. Finally, POs can go beyond facilitating the production and marketing process and take on the processing and marketing functions themselves.

Producer organisations can take many forms, ranging from formal institutions, such as cooperatives, to informal producer groups and village associations. Several typologies have been developed that distinguish POs based on their legal status, function, geographical scope, and size.

Organisations that provide economic services include cooperatives that process and/or market the products of their member farmers. A typical example is the dairy cooperative, which processes the raw milk supplied by farmers into less perishable dairy products. Multipurpose PO's, particularly those at the community level, often combine economic, political, and social functions. They provide farm inputs and credit to their members, process and/or market their products, offer community services and carry out advocacy activities.

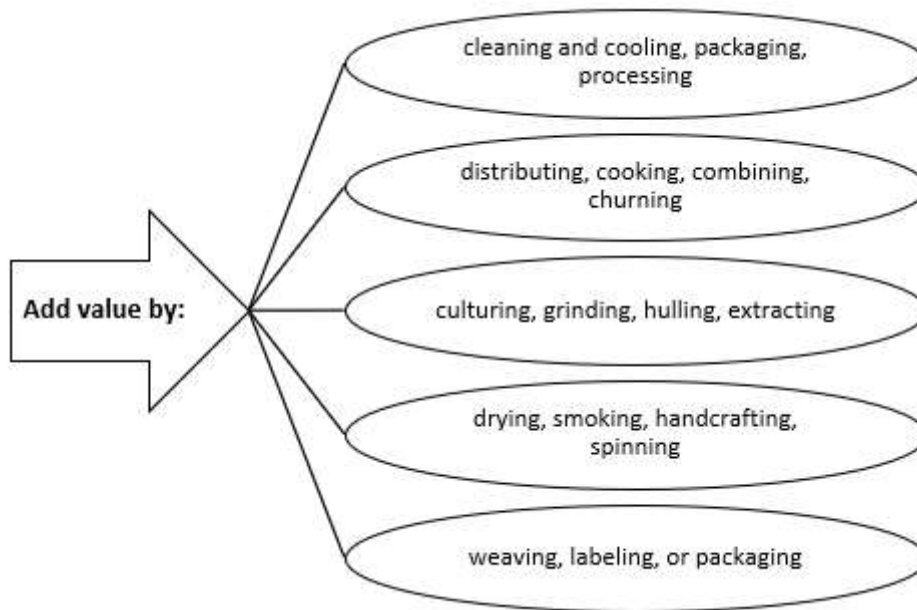
POs exist at the village, regional, national, and even international level. Both commodity-specific organisations and advocacy organisations often have both local and regional/national branches. Multilayer POs are structured as federations, with the lower-level organisations being members of the higher-level organisation.

Value adds to raw product



Value added agriculture is a process of increasing the economic value and consumer appeal of an agricultural commodity. It is an alternative production and marketing strategy that requires a better understanding of the rapidly changing food industry and food safety issues, consumer preferences, business savvy, and teamwork.

The more value you add to your raw product, the more appealing it will be to customers and the more they will pay for it. As farmers struggle to find ways to increase farm income, interest in adding value to raw agricultural products has grown tremendously. The value of farm products can be increased in endless ways:



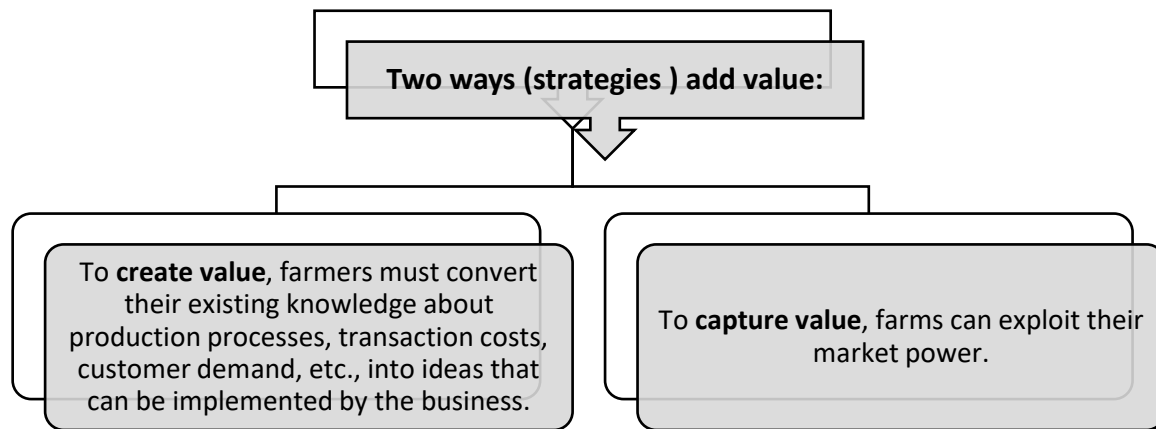
Today, more than ever, adding value means selling the sizzle, not the steak. The sizzle comes from information, education, entertainment, image, and other intangible attributes. Because of the many regulations involved with food processing, some people may choose to add value in other ways. On a larger scale, producer-controlled processing for energy, fibre, and other non-food uses are options. On a smaller scale, items such as flower arrangements, garlic braids, grapevine wreaths, willow baskets, wheat straw weavings, sheep- and goat's milk soaps, and wool mulch are a few examples. In addition, ideas for providing entertainment, information, and other services associated with direct marketing are abundant.

Besides offering a higher return, value-added products can open new markets, create recognition for a farm, expand the market season, and make a positive contribution to the community. However, adding value is not a panacea for all the problems rural South Africa is facing. It is a long-term approach, not a quick fix. It requires the willingness and ability to take on risk, as well as adequate capital, management skills, and personal skills—such as the ability to interact with the public—to succeed.

There is a difference between a strategy to capture value and a strategy to create value. This distinction is important to understand, because each strategy offers specific opportunities and risks that influence the success or failure of the value-added venture.

For producers, capturing value usually means capturing some of the value added by processing and marketing. More and more, producers are attempting to increase their share of income from food production by engaging in activities such as direct marketing to consumers, turning farm products into food products, and joining producer alliances and cooperatives that invest in facilities to process their farm products on a larger scale.

Producers do stand to benefit from diversifying into a value-added business related to the producer's product, when the product is characterised by volatile prices at the farm-gate level but relatively steady prices at the wholesale or retail level.



With a captured-value strategy, producers may face lower production risks, because production processes are well known and often linked to traditional agricultural production. Even when producers themselves are not familiar with processing, expertise in those areas can be hired. Captured-value ventures face an extremely competitive marketing environment, where demand is high, cost and efficiency considerations are paramount, and high volumes of products must be processed in order to gain efficiencies of scale. These ventures are often turning commodities into different commodities and, while value is added, it may not actually be captured by the producer.

A created-value strategy, on the other hand, relies on products or services that are unique or different from the mainstream equivalent. These often include a real or perceived quality attribute such as organic certification, a brand image, identification with a specific geographic region and/or producer, identity preservation, environmental stewardship, and so on. Creating value can pose higher production risks than capturing value. It usually requires learning new production and marketing skills, dealing with food safety, labelling, and other regulations, and coping with liability issues and insurance. Demand for the innovative product or service must usually be created through advertising, promotion, and consumer education, and this is a lengthy, expensive process. Marketing risks may be lower with a created-value strategy, for if this demand can be established, there is potential for higher, stable prices and little direct competition.

On-farm events and activities offer a unique setting that cannot be copied by other producers. However, producers will need to learn new marketing skills, carefully assess feasibility, and develop marketing plans for created-value products or services without established marketing channels.

The amount of value that can be added is affected by whether the enterprise is capturing or creating value. For example, product and market development and compliance with food safety and packaging laws all require time and money, which may be out of reach for the small producer. However, for the small-volume producer who cannot compete with the large-volume producers on price, targeting niche markets with a created-value strategy offers the highest likelihood of success.

Many producers combine aspects of both capturing and creating value in their ventures. A producer may create an unusual food product, such as local specialty bread, and sell it at the farmers' market, capturing more of the food marketing Rand. Food processors may use organic or unusual ingredients, and so on.

Whichever way you choose to add value to your raw products, your goal is to charge a higher price to increase your revenue. Some argue that if you don't have a percentage of people walking away from you at market, you're selling too cheap. Setting a price is one of the more challenging tasks faced by all business, particularly the direct marketer. But how does one know how much a kilo of tomatoes or a head of lettuce is worth? On what information are these pricing decisions based?

Implications of the value chain for the farmer

The amount of detail that you include in your value chain depends in part upon the final product that you most identify with. For many producers, this is a complicated issue. Just identifying where the product goes after it leaves your business is an important first step. Ask yourself, how and in what way your production finally reaches the consumer. This question can have quite different answers depending where you are in the value chain. Grain producers will have many ways in which the product reaches the final consumer and may have little control over where or how their product reaches the consumer. For these producers, it is key to identify the major channels or classes of products that reach the consumer. For instance, grains are often converted to manufactured cereal products, feed and feed products, etc. On the other hand, fresh fruit or vegetable growers may have a great deal of control over how their product reaches the consumer. These growers will likely want to be much more explicit with respect to the final product that they produce, i.e., fresh apples sold at roadside stand, apples picked by consumers in the orchard, apples put in storage and sold in a retail outlet, and apples processed for juice. The key is to identify the many ways in which your product reaches the consumer.

The amount of detail that you use in constructing the value chain will depend in large part upon the degree of **differentiation** that exists between you and your competitors. By simply considering the alternative ways in which your product reaches the final consumer, you can begin looking for ways to differentiate yourself from your direct competitors and making your product more attractive to members of certain value chains.

The next key factor to consider is the **economic relationship** between the various parties in your value chain. The **number and size** of the competitors at a stage of the value chain can have important consequences for other members of the chain. A dominant player at one stage in the chain can place many demands on smaller players with many competitors. Often, stages near the dominant player will react by trying to match the dominator's size and influence. Sometimes this involves consolidation or forming cooperatives.

Another factor to look for at any stage is the importance of **economies of scale**. These are typically important in the processing stages. Economies of scale can dictate how processors want to interact with other players. Often, they will want to ensure that product continues to flow through their plants. Food safety and contamination risks are even more important when a player has large economies of scale. A contamination can be very costly for any player, but one with large economies of scale and thus volume is especially at risk. Look for these firms to be overly sensitive to the quality and origin of the product coming into their plants.

Biological production risk and perishability are frequently important characteristics of agricultural value chains. Biological production uncertainty can have important implications for the consistency of supply to supply chain members. This is especially important when there are economies of scale present. Perishability can have important impacts on the logistics and handling of food products. It will also influence the responsiveness of supply and will limit the amount of substitution that can take place when a weather event reduces production.

You will often want to examine the **economic relationships that govern the transactions** taking place at each stage of the value chain. These factors can be especially important because they can make price discovery difficult and can limit access to a value chain. For instance, many retailers and branded product manufacturers are moving toward networks of preferred suppliers. These networks do not operate like traditional agricultural markets which are open to everyone. To participate, the supplier must typically qualify or meet certain production standards. In many cases, the manufacturers and retailers are looking to reduce rather than expand their supplier networks.

Finally, you want to be aware of key **consumer trends and key technological advances**. In agriculture, the development of biotechnology has the potential to dramatically change value chains because the technology has important implications at both ends of the value chain. Consumer attitudes

toward biotechnology will create new niche markets for value chains which either do or do not use biotechnology. Likewise, new products will be developed and potentially create new value chains. Further, biotechnology will impact the role of food processors in the food system as food products are refined at the genetic rather than the plant level.

What key factors can destabilise or adversely affect the value chain?

- The weather in a geographic region can affect crop quality and volumes
- Differences in production level within and across regions
- Seasonal influences
- The maturity of the market
- Market logistics
- Market outlets
- Storage facilities
- Ability to produce early or late crops
- Access to local, regional, and foreign markets
- Access and availability of crop inputs
- Ability to produce quality and quantity
- Ability to deliver on time
- Ability to track and trace product
- Proximity to markets
- Transport

It is the task of the farmer to combine and consider all these influences and to try to get the best price. However, the factors that influence price can be divided into factors which can be influenced and factors which cannot be influenced.



Individual Formative Exercise: IA



Individual Formative Exercise: IB



Individual Formative Exercise: IC



Individual Formative Exercise: ID

<p>Unit 2</p> <p>MARKET RESEARCH AND MARKET INFORMATION SYSTEMS</p>

Unit Standard	
I0050	Integrate marketing plans with business processes
Specific Outcomes	
SO2: Distinguish the role of market research and marketing information systems	
Learning Outcomes	
By the end of this unit you will understand:	
<ul style="list-style-type: none"> • The process of market research • Marketing channels • Marketing information systems 	
Critical Cross-field Outcomes	
Identifying Collecting Science	Demonstrating Contributing

INTRODUCTION

Far too few farmers and agricultural enterprises give detailed thought to exactly what they are trying to achieve through marketing. Clear marketing objectives are needed to aid operational decisions. Marketing objectives should be set with keeping the following in mind:

- Marketing objective should fit in with broader objectives of the farm.
- They should be realistic, considering internal resources and external opportunities, threats, and constraints.
- Everyone in the company should be aware of the marketing objectives so that everyone can relate these to his or her own work.
- They need to be flexible, since many business decisions are made under conditions of partial ignorance.
- They should be reviewed and adapted from time to time to take changing conditions into account.

Efficient marketing is essential to the success of a farming enterprise. Producing the best quality produce is of no use if it does not meet the requirements of the market.

When considering the establishment of a farming enterprise, it is critical to ask the following questions:

- What can I produce that the market will want?
- Is there a market opportunity for the range of crops and cultivars that I can produce in the area of my farm?

Very simply, when considering whether to embark on a new agricultural enterprise or diversify to new crops on an existing farm, the very first step is to carry out **market research**. Market research may also be required for adapting existing production processes to be able to service a different, possibly more stable or more lucrative market.



Definition:

Market research is the process of gathering, analysing, and interpreting information about a market, or about a product or service to be offered for sale in that market, and about the past, present and potential customers for the product or service.

The simple questions asked above are not that easy to answer and different people have different answers to those questions. On top of this, crops produced in South Africa are marketed in many countries around the globe and today's global agricultural trade environment is one of over-supply and extensive diversity of produce.

In South Africa, growers' associations have been established by their farming members to research and develop the technical expertise to improve access for Southern African crops to international

markets. These growers' associations are aimed at opening new markets for South African produce as well as ensuring that existing markets are retained.

You should also remember that each of the many export markets that are accessible to South Africa are further divided into wholesale and retail sectors. The performance of these many different markets varies from year to year depending on such factors as the type and volume of competitive products.

The situation is further complicated by the fact that it is not always possible to produce high quality produce of the kind the export market requires in the specific climatic area in which the farm is located. Market opportunities for fresh produce especially are highly dependent on the quality and timing of delivery.

From a business point of view, it is advisable for a grower to spread risk of his operation, by securing a range of markets.

This can be achieved by producing a variety of crops and cultivars because:

- No produce producing area can produce the ideal quality fruit at the ideal time for all crops and cultivars; and
- Fresh fruit markets may change over the course of a season and are not always accessible to all fruit types.

Selecting crops and cultivars that are suited to specific markets given the geographical and climatic constraints is the critical challenge. For this, **high quality market research** is vital.

THE PROCESS OF MARKET RESEARCH

The market research process involves several key steps:

- **Consumer Analysis** – Since all marketing plans should begin with a look at the all-important consumer, the first step is to conduct consumer analysis. Consumer analyses identify segments or groups of consumers that have similar needs so that marketing efforts can be directly targeted at them.
- **Market Analysis** – The second step is to carry out market analysis. Market analyses look at the broader view of potential consumers that could be included in the market location, size and trends:
 - **Competition analyses** – These are conducted to ascertain your position as a supplier, relative to that of your competition.
 - **Distribution Channels** – Once you know where you stand in the market, you need to analyse available distribution channels and networks. The efficacy of the distribution network influences the price you can charge, whilst still making a profit.

- **Marketing Mix** – This is followed by the development of the marketing mix that includes the well-documented five P's of marketing, being:
 - Product
 - Place
 - Price
 - Promotion
 - People
- **Financial Analysis** – Lastly, the financial analysis of the marketing plan is compiled.

RESOURCES REQUIRED FOR MARKET RESEARCH

Market research is expensive because it requires the services of dedicated specialists. It is too expensive and impractical for every farmer to do his own market research. In the case of fresh fruit exports, the budget for carrying out such a full market analysis can run into hundreds of thousands of Rands. Farmers can form farmer groups together with exporters and jointly fund such analyses or decide to carry out only parts of the total process. This would depend on the specific objectives of the research programme. Where a grower's association exists, the farmer can join such association and reap the benefits of market research and access services provided by the association. Normally, the growers' association and its activities are funded through a levy that is charged on the produce sold or exported.

In most cases where an individual farmer is faced with planting decisions based on marketing prospects, he will consult colleagues, technical experts, exporting companies and market agents. In this way he can build up enough general information to guide his decision without incurring the cost of hiring marketing professionals.

Where investment in the opening of new production areas or the launch of a new cultivar is contemplated, the market research process, whether it involves a group effort or even a relatively small-scale investigation, may require the services of specialists, either as those within an established grower association or as consultants.

MANAGING MARKET RESEARCH

Market research must be managed, meaning that each stage must be carefully planned, with appropriate target dates and milestones put in place. Out-sourced services can be costly and careful budgeting must be applied to every phase of the marketing plan. It must also be carefully decided which aspects to include and which to leave out of the process.

Once market research has been completed and a marketing plan has been developed, the recommendations of the plan must be followed. Implementation does not only refer to basing decisions for new plantings on the results of the market research, but also implies the adjustment of ongoing production practices to agree with the requirements of the market.

MARKETING INFORMATION SYSTEMS

For a farmer to achieve the best marketing results, the information about what is happening in the market, with regards to supply and demand, is of great importance. Several private, government and non-profit organisations have embarked on developing Market Information Systems to furnish the farmer with up to date Information regarding market conditions.



Definition: A system that analyses and assesses marketing information, gathered continuously from sources inside and outside an organisation. Timely marketing information provides basis for decisions such as product development or improvement, pricing, packaging, distribution, media selection, and promotion. See also market information system.

Agricultural market information is essential for farmers who wish to become fully market orientated and ensure that their production is in line with market demand. The availability of reliable market information can help farmers to reduce the risks associated with marketing, decide where to sell their produce, check whether or not the prices they are offered are in line with market prices, decide whether or not to store, grow produce *out of season* or grow different products.

Reliable market information also improves market transparency and farmers' bargaining power. Farmers are interested in market information on product prices, price trends and buyers for their products. Farmers can use market information in several ways.

- Current or immediate information can be used first to decide what to produce and to negotiate with buyers or traders, to decide whether to go to a market and, in some cases, to decide which market to supply.
- Historical information, such as time series of prices over several years, can be used to make decisions regarding product diversification or the production of out-of-season crops. It may even help farmers identify opportunities for a cash income.

In 2010 the Department of Agriculture, Forestry and Fisheries published an Agricultural Marketing Strategy Report. Following are details on Agricultural Market Information Systems:

At the simplest level, availability of market information can enable farmers to check on the prices they receive, vis-à-vis the prevailing market prices. Commercial farmers are capable of sourcing price and buyer information from websites, publications and commodity associations while developing farmers rely on other farmers and government extension staff for the same information.

There is therefore a great need to make information available to developing farmers at the right time and place. In response to this challenge the national Department of Agriculture, Forestry and Fisheries shall—

- Analyse various agricultural marketing value chains in the livestock, horticulture and field crops subsectors and make this information available to stakeholders as market value chain/commodity profiles on an annual basis; and
- Develop and distribute quarterly market analysis bulletins for key commodities within the three subsectors (i.e. livestock, horticulture, and field crops).

Furthermore, the national Department has expanded the market information system network to the remotest areas by:

- Cell phone technology using the Short Message System or SMS (This tool will be able to disseminate the most crucial information on prices to farmers.)
- Radio broadcasts (Market prices for various products can be broadcast daily on radio stations for all major production areas or markets. Broadcasts should be in a form that is suitable for most farmers as some are illiterate, should be in various languages and at the most convenient time for farmers to be listening. Radio stations should be convinced to see market information as a public service, equivalent to news broadcasts, and not paid advertisements. The ministry of agriculture or designated body should take the responsibility to monitor the relevant website/s and forward this information by e-mail or fax to each station.
- If the MIS is to have an impact on developing farmers, the provision of market information must be accompanied by the provision of advice for the farmers on interpreting the information. Ideally, special radio and television programmes to explain the MIS, the information provided and how to use it should be prepared and aired at least once a quarter.

- The MIS Unit can also prepare training materials to carry out the training programme themselves or train the trainers in the provinces and districts, who should ideally be agricultural economists.)
- The Agricultural Display Technology System (ADTS), which uses plasma displays (ideally situated in the provincial and district offices of agriculture, multi-purpose community centres and agricultural development centres), connected centrally to computers which are connected by a network to a central computer from where the system is managed and updated daily (This system can display daily prices of products, commodity prices, exchange rates, weather conditions, fuel prices and any other important information the department sees fit.)
- Newspapers or the print media

In addition to the expansion of the agricultural Marketing Information System (MIS), both the department and the entire agricultural industry realise the importance of reliable information for efficient functioning of agricultural markets and therefore the department will—

- facilitate a process leading to the establishment of information platforms like SAGIS (South African Grain Information Service) in the livestock and horticulture industries to provide these agricultural industries with vital marketing information; and
- establish a fully-fledged agricultural MIS Unit to undertake collection, collation and dissemination of agricultural marketing information.

It is further proposed that SAGIS be expanded to cater for the information needs of other field crops that are currently not covered. To achieve this, the national Department of Agriculture, Forestry and Fisheries shall collaborate with the latter two industry bodies and the respective agricultural industry trusts. All agricultural industries that collect statutory levies and have industry trusts shall be encouraged to create these information platforms and hyperlink them to the department's agricultural MIS.



Individual Formative Exercise: 2A



Individual Formative Exercise: 2B



Individual Formative Exercise: 2C

Unit 3

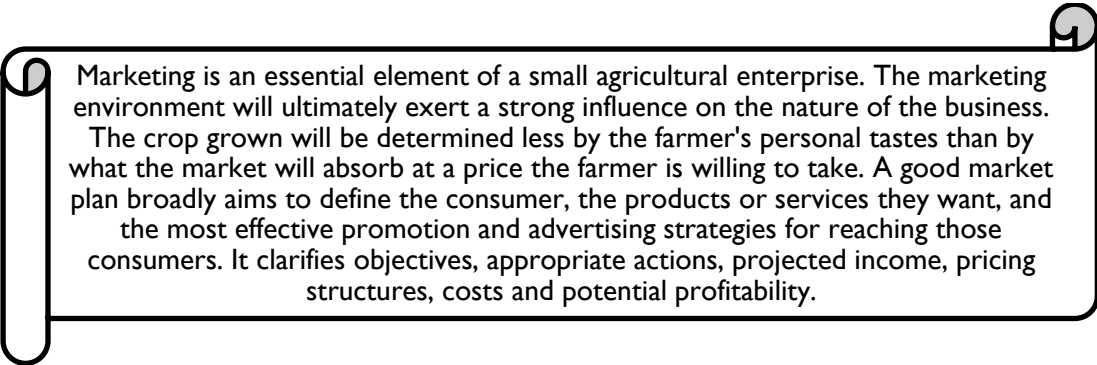
DIFFERENT MARKETS AND MARKETING CHANNELS

Unit Standard	
10050	Integrate marketing plans with business plans
Specific Outcomes	
SO3: Distinguish the characteristics of major markets	
Learning Outcomes	
By the end of this unit you will understand:	
<ul style="list-style-type: none">• Product marketing structures and opportunities• Investigate local market opportunities• Investigate international marketing opportunities• Marketing through cooperative structures• Direct selling from the farm• Non-conventional markets• Niche Markets• Marketing Channels	
Critical Cross-field Outcomes	
Identifying	Demonstrating
Collecting	Contributing
Science	

PRODUCT MARKETING STRUCTURES AND OPPORTUNITIES

Farmers have several alternatives when it comes to marketing their products. In this session we will explore different marketing structures and opportunities that are available to you.

Many farmers, especially new ones, are inclined to start production without giving a second thought to the business of marketing. Good marketing is an absolute must for a successful agricultural enterprise. Some would even argue that it ranks higher in importance than production itself—especially for farmers planning to diversify. After all, what good is a product if one cannot sell it consistently for a profit?



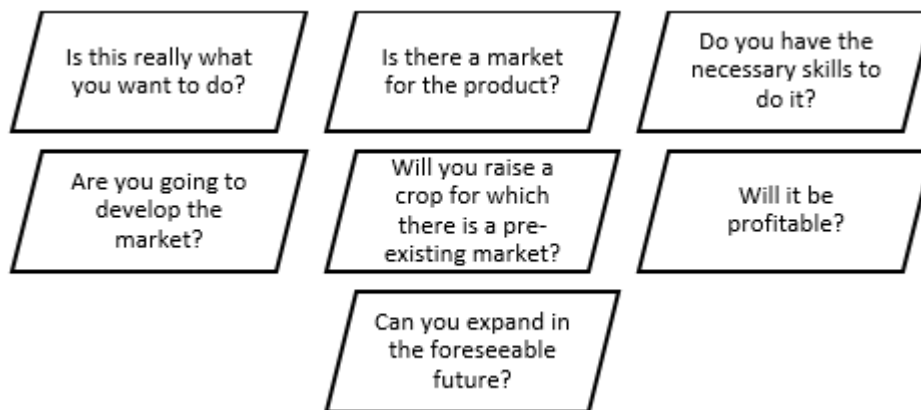
Marketing is an essential element of a small agricultural enterprise. The marketing environment will ultimately exert a strong influence on the nature of the business. The crop grown will be determined less by the farmer's personal tastes than by what the market will absorb at a price the farmer is willing to take. A good market plan broadly aims to define the consumer, the products or services they want, and the most effective promotion and advertising strategies for reaching those consumers. It clarifies objectives, appropriate actions, projected income, pricing structures, costs and potential profitability.

The structure that you choose will depend on the opportunities that you wish to take advantage of. First, you will need to decide what market(s) you are going to focus on. You may focus on the local, regional, national, or international markets. Or you may choose to concentrate on more than one market. Each of these markets has its own structures and consumers within them have their own needs that you will seek to satisfy. For example, if you decide to enter into an international market you will need to find out what the legal and market requirements are for your products, including, quality, volumes, packaging, and other legal requirements such as licences. It will be more difficult to enter into international markets than to enter into your local market, but the financial rewards may be greater.

Many farmers think of marketing as simply how to dispose of their products. Locked into producing a small number of major crops and insulated from the market, they have not been required to have a clear understanding of ever-changing consumer wants and needs.

A good marketing strategy begins with making sure the enterprise is right for you and is feasible. This will require a review and evaluation of your present situation, goals, enterprises, physical, financial and marketing resources, and market potential.

The evaluation should help you answer some key questions, mainly:



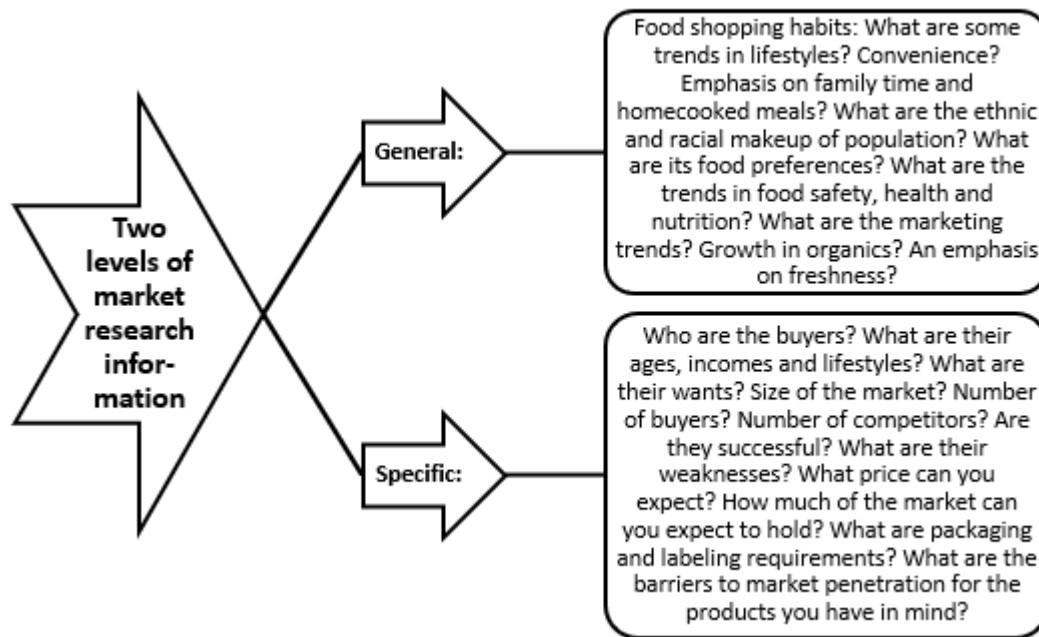
Start by listing your business and personal goals. Prioritise them.

INVESTIGATING LOCAL MARKET OPPORTUNITIES

If you have decided to focus on the local market, talk to your extension officer, visit the local shops (gourmet and otherwise) and supermarkets to see what is selling, and why one product appears more appealing than another. Talk to customers, local stores, food clubs, specialty distributors, restaurants, and other prospective outlets in your region. What do they want? Is there an unfilled niche? With your production, labour, and marketing resources, will you be able to fill this niche?

Find out what your prospective competitors are doing. Look for ways to improve upon what they are offering.

Information from market research helps to formulate a market strategy and project profitability. Two levels of information may be obtained:



You can either start small and grow bit-by-bit or you can start in a big way from the very beginning. Either way, you must be prepared to do your homework and get to know your markets to be successful.

Conventional marketing wisdom has it that 80% of sales come from 20% of customer base. The grower must build a core customer base and let them know how important they are. Word-of-mouth advertising is the most effective and inexpensive way to attract new customers. Stay on top of consumer trends. The best-made product in the world will not sell if it isn't something people want.

Education of the consumer plays a big part in salesmanship. Most people, for instance, are oblivious to the environmental and health benefits of livestock raised on forage. Conveying information about the farm, how the product is raised and why it is raised the way it is, the effect of recent weather on the crops, and other farm-centred conversation is important. Not only is this good for business, it also is a small step toward the development of consumer awareness of the farm and of social and health issues. Once customers know that you are providing healthy food, they gladly take on the responsibility to support local farmers. Help them help you run your business successfully and profitably.

INVESTIGATING INTERNATIONAL MARKET OPPORTUNITIES

The export market is particularly important for South African agriculture. In theory it should be quite easy to determine demand. After all there are numerous companies around the globe that conduct

research and gather consumer data. This data would, for example, show that the consumption of oranges per person in EU countries have remained constant for the past 20 years, whereas in Japan it increased. Add to this data about population growth and it should be quite easy to determine the market potential for a product in each period. The complexity of determining future demand arises when one considers constantly changing consumer preferences for specific cultivars and type, the impact of competitive products, changes in disposable income, and other external factors.

The key to success lies in knowing the competition, understanding the impact of emerging trends on consumer behaviour, and being aware of consumer preferences in specific markets. This enables the most appropriate product to be supplied at the most appropriate time to differentiate your business from that of the competition.

With annual crops such as vegetables or grain, it is possible to change areas planted and crop type from year to year in response to predictions based on current and expected supply/demand balances. Other crops do not have the same flexibility. For example, citrus is a long-term crop. The productive lifespan of an orchard exceeds the speed at which shifts in consumer trends, competitive actions and other factors impact on demand. This means that sound decisions on what areas to plant, with what cultivars and in what ratios, should only be taken after analysing available market trends and extrapolating, interpreting, and integrating such relevant information from several reliable sources.

However, short-term adjustments to supply patterns also must be made based on prevailing and anticipated market forces within any season. This means that the producer must contend with two sets of circumstances:

- He must decide what volumes of fruit to send into the various export market segments within a specific season. In this context the term 'market segment' is used broadly to cover differences between retail and wholesale markets within a single country as well as markets in different countries.
- He must consider the development of long-term planting (production) and demand (market) trends of local and competing global citrus industries, or at least sectors of these industries.

In the first case, the production manager, through close liaison with his export agent, tracks weekly, if not daily, fruit supplies from other local producers and from competing countries and monitor the movement of this product into the markets in which he has an interest. He attempts to assess the quality and volumes of their product against his own supplies in the knowledge that oversupply weakens a market and influences perceptions about the quality of the product in that market. For example, when a market is fully supplied, yet has confidence in the shelf-life and quality of the available fruit, demand is likely to remain firm. If, on the other hand, the market suspects that the condition of the product is deteriorating, demand will weaken as the market becomes increasingly pessimistic about

the value of the product by the expected consumption date. This can lead to a downward spiral in market confidence in own and competitive products resulting in slow sales, the accumulation of increasingly poor-quality product and plummeting prices.

All such factors need to be considered by management to inform short-term decisions when switches of product supply into different market segments within a single production season are being considered.

Long-term supply/demand trends and extrapolations are used to inform long-term decisions, such as whether to channel resources into expansion or land acquisition actions given present and expected future changes to the operating environment. To arrive at such decisions strategic planning exercises are carried out.

Strategic planning is traditionally focused on setting the action plans to attain long-term objectives, considering current realities, and expected future influencing factors. Successful strategic planning however requires information relating to both short-term influencing factors and long-term trends.

At the two extremes lie long range strategic decision-making on the one hand, and ultra-short-term weekly adjustments to harvesting, delivery and distribution patterns aimed at optimising intra-seasonal returns, on the other. Somewhere in between lies the response of the producer to certain opportunities that may arise and can be exploited. Such opportunities can come in the form of the opening of a new export market or a growing demand in certain market segments for organic or Fairtrade products.

MARKETING THROUGH COOPERATIVE STRUCTURES

There are two primary types of agricultural service cooperatives, *supply cooperative* and *marketing cooperative*. Marketing cooperatives are established by farmers to undertake transformation, packaging, distribution, and marketing of farm products (both crop and livestock).

Cooperatives can add value to individual businesses and to the value chain by marketing the products of their member farmers. This is the ideal arrangement where individual farmers do not have the resources or knowledge to market their own products. In that case they can pool resources and get the economies of scale that large agricultural businesses have, thereby overcoming the 'curse of smallness'.



Agricultural cooperative: Also known as a **farmers' co-op**, is a cooperative where farmers pool their resources in certain areas of activity.

Producers and their cooperatives are selling into markets increasingly dominated by fewer, larger buyers. A variety of ownership and contractual arrangements intensify concentration and create a dramatic disparity in market power. Even the largest agricultural cooperatives have much smaller sales and asset bases than many of their competitors and customers. They must seek added value for their members in other ways, for example, by identifying niche markets and focusing their marketing efforts on them.

COOPERATIVE MARKETING AND DISTRIBUTION

One factor that can weaken the cooperative's bargaining power is the potential variability of the quality of produce emanating from its range of producers. All cooperatives have strict quality management systems in place, but quality variation is an inherent risk in a system where fresh farm products are supplied from many individual producers.

- **Distribution channel budget**

Most costs associated with the production and packing of fresh farm products are fixed.

Since there are various distribution options and logistics service providers from which to choose, costs can be saved in this area. It is therefore important to compare prices for the various stages of the distribution chain and use this information to create a distribution channel budget.

The distribution budget serves as the financial expression of the distribution plan and in its formative stages is a useful tool for comparing different options.

- **Monitoring distribution channels**

It is important for the farmer to enter into a contract or service-level agreement with the chosen transport and logistics service provider. In this agreement, the required service delivery standards should be clearly described.

The actual service delivery is measured and monitored against this agreement, and payments are made accordingly.

To ensure ongoing compliance by the service provider, it is important to maintain short interval control so that service delivery problems can immediately be brought to the attention of the service provider and appropriate action taken.

- **Monitoring the productivity of transport providers and distributors**

The most obvious way of measuring the efficiency of transport and distribution contactors involved in the fresh farm product supply chain relates to the final condition and quality of the product they have been responsible for conveying.

Fresh farm products are, by nature, perishable products with a limited shelf life. Once the product has been produced, harvested, and packed, time and temperature become the crucial parameters determining its quality and condition during and after the transport and distribution process.

There are other negative factors associated with cooperatives. Some issues arise because members' enterprises vary in size and motivation. This makes it difficult to please all members. For example, commercial-scale producers may expect discounts on supply purchases and special services because such benefits are offered by other businesses. The costs of doing business through a multi-level supply cooperative come under real scrutiny when a farmer can order chemicals, for example, directly from the manufacturer and have them delivered for less total cost.

In turn, small producers sometimes resist what they see as efforts by larger producer-members to control the organisation. Large cooperatives may be inflexible and individual members may miss out on marketing opportunities because they are not able to respond to them in time because of their commitment to the cooperative.

Each member brings a specific set of interests and demands to the cooperative. Leaders and advisers of cooperatives must find ways to blend this diverse base of farmers into a membership with a cohesive business interest in their cooperative.

Two themes permeate strategies for cooperatives to succeed in the 21st century. The first is that greater investment is needed in the people who make up cooperatives. Members, directors, managers, and advisers must receive the training required to deal with 21st century issues. Otherwise, they will neither completely understand the options available nor can analyse them and make sound business decisions. The second is that an emphasis must be placed on pragmatism and profitability. Cooperatives are businesses and, in the years ahead they must focus on solving business problems and providing value to their members. If they don't, members will stop patronizing them and they will just fade away.

DIRECT SELLING FROM THE FARM

It is the excesses of the conventional marketing system that have forced the return of direct marketing. Consumers tired of tasteless supermarket produce and factory-raised meat (and with increasing concerns about food safety issues) want fresh food with flavour, as well as more control over their food supply, and are willing to pay a premium price for it.

Direct marketing can give the farmer a larger share of the food Rand value and possibly a higher return on each unit sold, offset to some extent by loss of economies of scale. For some farmers, adding value or marketing some minimally processed farm products directly to the consumer is a way of enhancing financial viability. Farmers who are unable to compete in, or are locked out of, distant markets can build a thriving local business.

However, finding the right niche and marketing directly to the public is a hard and labour-intensive job requiring time and effort, creativity, ingenuity, sales expertise, and the ability to deal with people in a pleasant and positive manner. Agricultural producers must be sure they are ready for the job.

The one advantage that direct marketers have over retailers is the ability to build their relationships with customers over time. Indeed, good marketing is about building trust and personal loyalty in the relationship. Good sellers know and use the customer's name. Consumers who feel an emotional bond to the grower are likely to remain loyal, even though the product is available at the grocery store at a cheaper price.

NON-CONVENTIONAL MARKETS

Formal research on alternative marketing mechanisms has been scattered and hard to access by producers. It is mostly experiential and unrecognised by the agricultural establishment and official information channels. Small farmers and grassroots farm groups are most likely to develop and use innovative marketing methods. The assumption that farmers must either *get big or get out* is, however, challenged by the emergence of alternatives. It is possible for innovative farmers to stay small or medium-sized and make a comfortable and successful living from agriculture.

- **Agri Tourism**

An alternative agricultural specialty currently attracting a great deal of attention is agri tourism. Although not every family is willing or able to entertain the public, for those who enjoy meeting new people or hosting groups, a farm entertainment enterprise is a good opportunity for selling on-farm processed items. But on-farm processors must be aware of regulations

governing their enterprise. If a food product is being produced, a commercial kitchen is usually required.

- **Producer Alliances**

Large scale processing through producer alliances, such as agricultural cooperatives or limited liability companies, has seen growing interest among producers. These alliances can offer a way to pool resources and manage risks. In some cases, producers lose marketing or processing facilities when corporate agribusinesses close local facilities.

- **Farmers Markets**

Ordinarily, retail markets command the highest price per kilo of products, while wholesale markets move more of the product than retail markets, but at lower prices. Farm sales, farmers' markets and mail-order are typically low-volume markets. Restaurants, retail stores, cafeterias, health food stores, and caterers constitute mid-volume markets, where prices are better than wholesale but on the lower end of retail. Smaller farmers may find that selling to low- and mid-volume markets works best for them. Mid-volume markets, especially, offer the advantage of small to medium crop production as well as medium to better prices.

There has been an explosive growth in the number of farmers' markets around the country. Farmers' markets seem to work best for growers who offer a wide variety of produce of the type desired by customers. Consumers want markets to be easily accessible with good parking facilities. A little related entertainment never seems to hurt – seasonal festivals, street musicians, tastings, demonstrations, etc. Sales help must be pleasant and courteous, willing to answer questions.

- **Farm entertainment**

Some producers are entering the growing farm entertainment sector. Marketing strategies may include educational tours, an on-farm market with opportunities to buy fresh produce or value-added products, ready-to-eat food, festivals, classes, seasonal events. Such enterprises work best when farms are within 50 kilometres of a major population centre, preferably on or near a good road. In addition to the expected parking, toilet facilities, harvesting instructions, creative signage, and playgrounds, adequate liability insurance must, of course, be in place.

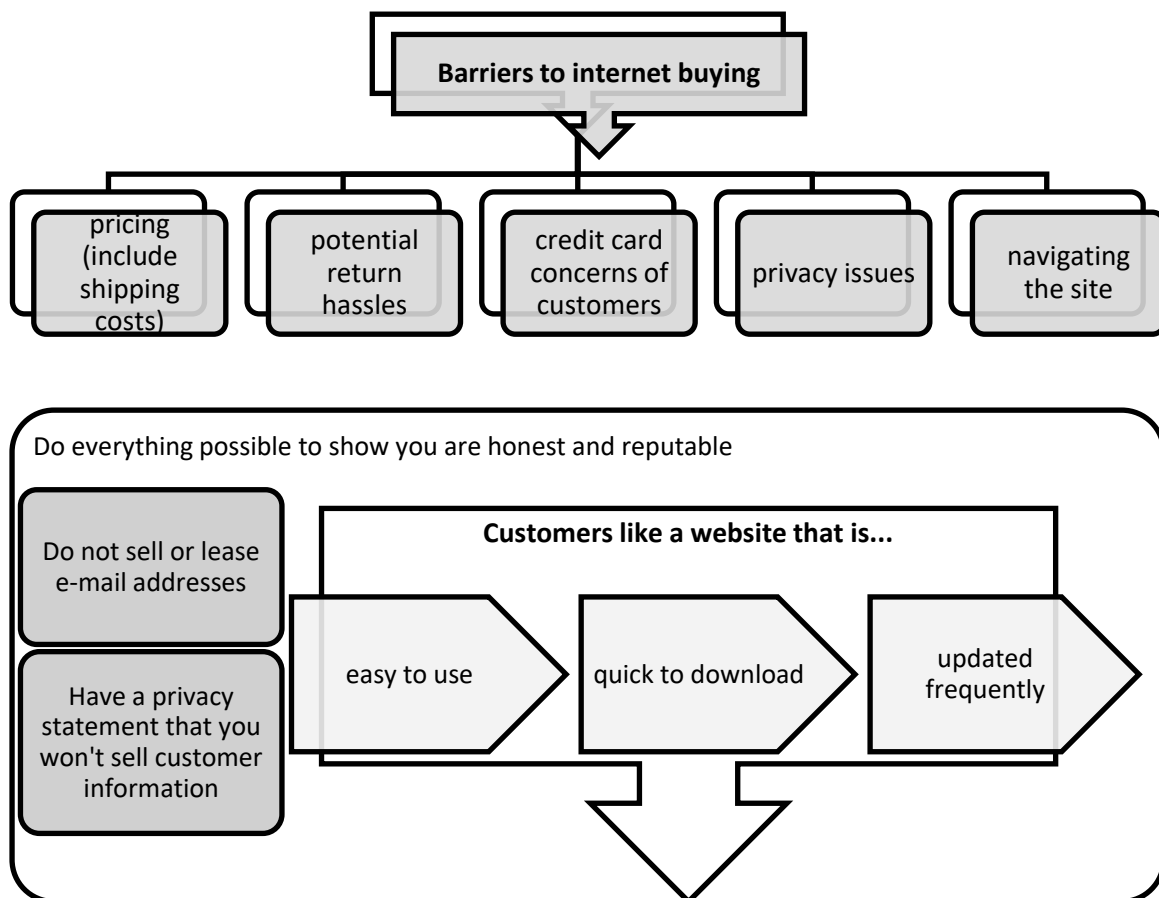
- **Internet**

Plans for selling groceries on the internet are taking their place along with other forms of e-commerce. High-value, non-perishable, low-weight specialty food products and nutritional supplements have been available from a growing number of websites for some time. Delivery

is by conventional package delivery systems; this form of e-commerce may be considered another form of mail-order.

Another way to utilise the internet is to have a farm or business homepage purely for advertising purposes (cooperatively packaged).

Farms can do business on the internet either by maintaining their own individual websites or participating in a directory listing. Look at internet marketing as an opportunity to attract new clientele, but first determine whether existing customers are on the internet. Do they have e-mail? Be aware of certain barriers to internet buying:



Be cautious about graphics that take a long time to download. At least give customers the option to bypass graphics. Look into ways to increase search engine results for your site, so that it appears in the first five or ten that come up.

Put your internet address everywhere—on all stationery and items that go out. Offer freebies (samples) when filling orders. Have a raffle. Develop a kids' e-mail mailing list and send birthday cards. Send holiday greetings. List your competitors' prices (shown to be effective). Make your website

interesting. When creating your webpage, call the first page "index" to aid search engines. Constantly test and evaluate your site.

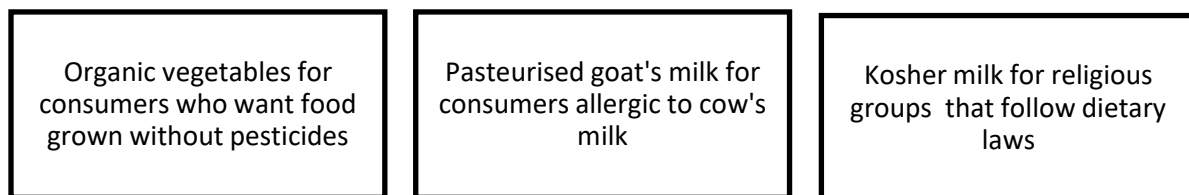
Word-of-mouth advertising by satisfied customers is priceless and cannot be purchased or engineered except by providing good service and a good product. Because an estimated 80% of business comes from return buyers, the focus is on rewarding loyal customers by offering discounts, gift certificates or a free service.

NICHE MARKETS

A **niche market** is the subset of the market on which a specific product is focusing; therefore, the market niche defines the specific product features aimed at satisfying specific market needs, as well as the price range, production quality and the demographics that are intended to impact.

Niche marketing is servicing a portion of a unique market, or a unique portion of a common market, not already served.

Examples of niche markets



Case Study

Niche marketing with grass-fed beef – AI African Cattle Farm

The two defining characteristics that differentiate the *AI African Cattle Farm* from other beef cattle farmers are their product and market. When they first set out to direct market, they were determined to give the public an opportunity to eat the kind of beef they grew for themselves. Convinced that there was a niche market for clean, range-grown beef, they proceeded to sell a product that was free of unwanted chemicals, growth hormones, and antibiotics.

The *AI African Cattle Farm* maintains that conventional wisdom does not apply in the marketing of grass-fed beef. Beef raised entirely on grass has the leanness of wild game and the flavour of sweet beef. It is not heavily marbled as is grain-fed beef. The cattle are butchered between the ages of 18–

20 months; the younger the steer, the more delicate and tender the meat. Not much fat needs to be trimmed off the carcass and the beef is sold with cooking instructions and recipes.

It took some time and some crushingly expensive mistakes for the *AI African Cattle Farm* to learn how to tap into their niche market. Glossy advertising in a local tourist guides, press releases and bulk mailings brought few or no sales. The poor response convinced them that they were better off addressing themselves exclusively to the small percentage of meat-eaters who frequent health food stores or similar establishments and who would buy organic meat. On the downside, of course, was the fact that many health foods store themselves steer clear of red meat because of perceived health risks. Their mission is now:

Convince them that there are people out there who will joyfully eat clean, range-grown beef, precisely because of the health benefits. We show them photos and describe the ranch and the lives of our cattle. We point out the obvious that beef is a very high-quality, nutrient-dense source of protein and obscure nutrients like B12, folic acid and zinc, that it is utterly delicious and deeply satisfying.

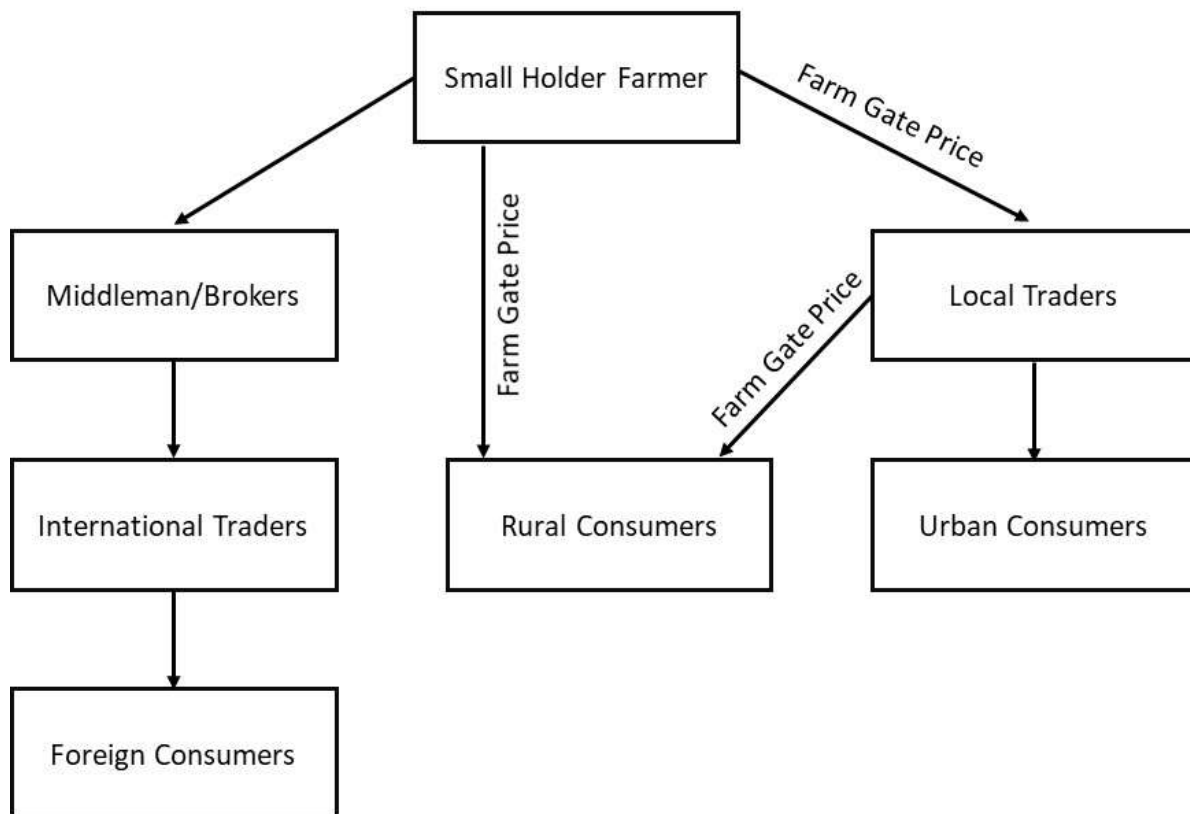
Today, their main wholesale outlet is a local warehouse. The warehouse itself markets only their ground beef but trucks orders to buying clubs—groups of private individuals—and allows the *AI African Cattle Farm* to ship on their vehicles. This is an enormous bit of luck because it allows them to ship their product around the country for little expense. The other, and costlier alternative would be to use delivery services, which do not have freezer trucks and require insulated packaging.

The owners of *AI African Cattle Farm* note that they really ought to invest more time and effort into in-store presentations and demonstrations. They have refrained from this partly because they do not wish to offend vegetarians present in the store and partly because they are still uncomfortable playing the role of salespeople.

Yet, store managers have found their obvious naiveté and lack of sophistication refreshing and different from the spell of professional salespeople. The owners do not make "cold" calls but prefer to write a letter of introduction in advance before paying a visit to the store.

Their ideal marketing strategy would entail getting to know all the mainstream grocery stores with alternative clientele, and health food stores within a three-hour driving radius, contact them on a regular basis—perhaps weekly, bi-weekly or monthly—and keep the stores regularly stocked with their product. So far, they have been able to sell everything they produce without actively marketing.

MARKETING CHANNELS FOR PRODUCE



The figure above illustrates the different paths that followed from produce harvested and sold by farmers until it reaches the consumer. Produce from farmers are sold to consumers and traders at the farm gate, usually through informal transactions where prices and terms of exchange are unofficially negotiated.

Farmers face difficulties in accessing markets and as a result, markets do not serve their interests. Technical and institutional constraints make it difficult for them to access commercial markets.

Good roads, transportation and communication links are prerequisites to market access. Proper post-harvest handling and storage contribute in ensuring quality maintenance for perishable agricultural product.

Farmers often rely on open-air storage and therefore are keen to sell produce almost immediately after harvesting, leading them to sell their product at a lower price.

Road infrastructure and transport availability have an influence on smallholder market participation, especially if they are in rural areas. Inability to transport products in time may result in produce spillage and losses.

SELECTING A DISTRIBUTION CHANNEL

For fresh produce, the distribution channel refers to the way and means by which the farm product is moved from the farm to the market. The mechanisms used vary depending on where the market is in relation to the farm and on the requirements of the market. Commonly used distribution channels include wholesalers, distributors, sales representatives and retailers.

The preferred packaging required by the target market for fresh farm products is an important role in the choice of distribution channel. Fruit destined for the local wholesale market is usually packed either into jute or plastic pockets, usually in 10kg or 5kg units, or into 15kg cartons. Cartons are stacked onto wooden palletised and transported by road or rail. Pockets are either stacked directly into trucks or palletised for the journey to the market.

Informal traders who collect fruit directly from the pack house in their own vehicles may load fruit loose into their vehicles.

Fruit for export is packed into specified cartons, most commonly 15kg, with dimensions that are configured for palletisation. Stacked pallets are either loaded onto vehicles or rail trucks, or into shipping containers at the pack house.

We can now see that there are many different forms and ways in which fresh farm products leave the farm for their journey to the market. Some products are transported following a cold chain. In the case of lettuce, the harvested lettuce is transported from the field to a packing shed that is refrigerated. The lettuces are packed using specific packaging, under refrigeration, store in cold rooms and transported to the retailer in refrigerated trucks by road.

The farmer or pack house decides which markets to serve, ensures that the packaging form is aligned with market requirements and is cost effectively utilised. The farmer or pack house then decides, alone or in consultation with the market agent or exporting company, how the product will be transported to the market or port terminal.

In the case of exports, decisions also must be taken about which logistics service provider and shipping company to use. The cost of transporting the product to the markets of choice in good condition depends on the efficiency and capability of the agencies used.

Deciding on which logistics service provider in the distribution channel to use depends on:

- The ability to provide the desired service
- The reputation of the service
- The cost of the service

TRANSPORT MODES

The choice of distribution mode has cost implications and therefore has an influence on the distribution budget.

The farmer or pack house must decide which mode of transport to use to convey the packed product to the market. Cost is the main consideration in making this decision, but not the only one. Other factors include the practicality, reliability, reputation, and general standard of service delivery associated with the different modes of transport and transport contractors.

Export fruit must be transported from the pack house to a local depot or port, from there to an overseas port, and from the overseas port to an overseas depot or market. Different modes of transport are in most cases used for the different sectors of this journey.

The inland part of the transport leg can be completed by road or rail, or a combination of the two, depending on where the pack house is located. All cooperative pack houses and some independently run pack houses are located on rail sidings, in which case rail transport is the logical option. However, in many instances, poor rail services, because of unreliable capacity, time delays and uncompetitive tariffs, have resulted in road transport being more attractive. Market forces will determine what mode of transport is used.

Before the 1980's, a high proportion of farm products were transported from the interior of the country by rail. Today the situation is quite different, with a much higher proportion being transported by road, simply because of competitive rates and service delivery requirements driving producer decisions.

Sea freight accounts for virtually 100% of the transport mode used to convey farm products from South Africa to its various export markets. This is even the case with African markets other than those with borders close to South Africa.

On rare occasions air freight is used for exports, but this is usually early in the season of a popular cultivar, when a producer and his export agent decide to be the first on a poorly supplied market. Speciality crops that are placed into niche markets are often transported by air. An example of this is air freighting of blueberries from South Africa to the UK. South African blueberry exports occur in the months where blueberry is not harvested in Europe. The consumers are then willing to pay a levy on the produce. In some instances, market prices may, for a short period of time (days), justify the high cost of airfreight.

On arrival at overseas ports, the palletised farm product is conveyed most often by road transport to depots or directly to retailers in the case of supermarkets.

In the case of locally marketed fresh farm products, depending on the quantities of produce involved, the proximity of rail stations, the location and nature of the market to which the products are being sent, and the price quoted, either road or rail is used. Since small volumes of product are sent by any single producer to any specific market, road is the most commonly used transport mode.



Individual Formative Exercise: 3A



Individual Formative Exercise: 3B

<p>Unit 4</p> <p>MARKET MIX AND MARKETING PLAN</p>
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Unit Standard	
10050	Integrate marketing plans with business processes
Specific Outcomes	
SO4: Identify influences on consumer behaviour in relation to marketing activities	
Learning Outcomes	
<p>At the end of this unit, you will understand:</p> <ul style="list-style-type: none"> • Factors influencing customers to buy • Ethics in dealing with customers • Professional conduct of the 'seller' 	
Critical Cross-field Outcomes	
Identifying Collecting Science	Demonstrating Contributing

THE MARKETING MIX

A **marketing plan** attempts to clarify and characterise the market, the customer, and the environment in which the business is being conducted. The **marketing mix** can be viewed as the controllable part of the marketing plan. It is the farmer's responsibility to control these factors.

Often referred to as the four principles of marketing, **product, place, price, and promotion**, as proposed in the well-known book by E. Jerome McCarthy entitled *Basic Marketing*, these four principles can be expanded to include a fifth P, being **people**. These five principles are referred to as the marketing mix. This section explores the application of these principles to the marketing of fresh farm products.

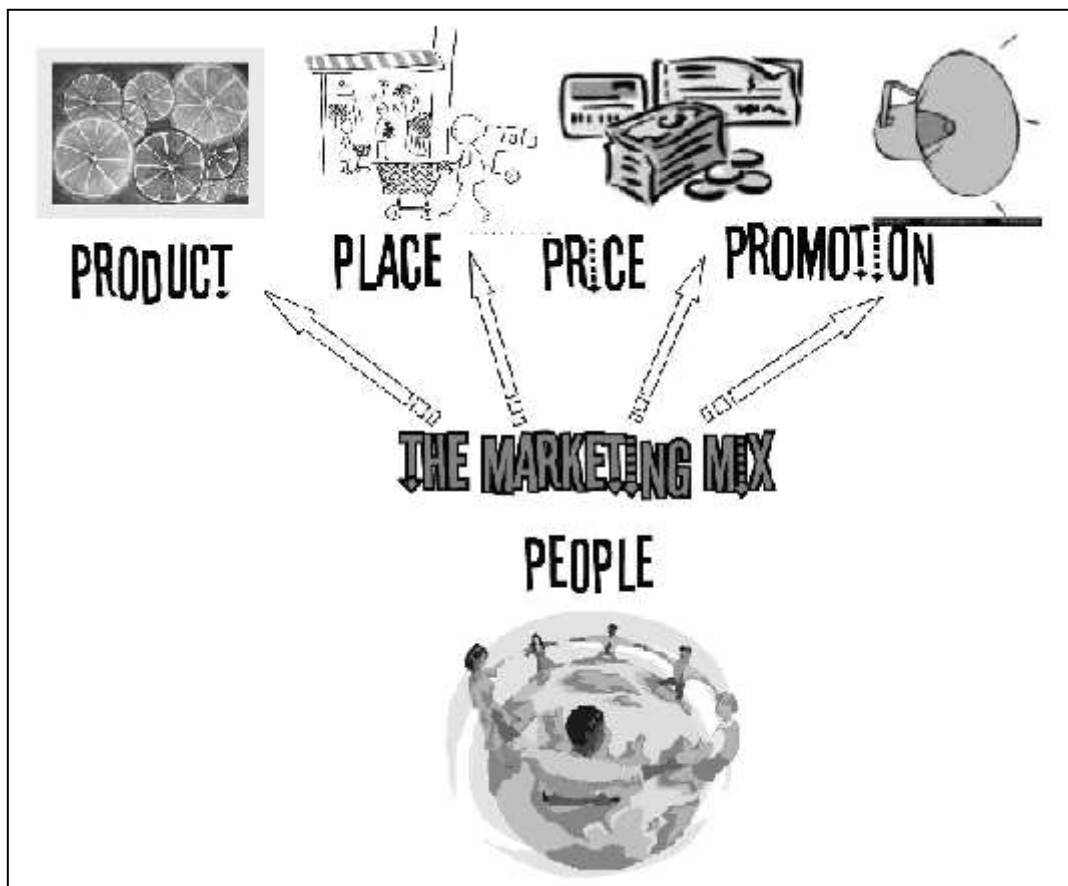


Figure 4.1: The marketing Mix

Product

The critical question that must be asked about the product is: “What is the product and its characteristics that my target market wants?”

For a farmer to succeed, the product must offer clear and distinct value to the buyer. The product characteristics must also meet those expectations of the target market. Supply and demand are the ultimate judge and jury of success.

There may seem to be little opportunity for differentiating traditional crop or staple foods: after all, maize is maize. But on closer examination it is evident that there is ample scope for product differentiation using knowledge of market opportunities as revealed by market research.

For example, there are many different maize cultivars. Even the traditional maize crop comprises many different cultivars with different properties, each with their own features and characteristics of grain size, cooking time, colour, internal quality, general appearance, taste, and nutritional value.

Markets differ in their preference for different maize cultivars and specifications, and these preferences change with time.

Market differentiation can also be achieved through techniques such as organic production, distinctive packaging, and by establishing a recognisable brand for the product. A product can further differentiate itself through building up a brand reputation of good quality. Consumers will come to associate a brand name with the product and with good quality and therefore seek this in their purchases.

The way in which the product is presented is also critical. For example, where direct delivery to the retailer occurs, such as packing for Woolworths, the product and packaging specifications are prescribed in detail by the retailer and must be strictly adhered to.

If you are, for example, targeting the local processing industry, what is it that makes you an indispensable supplier to them?

If it is the bakkie trader or roadside hawker who is important to you, why would they buy your produce rather than that of your neighbour up the road?

Is your customer the impossibly-difficult buyer at Pick 'n Pay or Woolworths, who in turn is trying to meet the needs of the buyers in his fresh produce section?

Or is it the buyer in Tesco's or Sainsbury's in the UK (two overseas retail groups similar to Pick 'n Pay and Spar) who is insisting on traceability, food safety standards etc, on meeting the needs of their own unique accreditation code, and in receiving product that meets the most stringent standard the world has ever known?

Each of these markets has such radically different needs and requirements, and each requires a completely different mix of product and marketing tools to successfully penetrate and maintain it.

You may be supplying all these markets, but have you:

- Segmented them into the separate entities?

- Established what each one consists of?
- Identified their individual special product needs?

Place

The critical question that must be asked regarding place is: “Where does my target market want this product?” or more critically, “How am I going to get my product to the target market?”

Place, therefore, has to do with the distribution networks for getting the product to the customer. It is important to analyse the distribution options, because the choice of channel influences the price you can charge, and consequently the profit you make.

Two questions should be asked to provide a basis for a decision on distribution:

- How can and should my product reach the consumer?
- How much do the players in each distribution channel profit?

By working through the answers to these questions it will become clearer how your product should be directed to the market.

The commonly used channel intermediaries to the consumer are wholesalers, distributors, sales representatives and retailers. For export fruit, distribution channels are highly specialised, and the competitive environment enables the producer to select the appropriate inland transport provider and logistics service provider at the port terminals.

Very often, decisions relating to transport and logistics are the result of negotiations with the company whom the grower has chosen to export and market his product. Joint decisions are taken for instance on whether product will be shipped in containers or in reefer vessels.

Moving fresh fruit by air is expensive and seldom a financially viable option.

Example:

Road transport of fruit into Africa is exposed to pilferage and border delays that compromise fruit quality. This leaves sea freight as the most viable transport option into Africa. Shipping lines have increased their ports of call and improved transit times to African destinations. An important issue remains placing the maximum number of cartons per pallet (payload) in order to provide the importer with optimal economic benefit on freight costs.

Placing fruit into local market destinations involves a trade chain of transporters and local wholesale market agents. The choice of service providers and markets depends on the outcome of the market research

Price

The critical question that must be asked regarding price is: At what price can I sell my product to the customer to ensure the optimum sales but also the best possible profit margin?

The price at which the product is sold is critical. This is because a high proportion of the costs involved in producing and packing fresh fruit for a market are fixed. Distribution costs vary depending on who does it and where the market is located. Profit is highly dependent on the price earned in the market.

It has been said that the market price is the market price – take it or leave it. This is indeed the case in well-supplied markets where large volumes of product are moved at discount prices. In this case the retailer can exercise pressure on the supplier. In other cases, where the supplier or grower, has a product that is generally in short supply or is particularly desired by the market, he has more bargaining power and is able to more easily influence the selling price in his favour.

When produce of a variety or specification is in abundance, it is more difficult for the farmer to negotiate any form of advanced payment or minimum guaranteed price with the buyer or his export agent. Under such circumstances, the farmer may be forced to send his produce to the market and hope for the best. This is called selling on consignment.

Before deciding what price to ask, the farmer should have in mind pricing strategy. For example, he might decide to work on a cost-plus basis, whereby he simply calculates his costs and adds a desired profit margin. The farmer might otherwise decide to try to penetrate a market by going in at a specifically low price. On the other hand, he may go in at a high price and skim the market for a short period while competitive product is absent.

Whatever pricing strategy is followed, price is a critical aspect of the marketing mix.

Why prices change

Overall, prices depend on ...

In a market-orientated system the price of a product is determined by **supply and demand**. A balance is achieved between what people are prepared to supply at a price and what people want to buy. As the price of a product rises the quantity which will be supplied also rises and the quantity demanded falls, or vice versa. The market price will rise or fall until the quantity supplied or demanded is the same or in equilibrium. It is important to note that:

- **Supply** is what people are prepared to sell at a certain price. While supply is influenced by production it is not always the same as production. For example, as noted earlier,

farmers may sometimes grow perishable crops and not harvest them because the price is too low to cover the marketing costs. For less perishable crops, farmers or traders may decide to store them in the hope that prices will rise, rather than sell them to production harvested for immediate sale plus products take out of store.

- **Demand** is not how much people would like to buy or what they should buy for a healthy diet. It is how much they are prepared to buy at the market price.

Short-term price fluctuations can be caused by ...

- The amount of produce on sale in the market on a day and the quantities sold in the previous few days.
- Short-term demand changes as a result in the change in consumption patterns. E.g. the South African dairy industry experiences a drop-in consumption of milk during school holidays.
- The effect on demand of competing products. People have a choice between buying maize meal, potatoes, sweet potato, or rice. If the price of one of those drops, people are more likely to buy it, reducing the demand for others and dragging down their price.

Longer-term price fluctuations depend on ...

- Supply
- Demand
- Time of the year

While the quantities available in a market on a day may lead to short-term price fluctuations, other factors influence the long-term price trend. In the case of perishable produce which cannot be stored for any length of time, or for which there is no suitable storage, the main impact on prices is seasonally of production. Thus, for a crop such as tomatoes the price trend will depend primarily on when the crop reaches maturity in the main producing areas.

In the case of staple foods such as or maize, and other crops which can be stored for lengthy periods, the market price is not so much related to what is supplied to markets daily as to what is produced in a season or year.

Supply to the South African market can be influenced by:

- How much was planted
- The weather

- The price
- Imports or exports
- Time of the year or season

Demand is influenced by:

- The price

If the market price is high, consumers will reduce their purchases. However, for staples such as maize, roots, and tubers it is difficult to make significant reductions in the quantities consumed. If prices go up people may eat slightly less, and they may also be more careful about how much they cook to waste less. They may also continue to buy the same quantities but buy a cheaper brand. They may also buy other products which they see as being of better value, if such products exist.

If the market price is low consumers will increase their consumption, buy better quality and, if they can afford to, be less careful about avoiding waste. But a person can only eat so much maize, so consumers who can already afford adequate quantities will not increase their consumption by much. Instead, they are likely to use the money saved on staple foods to buy larger quantities of fruits and vegetables than they would normally consume.

Interpreting market information and using it to get better prices

Calculating farmgate prices ... and negotiating with traders

Although South Africa has no national market information service; farmers and extension officers are in one respect more fortunate than those of other countries because the information that is available, however difficult to obtain, is reliable and clear.

In other countries market information services (MIS) may broadcast market prices without it being clear whether the prices are retail prices, wholesale buying prices, wholesale selling prices or whatever. This is not a problem in South Africa where prices are usually auction or NFPM (National Fresh Produce Markets) selling prices. In other countries, market prices are broadcast with little indication of the quality of product referred to. In South Africa, full details of quality and the applicable prices are given. Furthermore, in South Africa all transactions are reported whereas in many countries the MIS reports prices prevailing for a brief period when the price collector visits the market.

It is thus relatively easy for farmers who supply auctions and markets directly and their extension officers to relate the information, which is available, if they can get it, to their own circumstances.

The need to be able to calculate the marketing costs between the farm and the auction or market.

Applicable marketing costs could include (working backwards from the point of sale):

- Agents' fees in the auction or market
- Handling fees for produce or animals
- Feed for animals *en route* to or at the auction
- Transport costs
- If the farm is not accessible by vehicle, the cost of getting the product to the vehicle

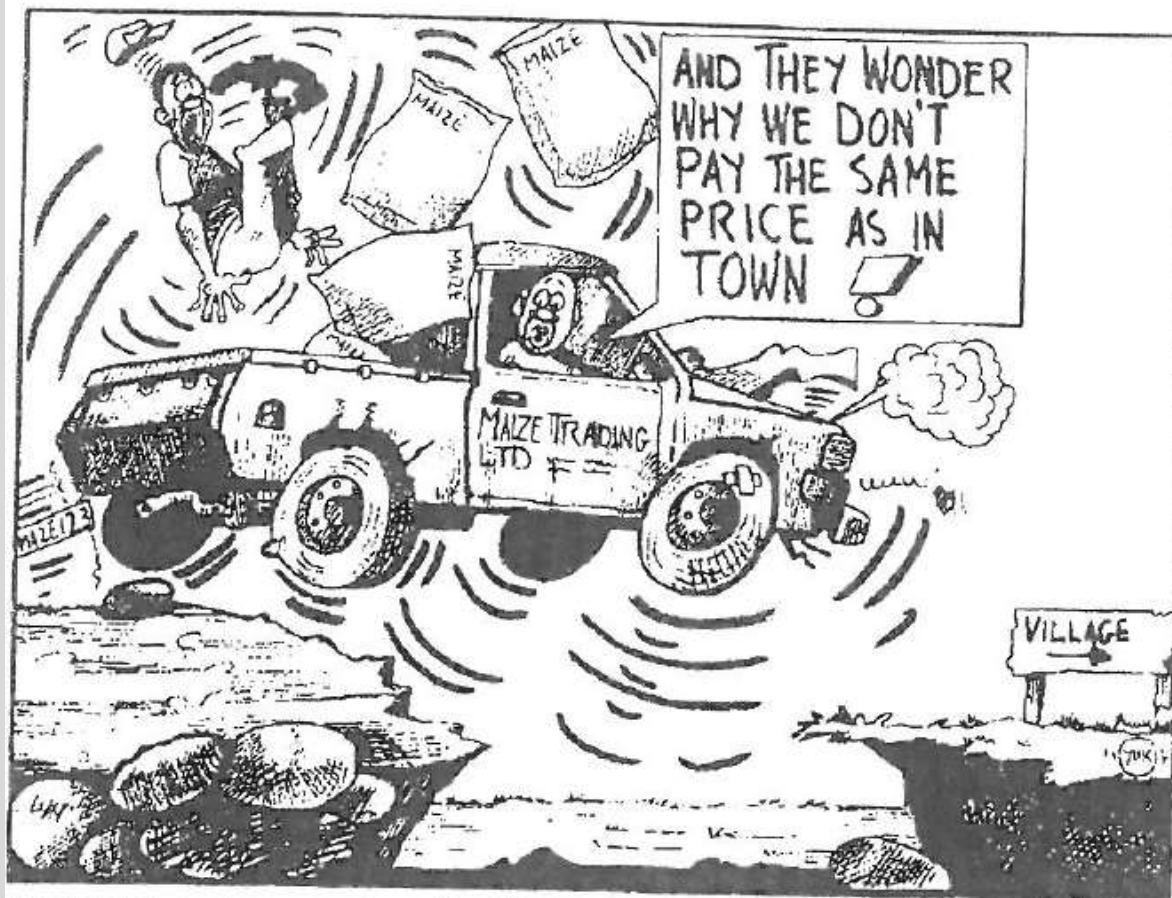
Farmers who sell to traders, hawkers or speculators face greater problems in working out what can be considered 'reasonable' prices. However, extension officers should try to calculate traders' marketing costs in order to advise farmers how to relate auction or market prices to what they could expect to make at farm gate. Do not forget that traders need to obtain a realistic profit or else they will not go to rural areas on bad roads to buy from emerging farmers.

Detailed advice on marketing cost calculations is provided elsewhere. One problem in doing these calculations is that the information available often refers to different markets than those which traders sell to. For example, consignments to National Fresh Produce Markets are nearly always direct from the farmer, and traders rarely, if ever, buy from farmers and then deliver to the produce markets. Instead they operate through other channels, either selling to hawkers, to retail shops or direct to consumers. However, the only price information available comes from the produce markets. Thus, the calculations should be based on, e.g. the price in Johannesburg market and the costs deducted to get back to the farmgate price should be those incurred to get the produce to the Johannesburg area, but not the costs incurred by the trader after he reaches that area (e.g. in selling to consumers).

Unfortunately, it is often not possible to make detailed estimates of marketing costs and margins. It may be possible to develop a general idea of a trader's probable costs, but it must always be remembered that these costs can change rapidly. For example, the major costs are always transport. But transport costs are very dependent on how much is being transported. If a trader must go to the market with a half-empty truck, the transport cost per kilogram will be double the cost if the truck is full. Thus, when produce is in short supply and market prices are going up, it may also be the case that marketing costs are going up, and vice versa.

Nevertheless, a farmer who knows the market price and has an approximate idea of the marketing costs of the trader is in a much better position to negotiate than one who has no idea either.

Extension officers can help farmers by indicating the likely margin that the trader requires and by updating this information whenever possible.



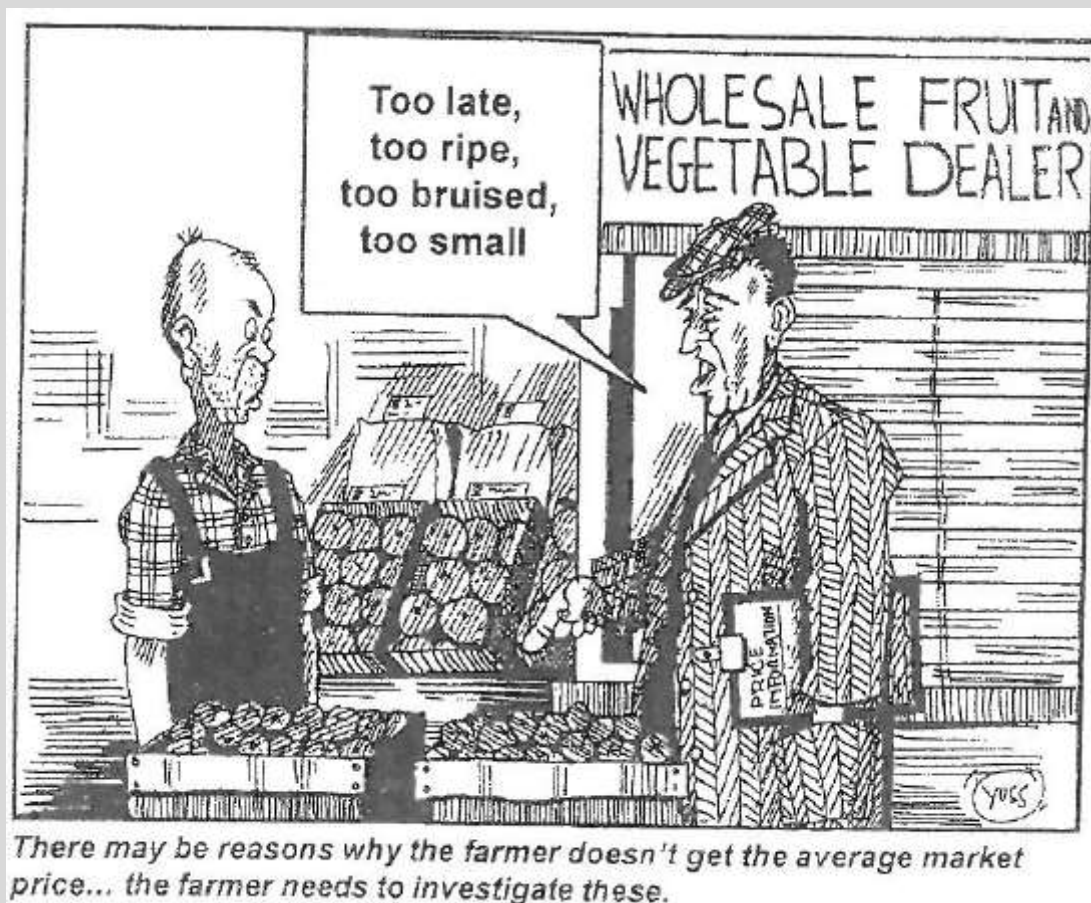
Transport costs can make a big difference between the market price and the farmgate price.

Checking the farmer's performance ...

Farmers who send their produce directly to an NFPM or to an auction can use the price reports to check that the prices they are receiving are in line with those in the market. If that is not the case, they need to find out why and ask the wholesale agent or auctioneer for an explanation. Daily there may be sizeable variations between prices the individual farmers get and the average market prices. However, over a few weeks these variations should even themselves out so that on average, a farmer should expect to get the same price as the average.

Where a farmer's prices are consistently below the average price, the wholesaler may give several explanations. Perhaps the farmer's produce arrives late in the day and is either sold in the evening when prices are lower or on the following morning when fresher produce has arrived to compete (for example given earlier of the information provided by Agritel shows clearly that there is daily carryover of unsold produce in Johannesburg market).

The variety is one which normally gets a lower price. Maybe the quality is not good, or the farmer has not graded correctly. Perhaps the produce was damaged in transit and the farmer really needs to improve the quality of his or her packaging. It is, of course, also possible that the wholesale agent is not doing a good job in selling the farmer's produce. However, a farmer cannot really form an opinion on this without visiting the market or auction, assessing the condition of his or her product when it arrives there, seeing how and when the product is sold and comparing his or her product with that sent by other farmers.



Following price trends

Local extension services can assist farmers by monitoring local market prices daily and posting the prices on a notice board at the entrance to the market. Although such activities clearly involve too much work for an individual extension officer, a district headquarters could consider assisting in this way.

Promotion

The critical question that must be asked about promotion is: How can I promote my product so that my target market knows what a wonderful product I have available?

Promotion refers to communication with the customer. In its simplest form, it means message sent, message received, and message acted upon. If the product has been produced with the needs and desires of the customers in mind, the communication necessary for getting customers to buy it is through the message used to reach them.

Promotion includes all the advertising and selling efforts of the marketing plan. Goal setting is important in developing a promotional campaign. The goal is to influence buyer behaviour, and therefore the desired behaviour must be well defined. Different products require different promotional efforts to achieve different objectives.

For example, if the intention is merely to make the market aware of your product, the promotional mission will be to inform the market about the product and to communicate a 'need' message. If the intention is to generate interest in the product, a compelling message is required with the idea of solving a need. If the intention is to generate loyalty, the message should reinforce the brand or image with special promotions.

Whether the idea is to pull buyers to a sales outlet or to push a retailer to stock and sell, there are **six general categories** of promotional effort, being:

- Advertising;
- Personal selling;
- Sales promotion;
- Public relations;
- Publicity; and
- Direct selling

There are many techniques for implementing promotional efforts. In the case of promoting the sale of fresh fruit, much depends on the specific market and market segment, and on whether the promotional campaign is generic to a fruit type and farmer community, or highly specific and applicable only to fruit of a particular cultivar from a particular farmer at a particular time. Promotions may also take the form of general media messages, or so-called above-the-line promotions, or price discounts and in-store promotions, referred to as below-the-line.

Promotions are communication tools. Which, how and when these tools are used depend on specific circumstances.

People

The critical question that must be asked about people is: Who do I need and how do I need to manage my workforce to achieve the requirements of the market?

Neither efficient production nor any of the above components of the marketing mix can be achieved without a productive and motivated workforce.

Practical Example of Applying the Marketing Mix in Agriculture:

Marketing in a beef farming enterprise

Marketing has always been essential for a beef farming enterprise to be effective. Competition with imported, subsidized meat and from white meat producers has placed pressure on beef farmers to improve their marketing skills. Furthermore, there is an emerging awareness that a market must be found or created before beef animals are slaughtered. Keeping beef in cold rooms is an option, albeit a costly one for which funds must be obtained. In the past, moneys levied from the sale of slaughtered carcasses were used to fund a system of cold storage. On the other hand, animals kept on the farm continue to eat, draining resources and leading to over finished animals at slaughter. In times of beef shortages, there is no problem because all available carcasses are sold. However, in the past, when large numbers of cattle were slaughtered, beef prices plummeted. A drop-in price could favour consumers in the short term, but beef farmers with high input costs, will not be able to cope under conditions of unstable market prices. Thus, planning is essential.

Marketing channels

Although some farmers slaughter in their own abattoirs and sell the meat through their own butcheries, most beef farmers sell live animals:

1. Out-of-hand
2. At a farmer's association auction
3. An auction held privately
4. To a feedlot or through a custom feedlot
5. For slaughter at an abattoir – either directly or after on-farm fattening (feedlot or pasture or veld finishing).

With out-of-hand sales, no commission is payable and usually the buyer provides his own transport or, where a farmer provides transport, the buyer pays. When animals are taken to a local auction (usually a farmer's association sale), the seller is responsible for the commission payable to the auctioneer, although there are some auctions where the buyer pays the commission. The seller pays

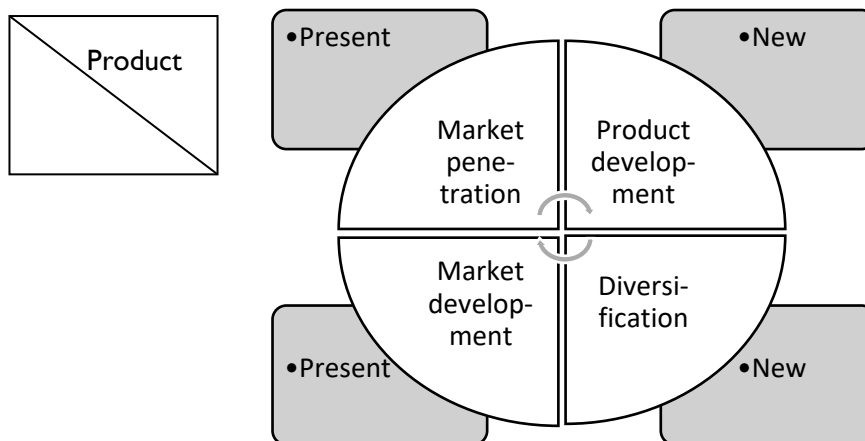
for the transport to the sale yard or the return of animals if not sold, and the buyer pays for the transport of animals sold. Usually, no commission is payable to an auctioneer when animals are not sold. With private auctions, the same rules usually apply as at farmers' association auctions, although sellers can negotiate the terms they want with the auctioneer, within certain limits.

Feedlotters usually buy at auctions, but often have agents visiting farmers or have known clients from whom they obtain animals for their feedlots. However, there are custom feedlots where a farmer sends his livestock for fattening. The farmer pays a management fee as well as for the feed costs and treatments e.g. vaccination, dipping, dosing, implants, and treatment of sick animals. With custom feedlots, cattle remain the property of the farmer and at the end of the feeding period the farmer can decide where he wants his animals sold or whether he wants them returned to his farm.

Selling animals through an abattoir is usually done through an agent or the owner of the abattoir. The farmer must ensure that the animal is fat enough and is responsible for transport to the abattoir as well as for the slaughtering fees. In return, the farmer is paid for the carcass, the hide and the offal, which includes the head and trotters. With some small abattoirs, the abattoir owner takes the hide and offal in lieu of the slaughtering fee. It is advisable to investigate costs because there are times when the prices of hides and offal are high when it could be better for farmers to pay the slaughter fee and retain the hide and offal price. Because selling procedures are so variable, it is advisable for sellers to check all steps and responsibilities for costs before accepting an offer to sell animals.

DEVELOPING A MARKET MATRIX

Ansoff's Matrix is a well-known marketing tool. It is used by marketers who have objectives for growth. It offers strategic choices to achieve growth objectives. There are four main categories for selection.



The different quadrants may be described as follows:

Market Penetration

Here we market our existing products to our existing customers. This means increasing our revenue by, for example, promoting the product, repositioning the brand, and so on. However, the product is not altered, and we do not seek any new customers.

Market Development

Here we market our existing product range in a new market. This means that the product remains the same, but it is marketed to a new audience. Exporting the product, or marketing it in a new region are examples of market development.

Product Development

This is a new product to be marketed to our existing customers. Here we develop and innovate new product offerings to replace existing ones. Such products are then marketed to our existing customers.

Diversification

This is where we market completely new products to new customers. There are two types of diversification, namely related and unrelated diversification. Related diversification means that we remain in a market or industry with which we are familiar. Unrelated diversification is where we have no previous industry or market experience.

Ansoff's matrix is one of the most well-known frameworks for deciding upon strategies for growth.

YOUR MARKETING BUDGET

Marketing is more than just selling and advertising of goods to customers. It is satisfying the needs and persuading them to buy more products.

Effective marketing of any farm starts with a plan of how this will be achieved through, for example, promotion of the product, advertising, and public relations.

Marketing objectives should not be set until all relevant information on the product, the market and the consumer are available. Consumer behaviour and motivation must be thoroughly assessed.

Once marketing objectives has been set, an **implementation plan** is developed. The marketing plan should have promotion of the product as an integral part. It must then be decided what basic message is to be delivered, to the target audience and what the intended effects may be.

Once the decision has been taken on what needs to be done and how, a **marketing budget** can be developed. A marketing budget tells us the funds that will be required to finance the marketing plan.

Furthermore, the budget will also determine how and when the money will be spent. The marketing budget indicates the affordability of the plan and how its execution will impact on monthly cash-flow.

The marketing budget can therefore indicate how the marketing plan measures up to selected benchmarks and whether the plan can be carried out as designed, or whether it must be modified or trimmed in some way.

The marketing budget provides vital information for decision-making regarding the wisdom of committing funds to such issues as promotion, advertising, and public relations.

COMPONENTS OF A MARKETING BUDGET

You need to decide how much money you intend to invest in marketing as a percentage of your projected gross sales. You can break it down on a monthly, quarterly, or annual basis.

Ideally you will have already determined the amount of your marketing budget when you have created your farm's various financial statements. The figure you will choose will depend on your type of business on the farm and your goals.

SHORT, MEDIUM AND LONG-TERM BUDGETS

Creating awareness of and loyalty to a brand or trade name takes time. Confidence in a product is normally built-up over a period of several years, and provision must be made in the marketing plan and budget for ongoing activities.

When an investment has been made in entering a product into the market, it is unwise not to continue bringing its unique attributes to the notice of potential buyers. The ongoing promotion of the Coca-Cola brand is a good example of this. It is necessary therefore to make provision in marketing planning and budgeting for marketing activities and costs of a long-term nature.

Other costs and activities are of a medium- and short-term nature. Most often such plans and the resultant costs will be governed by the current state of the market and its perceived response to below-the-line promotional activities.

MONITORING THE BUDGET

It is the responsibility of the farmer to monitor the budget during which there is an ongoing comparison of actual expenditure against the budget.

Marketing activities is an expenditure that adds value to your farming business. It should not however, be that expensive so that the profit you make on your produce decreases.



Individual Summative Exercise: I

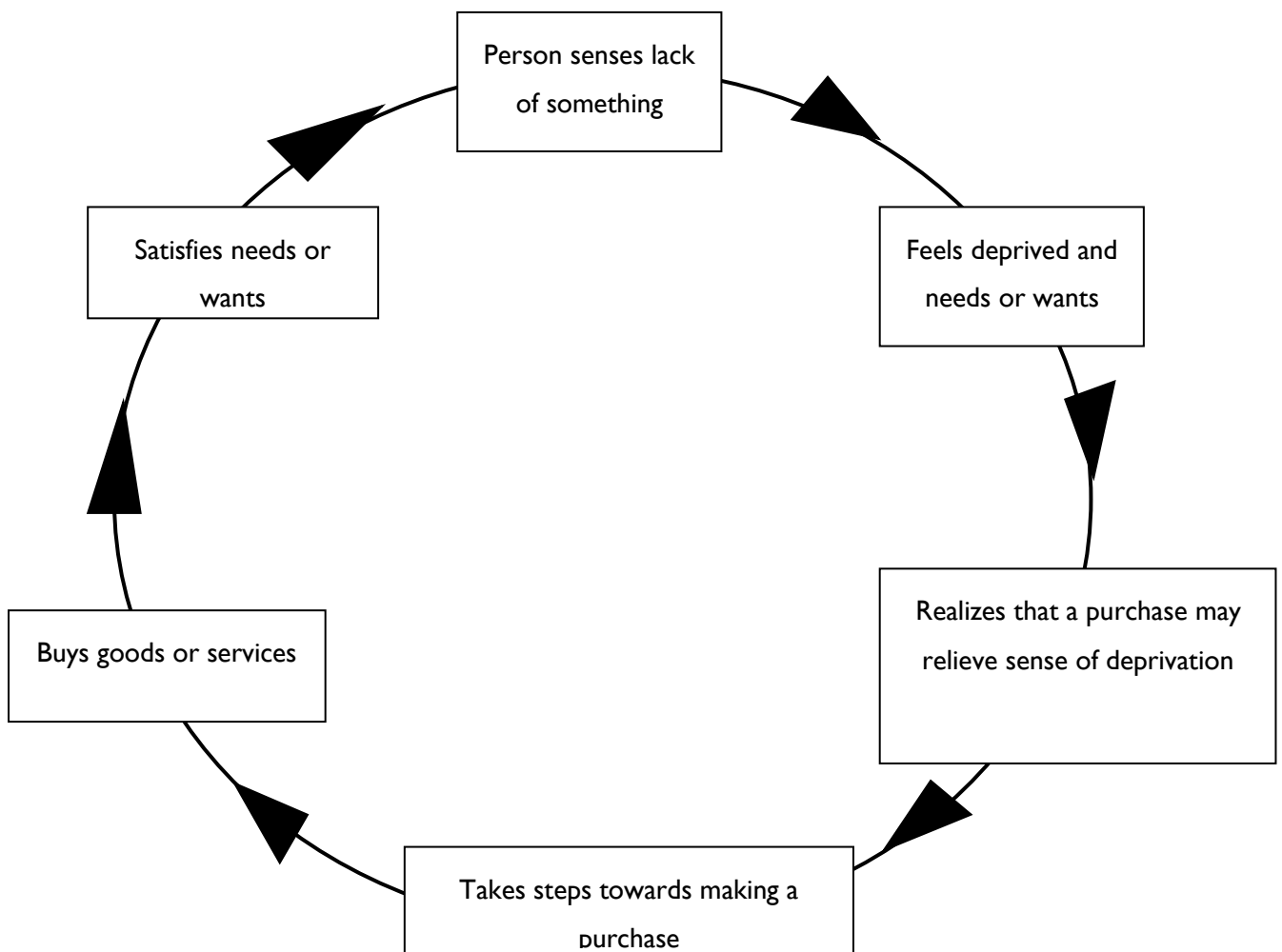
<p>Unit 5</p> <p>IMPACT OF CONSUMER BEHAVIOUR ON AGRI PRODUCTION</p>
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Unit Standard	
10050	Integrate marketing plans with business processes
Specific Outcomes	
SO4: Identify influences on consumer behaviour in relation to marketing activities	
Learning Outcomes	
<p>At the end of this unit, you will understand:</p> <ul style="list-style-type: none"> • Factors influencing customers to buy • Ethics in dealing with customers • Professional conduct of the 'seller' 	
Critical Cross-field Outcomes	
Identifying Collecting Science	Demonstrating Contributing

WHAT INFLUENCES CUSTOMERS TO BUY?

Most people love to shop, whether in stores, via television, by mail or online. Each year, they spend billions of rand in food stores, at shopping centres, in catalogue showrooms, on the telephone and the Internet. One powerful attraction for consumers is that shopping makes them feel good. They derive enormous satisfaction from purchasing goods and services which they believe enhance their lives. It may seem superficial but is very real.

Buying makes people feel in control. It is the solution to a problem that begins when they sense that something is lacking in their lives. This gnawing sense of deprivation turns quickly to dissatisfaction and a desire to relieve it. The need becomes a buying motive. At this point, people take active steps to acquire what they need. They visit stores and purchase goods or services, finally satisfying the need. Thus, shopping is proactive – that is, it demonstrates an effort to right a wrong.



Anyone who walks into or phones the store does this with a desire – conscious or subconscious to purchase what the store is selling. Shoppers want to buy. Your job as a customer-facing person is to make certain customers' needs are satisfied to help them complete the buying process.

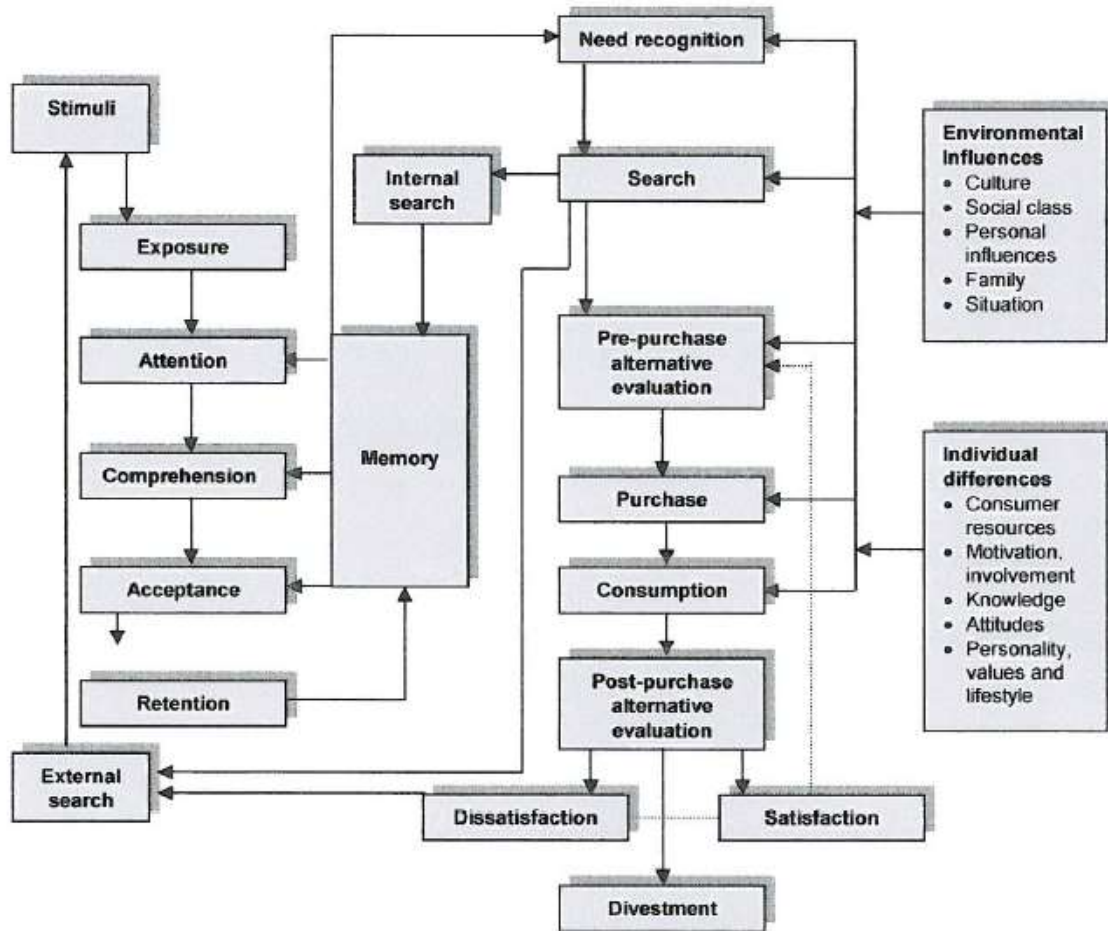
This is not too difficult with customers who have identified the goods or services which will satisfy them. But it presents a challenge with that sense of dissatisfaction; yet has not identified what will relieve it. If you perform well, you will identify and sell each customer with the goods or service that will satisfy their needs.

IMPACT OF CONSUMER BEHAVIOUR – PREFERENCES ON AGRI PRODUCTION

Food comes in infinite variety and food choices are a major component of all purchase decisions made by consumers. However, despite the research that has been conducted during the last twenty years, there is no singular commonly accepted model for explaining consumer behaviour and food evaluation.

The Engel-Blackwell-Miniard Model explaining how consumers makes buying decisions

The model encompasses all types of need satisfying behaviour, including a wide range of influencing factors and different types of problem-solving processes. From the figure below, the model consists of four sections: decision process stages; information input; information processing; and variables influencing the decision process. The focus of the model is on the decision process stages problem recognition, search, pre-purchase alternative evaluation, purchase, consumption, post-purchase alternative evaluation, and divestment.

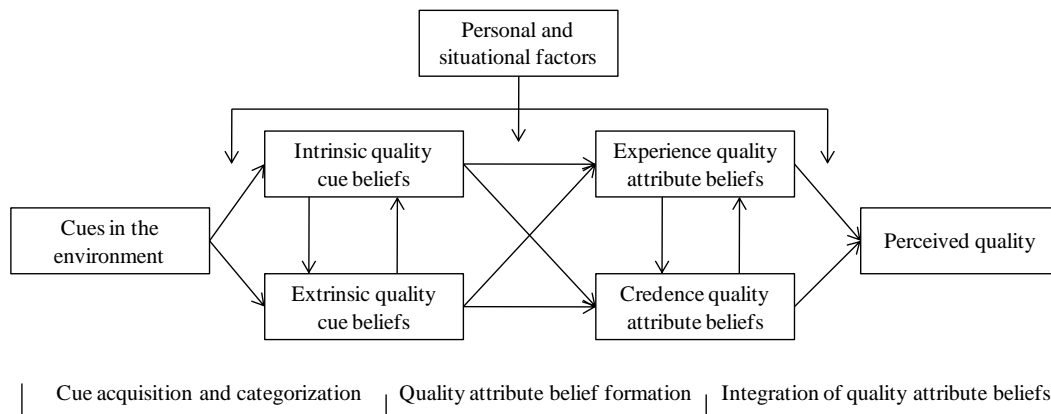


Information from marketing and non-marketing sources feeds into the information-processing section of the model. After passing through the memory, which serves as a filter, the information has its initial influence at the need recognition stage. Search for external information is activated if additional information is required or if the consumer experiences dissonance because of dissatisfaction with the chosen alternative. The information processing section of the model consists of the consumer's exposure, attention, comprehension, acceptance and retention of incoming information. The last section of the model consists of individual and environmental influences that affect all stages of the decision process.

Steenkamp Model for Consumer Food Choices

One of the most pervasive models concerning consumer behaviour towards food is the model proposed by Steenkamp (1997). His model also distinguishes between the consumers' decision-making process with respect to foods, and the factors influencing this decision process.

In the decision process, 'borrowed' from the EBM model, four stages are identified: need recognition, search for information, evaluation of alternatives, and choice. Three groups of factors influencing the decision process are recognized: properties of the food, factors related to the consumer, and environmental factors.



Comparing the Steenkamp model with the EBM model, the most noticeable difference is the lack of an explicit treatment of the information processing perspective. In the Steenkamp model, the marketing stimuli are spread across the three groups of factors and are considered to influence consumer behaviour in the same way as culture or the socio-demographic characteristics of the individual. However, even Steenkamp (1997) acknowledges that the boundaries between the three groups of influencing factors are fuzzy and that mutual influences may occur.

In the Steenkamp model a special emphasis is given to the food product, as one of the major influences on food choice. The food product affects the decision process mainly through physiological effects and sensory perception. This focus is probably related to the fact that, in general, food products are commodities, sold unbranded or unlabelled and with poor or inexistent communication around them. Consequently, the models and the research dealing with consumer choice and behaviour relating to food are, mostly, concerned with the influence of physical and sensory properties of the products and of price. In summary, it can be said that the Steenkamp model is a simpler version of the EBM model, which emphasises aspects that are particular to food products.

The Verbeke Model

More recently, Verbeke (2000) proposed a four-component conceptual framework for analysing consumer decision-making towards fresh meat. As in the Steenkamp model, a four-stage model of the decision-making process forms the point of departure of his framework.

However, in addition to the Steenkamp model, this model is linked first with a 'hierarchy of effects' model and then, as in EBM model, concepts related to information-processing are implemented. Finally, the Steenkamp (1997) classification of factors or variables that potentially influence consumer decision-making is also adopted. According to Verbeke (2000), the 'hierarchy of effects' indicates the different mental stages that consumers go through when making buying decisions and responding to marketing or non-commercial messages. Verbeke (2000) argues that while it is generally agreed that a structure including a cognitive, affective and conative component holds, no clear-cut evidence about the sequence and interdependency of these hierarchical steps appears to be available.

The role of emotional affections in consumer choice

It should be noted that there has been some criticism, even in the food field, of the cognitive-rational approach to the study of consumer behaviour. It is argued that, several researchers have suggested that the 'traditional' cognitive view should be complemented by considering consumers' affections, such as the possible emotional responses to the perception and judgement of products and of consumption experiences.

It is suggested that an individual can act based on an emotional feeling that is without or with just a low level of cognitive activity. The reason for this is that positive emotions seem to affect consumer purchase behaviour positively.

It seems as if there is an accompanying cognitive component to any sensory experience, in that prior experience with the same or similar products lends symbolic, associative and rhetorical meaning to any sensory experience. Generally, the consumer keeps an open mind towards useful stimuli in the environment, as is presupposed in the information processing perspective. To support the cognitive, information-processing perspective on consumer behaviour it can be added that cognitions might be beliefs about a food (e.g. about its health properties), attitudes toward a food (e.g. an overall evaluation), preferences for a food (e.g. plans to purchase or consume). Attitudes can have an affective component and are not, necessarily, formed on completely rational grounds.

In conclusion, it can be argued that, in general, choice and consumption of a product are based on a cognitive decision-making process and take account of stimuli surrounding that choice and consumption. Experience, sensory perception, and emotion or affect are important influences but, at some point of the experience with the product, an evaluation based on some criteria (objective or not) is made by the consumers of that product. Depending on the product and on the situation, the complexity of the choice may vary but, usually, there is a problem-solving approach to choose, even if affect or less rational factors influence the way people solve that problem. Thus, it can be said that the EBM model encompasses a wide range of situations and influences on consumer behaviour and, consequently, it can supply a basis for the analysis of behaviour relating to food.

Choice and Purchase of Food

In the Steenkamp (1997) model, food choice is characterised as being in accordance with attitude theory, which posits that the product alternative for which consumers hold the most positive attitude will be the chosen product. However, he acknowledges that there are several factors that weaken the relation between attitude and choice in the context of foods. For example, pressures from the social environment, the degree of behavioural control, habit, and variety-seeking behaviour. In the EBM model, attitude is related to alternative evaluation and choice as an influencing factor.

In the EBM model, decision rules represent the strategies that consumers use to select from the choice alternatives. These rules may be stored in memory and retrieved when needed. Alternatively, they may be constructed to fit situational contingencies. Purchase consideration and choice is a comparative process in which competing brands or products are evaluated.

For Engel et al. (1995), decision rules vary considerable in their complexity. They may be very simple, for example to repeat a previous purchase decision, or they can be quite complex, involving the consideration of multiple criteria. Another important distinction is between compensatory and non-compensatory decision rules. Non-compensatory decision rules do not permit product strengths to offset product weaknesses. In contrast, compensatory rules do allow product weaknesses to be compensated by product strengths. When choice is habitual, and even when choice is not habitual, consumers may employ simplistic decision rules. This is explained by the fact that consumers continually make trade-offs between the quality of their choice and the amount of time and effort necessary to reach a decision. In many cases the consumer will follow decision rules that yield a satisfactory (as opposed to optimal) choice while minimizing their time and effort.

There seems to be a difference between foods that are selected after detailed cognitive processing, which involve the use of structured attitude and belief models, and those that are not. For the latter products, it is more likely that sensory properties may well form good predictors, although the mediating effect of usage context will still be important. Nevertheless, the authors argue that, now of purchase, the decision-making process is purely cognitive, and the sensory properties are those expected from previous memory, from direct claims on the package, inferred from the images and information, or indeed from handling the product itself. It is therefore appropriate to examine the role of sensory properties as just one element in a general attitudes and beliefs model. Moreover, at the point of purchase, expectations of the sensory properties may contribute to the perception of a product before consumption, and therefore impact on the choice decision. Expectation can therefore mediate food selection behaviour.

As was mentioned in the previous section, the result of the evaluation process is a preference for a product. Preference implies choice. To prefer a food is to choose it over another designated food (or other activity). In more affluent cultures, as availability and cost recede in importance, preference is more in line with use. Liking is a major cause of preference but not the only cause. As with the use/preference comparison, as certain constraints (in this case health and social factors) fall into the background, liking becomes equivalent to preferring.

FOOD QUALITY PERCEPTION

The Quality Concept

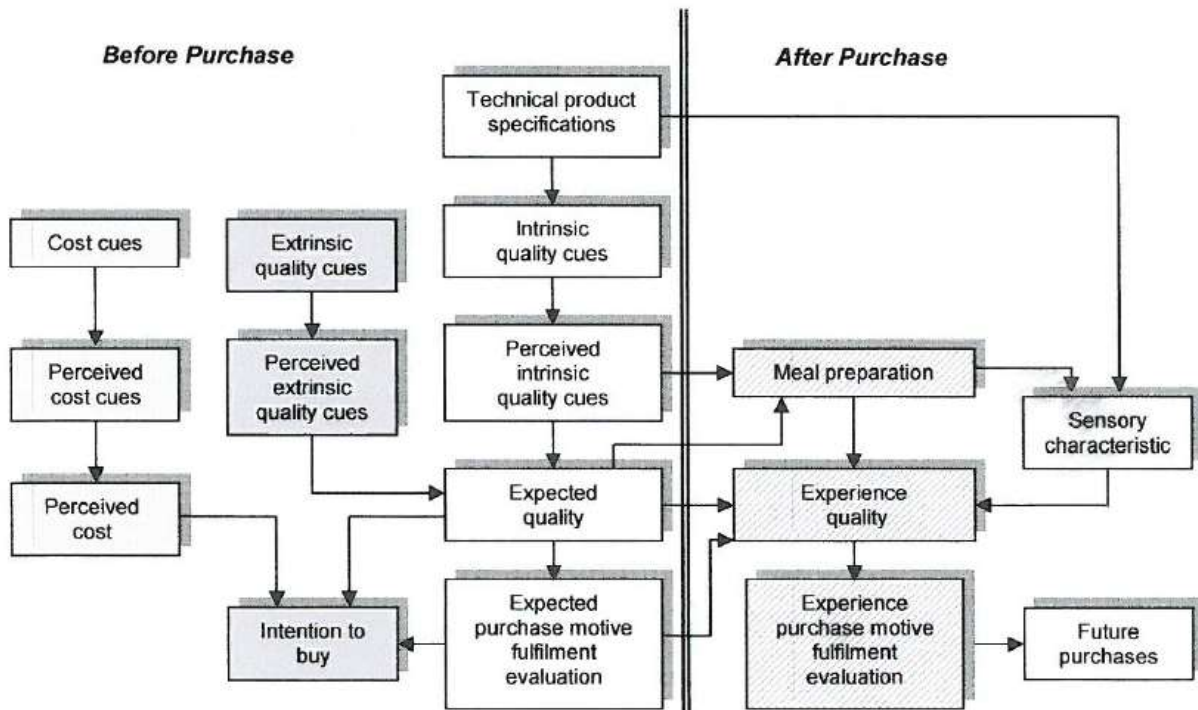
Food quality is not an inherent characteristic of the food but is closely allied with the concept of acceptability and, therefore, is more relevant to speak about perceived quality. Consumer perceptions of product quality may find their base in physical characteristics of the product, in communication around the product, or in the combination of both. Perceived quality is what will motivate a consumer to buy a product for a usage. Additionally, perceived quality depends on the person and on the context, i.e., on the circumstances in which food and consumer interact, and changes in perception occur for a person through experience and, for a given population, over time.

Building on the material discussed above, it can be said that understanding and explaining the process of food evaluation and choice is to understand and explain the perception process of food quality.

The Total Food Quality Model (TFQM)

The integrative approaches try to integrate the other approaches into a unified framework for the analysis of quality perception process for food products. TFQM is the distinction between before and after purchase evaluations. Most food products have search characteristics only to a limited degree. To make a choice, the consumer will develop quality expectations, but it is only after consumption that experienced quality can be determined, and even this is limited in case of credence characteristics.

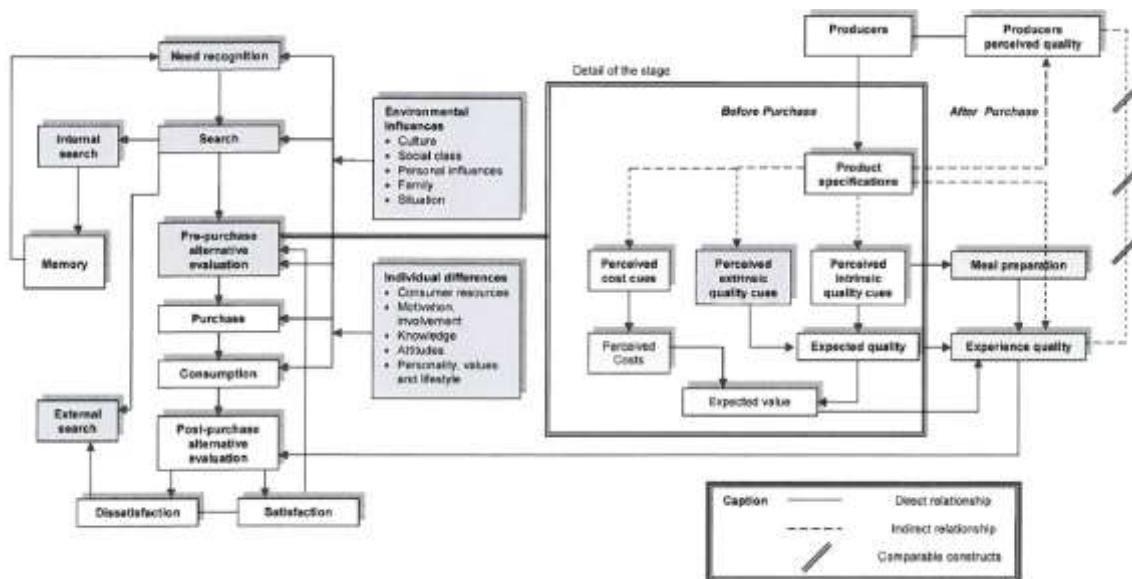
The pre-purchase component of the model shows how quality expectations are formed based on the quality cues available. The intrinsic quality cues are related to the product's technical specifications, i.e., characteristics that can be measured objectively. The extrinsic quality cues represent all other characteristics, such as brand name, price, packaging, etc. Of all the cues consumers are exposed to, only those which are perceived will have an influence on expected quality.



According to the TFQM, quality is not an aim, but is desired because it helps to satisfy purchase motives or values. The values sought by consumers will, in turn, have an impact on which quality dimensions are sought and how different cues are perceived and evaluated. Expected quality and expected fulfilment of purchase motives constitute the positive consequences consumers expect from buying a food product and are offset against the negative consequences in the form of costs. The trade-off determines intention to buy. Price can be both a cost cue and an extrinsic quality cue.

After the purchase, the consumer will have a quality experience, which often deviates from expected quality. The experienced quality is influenced by many factors: the product itself, especially its sensory characteristics, but also the way the product has been prepared; situational factors such as type of meal, previous experience, etc. The relationship between quality expectation and quality experience is believed to determine product satisfaction and, consequently, the probability of purchasing the product again.

Consumers' quality perception and experience are particularly important in food consumption behaviour, since food products are experience products. That is the reason why several researchers have concentrated their work on studying the formation of consumers' food quality expectations and experiences, as determinants of food choice. However, as with any other decision about consumption or buying of a product, food choice is influenced by a set of factors such as attitudes, information, motives, previous knowledge, etc.



ETHICS IN DEALING WITH CUSTOMERS

Numerous ethical situations may arise in dealing with customers. Some common problems faced by sales personnel include bribes, misrepresentation, price discrimination, tie-in sales, exclusive dealership, and sales restrictions. A brief summary of each of these problems are now given:

BRIBES

A salesperson may attempt to bribe a buyer. Buyers may ask for cash, merchandise, or travel payments in return for placing an order with the salesperson.

MISREPRESENTATION

Buyers often depend heavily on the technical knowledge of salespeople along with their professional integrity. Yet, sales managers and staff find it difficult to know just how far they can go with well-intentioned sales talk, opinion, and promises. They do not realize that by using certain statements they can embroil their companies in a lawsuit and ruin the business relationship they are trying to establish.

PRICE DISCRIMINATION

Some customers may receive price reductions, promotional allowances, and support while others do not. Price discrimination refers to selling the same quantity of the same product to different buyers at different prices. This can be illegal if it injures or reduces competition. It is certainly unethical and no way to treat customers.

TIE-IN SALES

To buy a line of merchandise, a buyer may be requiring buying other unwanted products. Is this good business?

EXCLUSIVE DEALERSHIP

When a contract requires that a wholesaler or retailer purchase products from one manufacturer, it is an exclusive dealership. If it lessens competition, it can be a problem.

RECIPROCITY

Reciprocity refers to buying a product from someone if the person or organisation agrees to buy from you. The salesperson says, "I can get my company to buy all of our office supplies from your company if you buy lighting fixtures, supplies and replacement parts from us." Is this a good business practice?

SALES RESTRICTIONS

To protect consumers against the sometimes, unethical sales activities of salespeople, there is legislation that have adopted a cooling-off period of at least 3 days.

PROFESSIONAL CONDUCT

Sales professionalism directly implies that you are a professional person, respectful and ready for the responsibilities that accompany the title. A salesperson's job is an especially good vocational opportunity because people are looking for "...someone they can believe in, someone who will do what he/she says – a sales professional".

To be viewed as a professional and be respected by your customers and competitors, consider the following points:

- Be truthful and follow through on what you tell the customer. Do not dispose of your conscience when you start work each day.
- Maintain an intimate knowledge of your firm, its products, and your industry. Participate in your company's sales training and take continuing education courses
- Speak well of others, including your company and competitors.
- Keep customer information confidential; maintain a professional relationship with each account.
- Never take advantage of a customer by using unfair, high-pressure techniques.
- Be active in community affairs and help to grow your community.
- Think of yourself as a professional and always act like one. Have a professional attitude about yourself and your customers.

- Provide service above and beyond the call of duty. Remember that it is easier to maintain a relationship than to start one. What was worth attaining, is worth preserving. Remember, when you do not pay attention to customers, they find someone who will. The professional salesperson never forgets a customer after the sale.

DELIVER ON PROMISES MADE

Buyers usually believe an organisation ought to deliver a certain level of service to the customers when they purchase something. Here are several expected services:

- Product – the product purchased has no defects.
- Price – fair value for the price.
- Place – the product is available when and where needed and promised.
- Promotion – correct, honest information in advertisements, from salespeople, and on product labels.
- Exchange transaction – handled correctly, quickly, and professionally the first time.
- After the sale – warranty honoured, repairs or exchanges made cheerfully, written information or company representative available to discuss how to put together, hook-up, or use the product.

When buying something, you have certain expectations of what you are receiving for your money. So, do organisations. Did the customer receive what was expected? The answer to this question determines the level of service quality perceived by the buyer.



Individual Formative Exercise: 5A

Unit 6

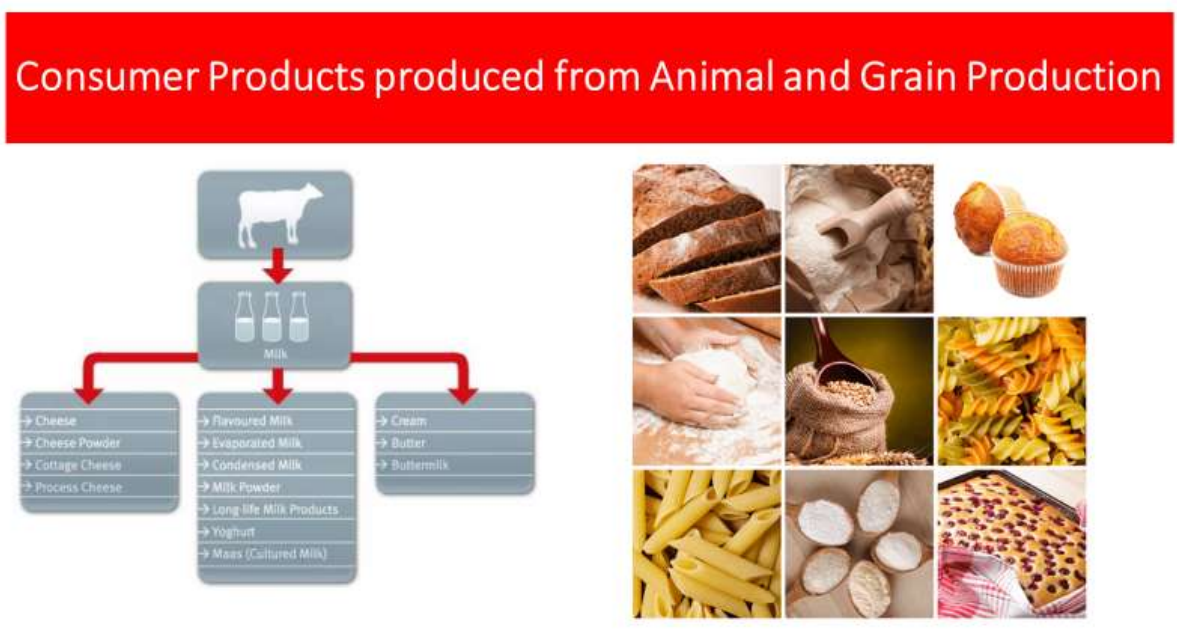
FOOD SAFETY AND FOOD QUALITY

Unit Standard	
116419	Develop and implement a food safety and quality management system in an agricultural supply chain
Specific Outcomes	
<p>SO1: Analyse existing food safety and quality management systems in the agricultural environment</p> <p>SO2: Correctly interpret current market requirements in the agricultural supply chain</p> <p>SO3: Develop a food safety and quality management system to meet market requirements within the agricultural supply chain</p> <p>SO4: Implement and manage a food safety and quality management system in the agricultural supply chain</p> <p>SO5: Evaluate, take corrective action and make improvements to ensure the effectiveness of the food safety and quality management system</p> <p>SO6: Design a traceability system for operational efficiency in the agricultural supply chain</p>	
Learning Outcomes	
<p>At the end of this unit you will understand:</p> <ul style="list-style-type: none"> • What food quality and safety are and why it should be implemented • Food quality and safety legislation and regulations in the agri-environment • Gather food quality and safety data • Methods to improve food quality and safety 	
Critical Cross-field Outcomes	
<p>Organising</p> <p>Collecting</p> <p>Science</p> <p>Communicating</p>	<p>Demonstrating</p> <p>Contributing</p> <p>Identifying</p> <p>Working</p>

INTRODUCTION: WHY QUALITY?

Animal and plant production provide human society with a myriad of useful products. However, these products are not only provided to the consumer in their raw form, they are often processed in some manner. Processing changes the raw product in some way that may be more convenient for the consumer, it may make the product safer for the consumer to consume, or it may make the product more attractive to the consumer.

The diagram below shows all the dairy products that can be made from cow's milk. Other products such as cosmetics and soap can also be made from cow's milk.



ATTRIBUTES OF PRODUCT QUALITY: WHAT IS QUALITY?

Before quality is addressed, the term should be clearly defined as it can differ from product to product. This is a difficult task, because quality is a personal perception and sometimes subjective.



Definition of quality: The degree to which a set of inherent (existing) characteristics fulfils requirements.

When you refer to the quality of a food product you look at factors such as:

- Eating/drinking quality (appearance, texture, flavour)
- Convenience (availability, ease of preparation)
- Stability (shelf-life, quality retention)
- Wholesomeness (safety, purity)
- Nutritional value (nutrient content, nutrient availability, caloric value)

QUALITY SYSTEMS AND LEGISLATION

One can easily get lost in the different aspects of quality management. To explain where the terminology, systems and legislation fit in, look at this diagram:

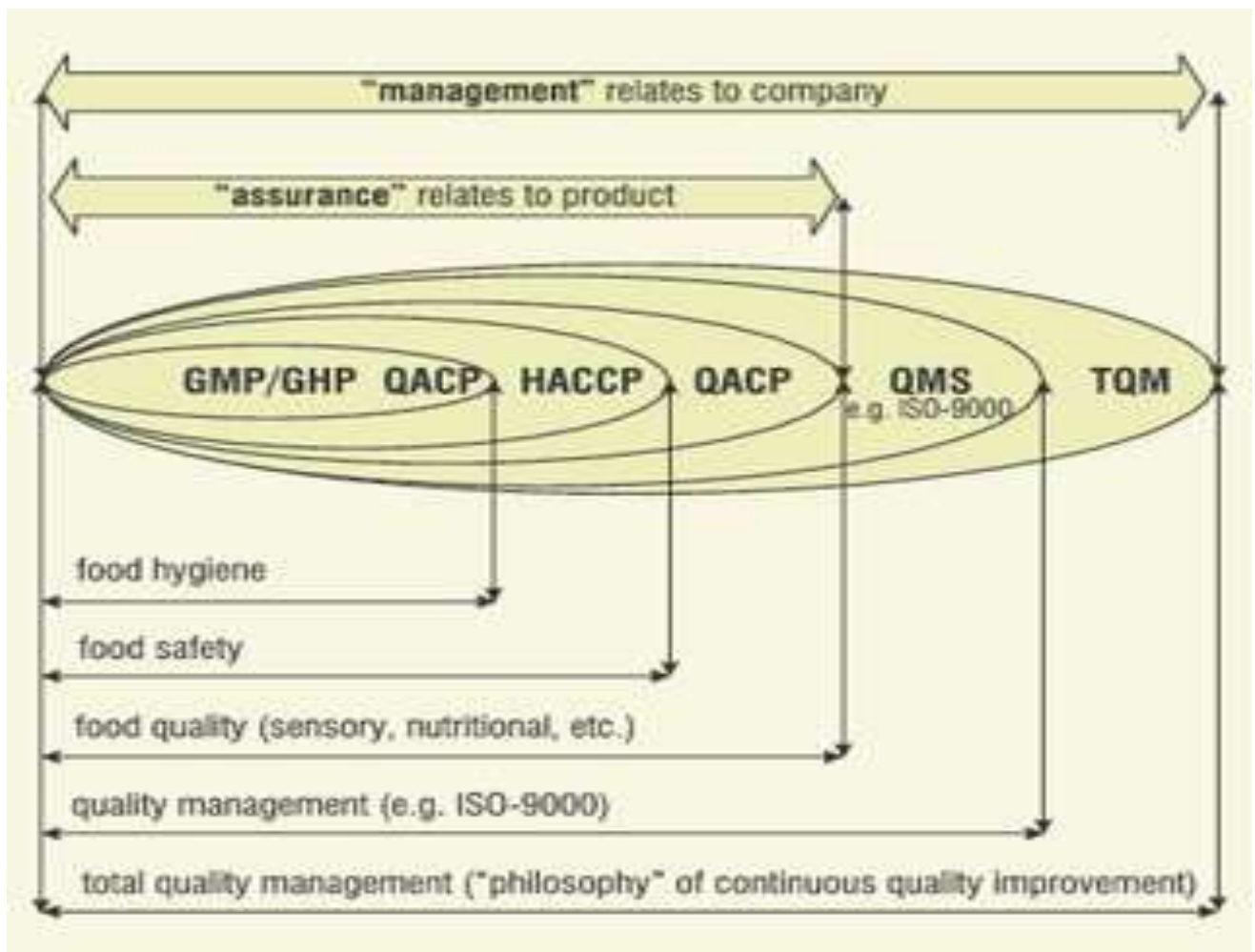


Figure 1: Diagram of the relationship between quality systems

(Adapted from Sikora, T & Strada, A)

Food quality can be defined as a total of traits and criteria which characterise food with regards to its nutritional value, sensory value, convenience as well as consumer safety. Food safety is the most important feature of food quality, hence the legislative regulations.

To assure food quality, various safety and quality systems has been developed. Figure 2, below, distinguishes between legislative and voluntary systems:

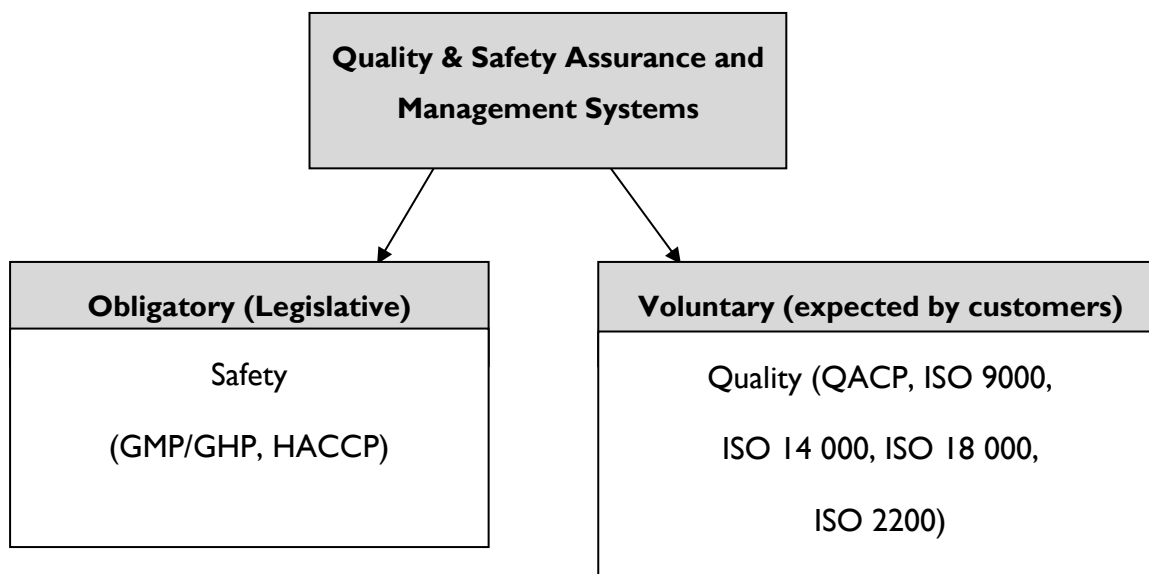


Figure 2: Voluntary vs Obligatory Quality systems

(Adapted from Sikora, T & Strada, A)

Let's start to unpack the concepts:

GOOD AGRICULTURAL PRACTICES (GAP) IN CROP AND ANIMAL PRODUCTION

Implementing quality assurance measures starts at the farm with the application of good agricultural practices (GAPs) and good veterinary practices (GVPs). GAPs are those practices that enhance the production of food that is safe and of superior quality, that are environmentally sound and that ensure appropriate handling, storage, shipping and management of the product. When GAPs are appropriately applied to the production of primary food crops, consumers can be assured that the food will meet quality and safety standards at the time of harvest. GAPs might include:

- selecting the right land to be cultivated for food crop production;
- planting the best-quality seeds of the most appropriate varieties;
- using authorized and acceptable chemical inputs (fertilizers, pesticides) according to approved directions (e.g. concentration, frequency, timing of use);
- controlling the quality of irrigation water (if used);
- using appropriate harvesting and on-farm storing and handling techniques;
- using appropriate methods for shipping to markets or food processors.

In much the same way, GVPs have been established to assure consumers that foods derived from animals meet acceptable levels of quality and safety. These practices are the guiding principles in

professional veterinary practice for the care and treatment of animals, including animals used for human food production. Some important GVP-related measures are those ensuring that:

- only healthy animals are slaughtered for the purpose of human food;
- any drugs used in the control of animal disease are safe for its intended use and used according to approved directions (i.e. appropriate amounts, frequency and timing), and residues of such drugs do not remain in the edible tissues at unsafe levels when the food is made available for consumption;
- chemicals utilized in animal husbandry (e.g. dips for insect pest control) are safe for their intended uses and used according to instructions (i.e. appropriate levels, frequency and timing), and residues of such chemicals do not remain in the edible tissues at unsafe levels when the food is made available for humans;
- live animal inspection and handling are properly conducted before slaughter, and carcass inspection and handling after slaughter;
- appropriate temperature controls, storage conditions, handling and butchering techniques and sanitary conditions are maintained during processing and butchering to prevent post-slaughter contamination;
- shipping and handling practices prevent any unnecessary exposure of the product to contamination.

When appropriately applied, GAPs and GVPs can protect food at the primary stage of production from contamination by extraneous materials (filth, putrid or decomposed materials, rocks, dirt and sand); toxic chemicals and contaminants from the environment (heavy metals, environmental pollution and industrial chemicals); excessive or unsafe levels of agricultural chemical residues (pesticides, fertilizers, veterinary drugs and other chemicals); contamination or damage by pests, insects and vermin; and biological contamination by mould, pathogenic bacteria or viruses – any of which can cause spoilage, crop damage and foodborne illness or chronic health consequences in humans. Increased human health risks may also result from consumption of animal products if animals have been fed contaminated feedstuffs which carry over into edible meat products.

GOOD MANUFACTURING PRACTICES (GMP):

The quality and safety of food intended for manufacturing or processing can be ensured by applying good manufacturing practices (GMPs) and good hygienic practices (GHPs) to food processing. When properly applied, these measures ensure quality and safety for all the processing or manufacturing steps from the receipt of the raw materials (primary products and other ingredients) to the shipping and marketing of the final products to the consumers.

Implementation of GHPs entails the use of appropriate sanitary measures to prevent microbial contamination and assurance of optimum sanitary conditions for processing food products. GHPs involve:

- the use of appropriate cleaning and sanitizing techniques, including the use of approved and effective agents used at the proper level (strength, concentration) and frequency to prevent microbial build-up on processing equipment and utensils or other food contact surfaces;
- observation of sanitary practices, use of protective clothing and strict observation of rules of personal hygiene by personnel involved in handling and processing food;
- the use of hand washing and hand-sanitizing dip stations when and where appropriate;
- having time and temperature controls in place to prevent microbial growth in the susceptible intermediate and finished processed foods;
- the use of other sanitary measures that are specifically needed because of the nature of the food being processed, the processing technology or the facilities in which the processing takes place.

GMPs include measures ensuring that:

- food materials and ingredients, including food additives, are of the appropriate level of quality and safety before use and are stored properly to prevent contamination and mix-up with other processing material;
- facilities used in food production are of the appropriate size to prevent overcrowding and to allow proper placement and orderly storage of equipment, raw materials and other product materials such as packaging and labelling;
- layout of facilities permits the orderly flow of production materials and personnel in processing;
- facilities are suitably lit;
- equipment is maintained for proper functioning;
- temperatures, times, pressures, machine operations and other processing parameters are controlled at the specifications level required to assure proper processing;
- appropriate labels are used.

These control procedures also include the examination or sampling of intermediate foods from the processing lines and finished foods from final storage. The products are examined or tested analytically for compliance with product specifications and quality and safety requirements.

When properly applied, GMPs also include the establishment of record-keeping systems for recording the results of quality control activities. Information that might be recorded includes

- results of quality assurance personnel inspections of production facilities prior to and during production;
- processing parameters during food processing (cooking times, temperature recordings, pressures);
- results of specific methods or procedures for on-line product examination (net weights, can seal tear-down);
- results of examination of the integrity of the package closure systems;
- specific laboratory analysis methods to be used for quality and safety determinations, sample size and established criteria for acceptance or rejection of the lot.

Some food processing methods are very complex while others are relatively simple. Each process must be carefully assessed as to its potential for the presence of foodborne hazards and for the impact on food quality and safety if processing failure should occur, which may at times create unacceptable levels of risk for consumers.

GMP guidelines are not prescriptive instructions on how to manufacture products. It is a series of general principles that must be observed during manufacturing. When a organisation is setting up its quality program and manufacturing process, there may be many ways it can fulfil GMP requirements. It is the organisation's responsibility to determine the most effective and efficient quality process. Good manufacturing practices are largely governed by Foodstuffs, Cosmetics and Disinfectants Act. (Act no 54 of 1972), 27 June 2003.

GMP contains ten principles that introduces employees to critical behaviours established by FDA and industry leaders to maintain good manufacturing practices in plants.

Ten GMP Principles:

1. Writing procedures
2. Following written procedures
3. Documenting for traceability
4. Designing facilities and equipment
5. Maintaining facilities and equipment
6. Validating work
7. Job competence
8. Cleanliness
9. Component control

10. Auditing for compliance.

Additional to GMP, there are also two other standards:

1. *Hygiene management practices*: A set of predefined 'rules' and 'steps' helps food processors and wholesalers meet their regulatory obligations and ensure food safety.
2. *Good laboratory practices*: The phrase good laboratory practice or GLP specifically refers to a quality system of management controls for research laboratories and organisations to try to ensure the uniformity, consistency, reliability, reproducibility, quality and integrity of chemical (including pharmaceuticals) pre-clinical safety tests.

HAZARD ANALYSIS CRITICAL CONTROL POINTS (HACCP):

In some cases, because of the nature of the food processing methods or the hazards associated with some foods, consideration is given to applying intensified safety control procedures or systems. One such system is that based on the Hazard Analysis and Critical Control Point (HACCP). For the HACCP system to be effective, there must first be an effective GHP and GMP system in place.

HACCP includes the identification of all the known potential hazards which can be associated with the food being processed. Once this hazard assessment is done, critical control points (CCPs) in the processing are identified where controls can be exercised to prevent, reduce, or eliminate these hazards. Constant vigilance is maintained over the CCPs to prevent any process deviations that would result in loss of control at the CCP. Appropriate corrective actions are required whenever a CCP is found to be out of control, and the suspect food product is prevented from being distributed until its safety and acceptability have been determined. This system is highly effective when employed properly, but it requires considerable understanding and technical information related to the food product, the processing methods, and the production facility.

In manufacturing and processing of foods it is also necessary to ensure the safety of ingredients used as technical aids, additives, flavourings, or colourings. Such safety assessments require the analysis of test data, chemical specifications for substances involved and information on human dietary consumption levels and patterns. It is also necessary to evaluate the impact of uncertainties in cases where the information is insufficient to make a clear safety assessment decision. This is the work of highly trained specialists in toxicology, nutrition, chemistry, food composition and risk assessment techniques. The necessary expertise is often found only in countries with highly trained personnel and advanced technological capabilities.

HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

- Conduct a hazard analysis to identify potential hazards that could occur in the food production process.
- Identify the Critical Control Points (CCP's) – those points in the process where the potential hazards could occur and can be prevented or controlled.
- Establish critical limits for preventative measures associated with each CCP. A critical limit is a criterion that must be met for each CCP. Where appropriate, critical limits may reflect relevant food safety regulations and residue tolerances (as prescribed by PPECB).
- Establish CCP monitoring requirements to ensure each CCP stays within its limits. In case a problem occurs, corrective action must be in place to ensure no public health hazard occurs.
- Establish effective recordkeeping procedures that document that the HACCP system is working properly. Records should document CCP monitoring, verification activities and deviation records.
- Establish procedures for verifying that the HACCP system is working properly. Verification procedures may include reviewing the HACCP plan, CCP record, critical limits as well as conducting microbial sampling. Both plant personnel and PPECB inspectors will conduct verification activities.

The principles of HACCP:

HACCP offers continuous and systematic approaches to assure food safety.

Principle 1	Hazard Analysis: Hazards (biological, chemical, and physical) are conditions which may pose an unacceptable health risk to the consumer. A flow diagram of the complete process is important in conducting the hazard analysis. The significant hazards associated with each specific step of the manufacturing process are listed. Preventive measures (temperature, pH, moisture level, etc.) to control the hazards are also listed.
Principle 2	Identify Critical Control Points: Critical Control Points (CCP) are steps at which control can be applied and a food safety hazard can be prevented, eliminated or reduced to acceptable levels.

Principle 3	Establish Critical Limits: All CCP's must have preventive measures, which are measurable! Critical limits are the operational boundaries of the CCPs which control the food safety hazard(s). The criteria for the critical limits are determined ahead of time in consultation with competent authorities. If the critical limit criteria are not met, the process is "out of control", thus the food safety hazard(s) are not being prevented, eliminated, or reduced to acceptable levels.
Principle 4	Monitor the CCP's: Monitoring is a planned sequence of measurements or observations to ensure the product or process is in control (critical limits are being met). It allows processors to assess trends before a loss of control occurs. Adjustments can be made while continuing the process. The monitoring interval must be adequate to ensure reliable control of the process.
Principle 5	Establish Corrective Action: HACCP is intended to prevent product or process deviations. However, should loss of control occur, there must be definite steps in place for disposition of the product and for correction of the process. These must be pre-planned and written.
Principle 6	Record keeping: The HACCP system requires the preparation and maintenance of a written HACCP plan together with other documentation. This must include all records generated during the monitoring of each CCP and notations of corrective actions taken. Usually, the simplest record keeping system possible to ensure effectiveness is the most desirable.
Principle 7	Verification: Has several steps. The scientific or technical validity of the hazard analysis and the adequacy of the CCP's should be documented. Verification of the effectiveness of the HACCP plan is also necessary. The system should be subject to periodic revalidation using independent audits or other verification procedures.

INTERNATIONAL STANDARDS ORGANISATION GUIDELINES (ISO)

ISO 22000: 2005 specifies requirements for a food safety management system where an organisation in the food chain needs to demonstrate its ability to control food safety hazards to ensure that food is safe at the time of human consumption.

It is applicable to all organisations, regardless of size, which are involved in any aspect of the *food chain* and want to implement systems that consistently provide safe products. The means of meeting any requirements of ISO 22000:2005 can be accomplished using internal and/or external resources.

ISO 22000:2005 specifies requirements to enable an organisation:

- To plan, implement, operate, maintain, and update a food safety management system aimed at providing products that, according to their intended use, are safe for the consumer.
- To demonstrate compliance with applicable statutory and regulatory food safety requirements.
- To evaluate and assess customer requirements and demonstrate conformity with those mutually agreed customer requirements that relate to food safety, to enhance customer satisfaction.
- To effectively communicate food safety issues to their suppliers, customers, and relevant interested parties in the food chain.
- To ensure that the organisation conforms to its stated food safety policy.
- To demonstrate such conformity to relevant interested parties and
- To seek certification or registration of its food safety management system by an external organisation or make a self-assessment or self-declaration of conformity to ISO 22000:2005.

ISO 9000:

The ISO 9000 series of quality management standards was developed by the ISO/TC 176 (ISO Technical Committee 176), convened in 1979. It set out to create a framework of the fundamental generic elements that would form the basis for a series of internationally recognized quality management standards, which it completed in 1982 and published in 1983. The ISO 9000 series of standards represents the essential requirements that every enterprise need to address to ensure the consistent production and timely delivery of its goods and services to the marketplace. These requirements make up the standards that comprise the quality management system, and their generic nature allow for their application in any type of organisation. Consistency in production and reliability in delivery are as important as what your organisation is selling in today's marketplace. It is essential to consistently meet all your customer's expectations all the time, every time, to keep them satisfied and loyal.

The system standards describe what requirements need to be met, not how they are to be met. This allows for diverse organisations to apply the same standards in a manner that reflects the reality of

their business structure, allowing each organisation to meet the system requirements by implementing the standards in a manner that suits its own unique needs.

The ability to be audited by an independent, third party organisation is the foundation of its acceptance worldwide.

The series contains four system standards of varying complexity and completeness and they are: ISO 9001, ISO 9002, ISO 9003 and ISO 9004.

- ISO 9001: This is the most complex and encompassing of the three standards and is designed for companies and organisations that do design and development of their products or services as well as the production and delivery of them.
- ISO 9002: This is the most common of the ISO 9000 series and is identical to ISO 9001, but does not contain the design and development requirements.
- ISO 9003: This is the least complex and easiest to install of the ISO 9000. It is designed for organisations that only require final inspection and testing of their products and services to ensure that they have met the specified requirements.
- ISO 9004: This goes beyond ISO 9001 in that it provides guidance on how business quality management system is improved so that it benefits not only to customers but also to employees, owners, suppliers, and society in general.

ISO 14000:

The ISO 14000 series of *environmental management* standards were developed by the ISO/TC 207 convened in 1993. Its work was based upon previous consultations that had taken place between the ISO and the IEC's (International Electrochemical Commission) Strategic Advisory Group on the Environment (SAGE) which was itself convened in 1991. It set out to create the framework of the fundamental generic elements that would form the basis for a series of internationally recognized environmental standards, which it completed and published in 1996.

The ISO 14000 series of standards represents the essential requirements that every enterprise needs to address to control and minimize the impact that its operation, and resulting goods and services, has on the environment. These requirements make up the standards that comprise the environmental management system and their generic nature allow for their application in any type of organisation. The management structure that this standard develops within an organisation allows the organisation to set goals and targets for conforming to the environmental regulations that are required of its industry.

GATHERING QUALITY DATA: QUALITY CONTROL

How can the raw product producer or the secondary product processor ensure that the products that he produces meet the consumer's demands?

Farmers and processors must produce products that meet certain quality standards. In South Africa there are very clear standards for the quality of meat, milk, fibre (mohair, wool, and cashmere), eggs, leather, etc.

Various indicators or indices are used to measure quality. When quality is measured, and the results of this measurement are assessed and acted upon, we are busy with the process of *Quality Control*.



Quality control: The degree to which control is measured against predetermined requirements (quality).

Quality control has been with us for a long time. It is safe to say that when animal product harvesting began and competition accompanied product processing, consumers would compare and choose the most attractive product.

For example: producer A discovered that producer B's profits soared; the former tried to improve his/her offerings/production, probably by improving the quality of the output, and/or lowering the price. Improvement of quality did not necessarily stop with the product – but also included the process used for adding value to the product.

Factors that affect quality

Many factors influence product quality. Some of these factors are:

- On the farm:
 - Animals
 - Personnel (handling of animals)
 - The facilities e.g. milking parlour/abattoir
 - Handling and storage rooms
 - Equipment and materials
 - Quality of cleaning and washing
 - Cooling and storage of products
 - Delivery for collection
- Transport:

- Cleanliness and condition of transport vehicle
- Temperature during transport
- Duration of transport
- Unloading and reception methods
- At the processing plant:
 - Overall cleanliness and condition
 - Personnel
 - Storage time
 - Handling and processing
 - Packaging and labelling (production and best before dates)
 - Storage
 - Loading and transport for distribution
- Distribution and resale:
 - General cleanliness and condition
 - Storage time
 - Storage temperature
 - Methods of handling, distribution, and sale

TECHNICAL ASSISTANCE NEEDS

Food technology and science are complex, involving specialized knowledge in a wide range of fields such as chemistry, biochemistry, physical chemistry, microbiology, nutrition, toxicology, physics, radiology, statistics, and mathematics. Therefore, food control measures are diverse and complicated. The technical dimensions are different for every food product, for the various technologies used in food preparation, processing, and manufacturing and for the various types of facilities in which food is produced.

In view of the many food safety concerns of consumers and the diversity in scope and dimensions of food quality and safety problems, technical assistance is often needed. Furthermore, new food products are created every day and new technologies are being developed and introduced rapidly, so the demand for keeping up with the scientific advancements in food technology is high. Emerging hazards such as antibiotic-resistant microbes and novel pathogenic bacteria present food control officials with new challenges in maintaining controls to ensure public health. With rapid shipping

methods and the global distribution of food, serious public health risks and food hazards in one part of the world can be transferred to other parts of the world in a matter of hours or a few days.

Consumers expect government to look after their interests in making sure that the food industry produces safe food and that economic fraud, unfair trade practices and risks to human health are minimized. Government frequently does not have the financial and technical resources to provide such assurance, especially in developing countries. Many developing countries lack access to the latest knowledge and information about new food processing technologies. They may also lack technically trained staff, equipment, methods, and facilities for testing or analysing food for contaminants, toxins, chemical or drug residues or microbiological contamination.

In some countries, there is a need to update and revise the existing legal framework regarding food quality and safety. Regulations governing food standards are often lacking or outdated. Food control infrastructure may be non-existent, poorly organized, or inadequately supported because of the lack of sufficient financial resources. In many countries, different government ministries or agencies are involved in food regulation and control, but their failure to coordinate their activities results in a waste of resources because of overlapping and redundant work efforts. There is a need for improved regulatory food inspection and laboratory services, development of food control enforcement programmes and the administration and coordination of food control activities in developing countries. Training in technical areas of food control is always needed in such countries.

Factors that affect the quality of non-food products

The quality of non-food products such as fibre and leather can also be negatively influenced.

METHODS TO ENSURE AND IMPROVE QUALITY OF AGRICULTURAL PRODUCTS

Procedures were established, in general, aimed at the maintenance and improvement of the quality of the process of value-adding.

In modern times you have professional societies, governmental regulatory bodies (such as the FAO, RPO, WHO), and factory inspection systems, aimed at assuring the quality of products sold to consumers. These are called quality assurance systems, processes, procedures, regulations or guidelines.

The last decade has witnessed several encouraging trends in the thinking of food safety. First, it has become clear that the responsibility for food safety is not only up to Government or the abattoir owner but evenly distributed along the entire food chain of production and does not reside solely with the final consumer.

Secondly, new strategies have been adopted that engineer safety into food products, such as Hazard Analysis Critical Control Point (HACCP), Good Manufacturing Practices (GMP) and Good Agricultural Practices (GAP). Food borne diseases remain an important challenge to public health, thus causing a major burden of illness and requiring substantial resources for their control and prevention.

New active surveillance strategies can provide better data on the burden of illness and can track trends in the incidence of specific diseases as prevention improvements such as HACCP systems are implemented. Although the principles of HACCP have been known for more than 20 years, within most food companies little was known on this subject. Furthermore, legal requirements for HACCP in Europe-EC Directive 93/43 (EEC, 1993) and USA (FDA, 1995) meant the principles of HACCP and training of HACCP skills had to be put in place in a relatively short period of time (De Winter, 1998).

With the promulgation of the Regulations of the Meat Safety Act, Act 40 of 2000, the implementation of food safety systems such as Good Manufacturing Practices (GMP), Hazard Analysis Critical Control Points (HACCP) and Hygiene Management Systems (HMS) have now become a requirement in the abattoir industry.

Most of these systems or guidelines have been developed in such a manner that they can assist a practitioner to move through a procedure which can reduce the process variability or to identify specific problems in the process. However, other methodologies may need to be developed to allow for sufficient customisation to a certain specific process. As a start, these tools can be utilized to ensure process maintenance and improvement. They include:

- Analysis
- Improvement
- Monitoring
- Implementation

Furthermore, it is important to note that the mere use of the quality control tools do not necessarily constitute a quality programme. Thus, to achieve lasting improvements in quality, it is essential to establish a system that will continuously promote quality in all aspects of the value-adding operation.

Principles of quality control include:

- Defining quality
- Quality control
- Measuring quality
- Analysing quality
- Methods to evaluate quality
- New techniques for improving quality

These methods vary from rapid platform tests to more sophisticated and time-consuming analysing methods including, e.g. microbiological quality tests.

However, the scope and quality of quality control and methodology depend on the size of the production unit, volume of production and the product mix.

Small processing systems, producing only one product, start with limited production capacity and must rely on less sophisticated quality control methods. However, the quality control methods used should be reliable and cover the most essential quality criteria like hygiene.

The quality control standards and methodology used should be under continuous evaluation and development according to increases in and diversification of production and improvement of processing methods.

There are hundreds of food safety hazards and prioritising them according to the type of product, process and end use, an effective, practical, and economical safety management system can be developed. When analysing the hazards, the risks can be assessed by determining severity, incidence, and onset.

Example

Where risk occurs	Hazard sources	Possible actions
In the production unit	The greatest risk is cross contamination from raw meat either by direct contact or by worker contact. Other risks include poor “first-in-first-out” stock control and poor heat sealing of plastic packaging.	Implement systems that ensure cross-contamination cannot occur. Check that all products are fully dried. Check heat seals.
In the transport chain	Poor handling can result in packaging being perforated and allowing moisture pick-up. Products transported with another hazardous material can become contaminated.	Pack bags in strong, sealed cartons. Explain how you want the product transported. Use a reliable transport company even if a little more expensive.
At the point of consumption where the biltong is placed in bowls on the bar as a snack	Contamination due to flies or to people not washing their hands after using the toilet.	Control solutions become difficult at this distance from production. However, provide

	The possibility that any biltong left over at the end of the day will be put out again the next day.	advice by visiting your consumers and labelling your product. for example, suggest that proprietors only put small amounts in bowls to minimise customer contamination or provide individual snack plates to customers.
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The objectives of a risk or hazard analysis, known as the hazard analysis and critical control point (HACCP) system, are to identify:

- ❖ Where the hazards occur
- ❖ The nature of the hazards
- ❖ Potential solutions to minimise risks that might damage the consumer or cause complaints

Cost/benefit analysis regarding the effect of such processes and procedures are developed

Once the methods to mitigate or prevent the risk have been established it is important that you ascertain whether the benefit accrued is more than the cost to implement the control. When suggesting an improved methodology for controlling risk to a superior, it is advisable that the cost benefit be presented also. Look at the following example of a cost-benefit analysis in a sausage making plant:

Example:

Where risk occurs	Hazard sources	Possible actions	Potential cost benefit
At the meat grinding (mincing) machine	The operator of the mincing/grinding machine picks up the chunks of meat with his/her hands to place in the grinding machine. If the operator's hands are dirty, then the risk of Contamination between different sausage lots occurs.	<p>Possible action 1: The operator should wash his/her hands with antibacterial soap and rinse and dry his/her hands between every lot.</p> <p>Possible action 2: The operator should wear new disposal plastic gloves for each batch.</p>	<p>An operator makes 50kg batches of ground mince to go on to the sausage maker.</p> <p>At R 30/kg this means 50kg x R30/kg = R1500.</p> <p>If a batch is contaminated with bacteria such as Salmonella, then R1500 could be lost.</p> <p>Additionally, if the sausage were to cause illness among a wide group of consumers the loss in revenue due to the poor reputation of the manufacturer could have even higher financial losses.</p> <p>The cost of one bottle of antibacterial soap is R15.</p> <p>The cost benefit of this control method is thus R1485 or 100 times the cost of the control.</p>

Safety and physical risks	Chemical risks
Commodity storage and transfer Electricity Ergonomics Back injury	Asphyxiation / suffocation Confined space Entrapment Fumigation

Lifting	Carbon monoxide (combustion)
Repetitive trauma	Silo gases (NO ₂ and CO ₂)
Farm machinery	Detergents
Balers	Diesel exhaust
Chain saws	Disinfectants including
Roll-over protection	Chlorine
Safety guards	Quaternary ammonia compounds
Tractors	Organic iodides
Fire	Cresol-based compounds
Fuel storage (leaks and fires)	Formaldehyde emitters
Illumination	Dusts (inorganic aerosols)
Lightning (shock and fire)	Hydrogen sulphide (a key manure gas)
Liquefied Propane [LP] gas	Nitrogen dioxide (silos and welding)
Liquefied anhydrous ammonia	Organic dusts - e.g.
Physical / environmental hazards	Grain dust
Noise	Wood dust
Thermal (heat and cold)	Pesticides (including application and harvest activities)
Ultraviolet (sunlight)	
Vibration	
Transportation (on and off road)	
Welding	

Figure 1: Safety risks in agriculture in SA

Source: Doctoral dissertation: Carien Weyers 2006

No	Activity	Machinery / implements	No	Hazards	No	Risks	Health or safety risk
1.	Preparation of land	Tractors, disc harrow, fertiliser spreader	1	Outdoor environment	1	Exposure to high temperatures	Health
					2	Exposure to ultraviolet radiation	Health
					3	Inhalation of inorganic dust	Health
			2	Fertilisers	4	Inhalation of ammonium nitrate	Health
					5	Skin contact with fertilisers (contact dermatitis)	Health
					6	Skin burns	Health
			3	Tractors	7	Exposure to excessive noise	Health
					8	Exposure to whole body vibration	Health
					9	Inhalation of exhaust gases	Health
					10	Poor ergonomics	Health and safety
					11	Tractor roll-overs	Safety
					12	Trips and slips	Safety
					13	Caught in or between objects / loss	Safety

No	Activity	Machinery / implements	No	Hazards	No	Risks	Health or safety risk
2.	Ploughing of land	Tractors, ploughs	1	Outdoor environment	1	Exposure to high temperatures	Health
					2	Exposure to ultraviolet radiation	Health
					3	Inhalation of inorganic dust	Health
			2	Tractors	4	Exposure to excessive noise	Health
					5	Exposure to whole body vibration	Health
					6	Inhalation of exhaust gases	Health
					7	Poor ergonomics	Health and safety
					8	Tractor roll-overs	Safety
					9	Trips and slips	Safety
					10	Caught in or between objects / loss of limbs	Safety
3.	Planting of crops	Tractors, drill planters	1	Outdoor environment	1	Exposure to high temperatures	Health
					2	Exposure to ultraviolet radiation	Health
					3	Inhalation of inorganic dust	Health
			2	Tractors	4	Exposure to excessive noise	Health
					5	Exposure to whole body vibration	Health
					6	Inhalation of exhaust gases	Health
					7	Poor ergonomics	Health and safety

No	Activity	Machinery / implements	No	Hazards	No	Risks	Health or safety risk
4.	Application of pesticides	Tractors, sprayers	1	Outdoor environment	8	Tractor roll-overs	Safety
					9	Trips and slips	Safety
					10	Caught in or between objects / loss of limbs	Safety
			2	Tractors	1	Exposure to high temperatures	Health
					2	Inhalation of inorganic dust	Health
					3	Exposure to ultraviolet radiation	Health
					4	Exposure to excessive noise	Health
					5	Exposure to whole body vibration	Health
					6	Inhalation of exhaust gases	Health
					7	Poor ergonomics	Health
			3	Pesticides	8	Tractor roll-overs	Safety
					9	Trips and slips	Safety
					10	Caught in or between objects/loss of limbs	Safety
3	Pesticides	10	Inhalation of organophosphates	Health			
		11	Ingestion of organophosphates	Health			
		12	Skin absorption of organophosphates	Health			
		13	Contact dermatitis	Health			

Figure 2: Risk analysis of farming in SA: Source: Doctoral dissertation: Carien Weyers 2006



Individual Formative Exercise: 6A



Individual Formative Exercise: 6B



Individual Formative Exercise: 6C



Summative 2



Summative 3

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