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ASGISA AND ECONOMIC GROWTH: IMPLICATIONS FOR SKILLS DEVELOPMENT

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**ASGISA and economic growth:
Implications for skills development**

Agro-processing

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**ECONOMIC
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INTRODUCTION

This document contains a sectoral analysis of the agro-processing sector in South Africa with reference to the implications for skills development. It is one of six skills development projects administered by the Education, Science and Skills Development (ESSD) research programme of the Human Sciences Research Council (HSRC).

This study is set out in five chapters as follows:

Chapter 1 provides an overview of the agro-processing sector and prioritises three agro-processing sub-sectors for more detailed profiles and quantitative and qualitative descriptions. It also includes an analysis of key labour indicators (e.g. productivity data) for the prioritised sub-sectors.

Chapter 2 focuses on employment and occupational data in the prioritised sub-sectors to conduct an analysis of the demand for skills in the prioritised sub-sectors. It also includes an analysis of recent vacancy data for occupational categories relevant to the prioritised sub-sectors.

Chapter 3 focuses on data for graduates from tertiary education institutions to understand the provision of those skills that are relevant to the prioritised sub-sectors. It also identifies bottlenecks and constraints in skills development as well as scarce skills within the prioritised sub-sectors.

Chapter 4 contains nine case studies which were conducted with companies in the prioritised sub-sectors. These case studies are aimed at identifying the levels of segmentation with regard to skill requirements which arise because of differentiation between companies within the prioritised sub-sectors.

Chapter 5 contains recommendations based on an analysis of the demand and supply data as well as the case studies, aimed at proposing sector and skills development initiatives that respond to the current and future trends in the prioritised sub-sectors.

This report relies on various sources of statistical data; including:

- ▶ Industry data
 - Various indicators of relevant agro-processing sectors (Quantec)
 - Production statistics (Statistics South Africa)
- ▶ Labour demand data
 - Formal and informal sector employment (Quantec)
 - Database of vacancy advertisements placed in the Sunday Times (HSRC)
- ▶ Labour supply data
 - Higher Education Management and Information System (HEMIS) supply data (HSRC)
 - Further Education and Training Management and Information System (FETMIS) supply data (HSRC)

1 OVERVIEW OF THE AGRO-PROCESSING SECTOR

This chapter provides an overview of the agro-processing sector and prioritises three agro-processing sub-sectors for more detailed profiles and quantitative and qualitative descriptions. It also includes an analysis of key labour indicators (e.g. productivity data) for the prioritised sub-sectors.

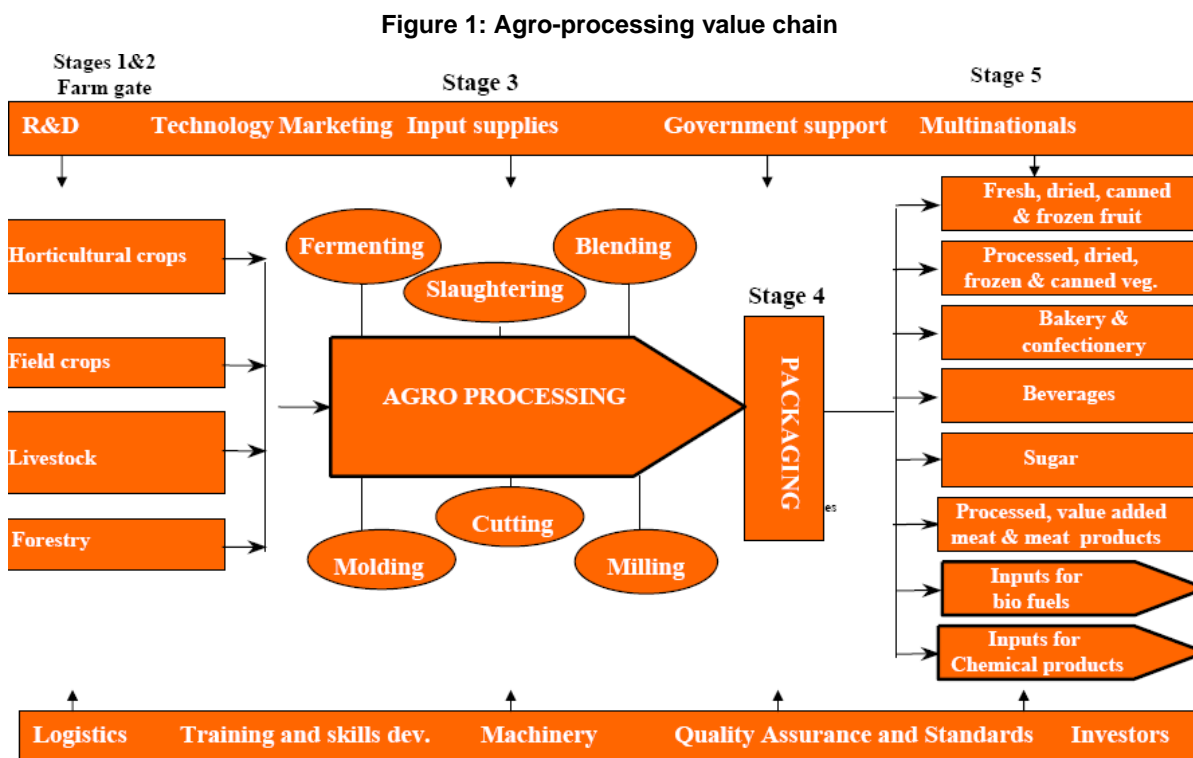
1.1 Agro-processing sector: scope and overview

Agro-processing refers to the subset of manufacturing that **adds value to raw materials and intermediate products derived from the agricultural sector** (agriculture, forestry and fisheries). It includes processes that follow harvesting, including those activities that do not necessarily change the form of the product but improve its value (the dti, 2006a).

When this definition of agro-processing is applied to the Standard Industrial Classification (SIC) system, the following agro-processing sub-sectors emerge:

1. Food
2. Beverages
3. Tobacco
4. Leather and leather products
5. Textiles
6. Wood and wood products
7. Paper and paper products

The figure below illustrates the various stages of agro-processing and the processes involved in each:



Source: the dti (2006a)

This diagram illustrates the **high degree of interdependence** with forward and backward activities in the agro-processing value chain. In developing countries, the interest in agro-processing is associated with its potential for generating demand for primary produce from small-scale farmers, upgrading primary production through small-scale food processing and improving food price stability and food security (Cardoso, 2000 and Saasa, 2000).

Agro-processing is suited to developing countries because **processing plants are not always scale dependent** – small operations can be as economically efficient as larger plants which benefit from economies of scale (FAO, 1997). Therefore, agro-processing could play an important role in supporting economic development and thus contribute to poverty reduction and economic inclusion.

As a result of its potential to contribute to broad-based economic development, various strategies have been developed at a national level to optimise the impact of agro-processing.

National strategies that prioritise agro-processing include:

- ▶ **Strategic Plan for South African Agriculture** (2001) prioritises the diversification of production and adding greater value to agricultural produce
- ▶ **Integrated Manufacturing Strategy** (2002) identifies agro-processing as a priority sector
- ▶ **Agri-BEE Broad-based Black Economic Empowerment Framework for Agriculture** (2004) includes the entire agri-business value chain in its scope for empowerment, transformation and enterprise development
- ▶ **Agro-processing Sector Development Strategy** (2006) highlights constraints to growth in agro-processing activity and recommends priority areas of support
- ▶ **Accelerated and Shared Growth Initiative for South Africa (ASGISA)** (2006), identifies agro-processing as a potential priority sector
- ▶ **National Industrial Policy Action Plan** (2007) identifies agro-processing as a sector for which substantial strategy development is required and calls for the implementation of projects in agro-processing

A central task for **ASGISA** is to provide an overarching socio-economic perspective for all government departments to inform their own policy-making to ensure alignment and coordination between otherwise discrete development initiatives (Department of Labour, 2006).

ASGISA and the **National Industrial Policy Action Plan** emphasise the ability of agro-processing to create significant employment for micro enterprises and poor households, particularly in remote rural areas. In particular, ASGISA has identified the need to **invest** more heavily in **plant biotechnology** that supports the development of higher value-added agricultural products and to develop **cosmetics and pharmaceuticals** out of South Africa's abundant **natural agricultural resource base** (PCAS, 2006).

The **Agro-processing Sector Development Strategy** (the dti, 2006c) provides an overview of the agro-processing sector and includes an analysis of the global and local industries and trade trends for the following industries: wine, fruit, meat products, floriculture, aquaculture, sugar and indigenous teas.

The selection of these sub-sectors was informed by the three main elements of the long-term vision for agro-processing in South Africa, which are (the dti, 2006c):

- ▶ Retaining established sub-sectors which can be made internationally competitive – essentially through competitiveness enhancement and increasing value addition in these sub-sectors
- ▶ Supporting the large-scale development of new industries and sub-industries, such as those related to natural fibres and floriculture
- ▶ Promoting the geographic spread of economic activities to rural areas

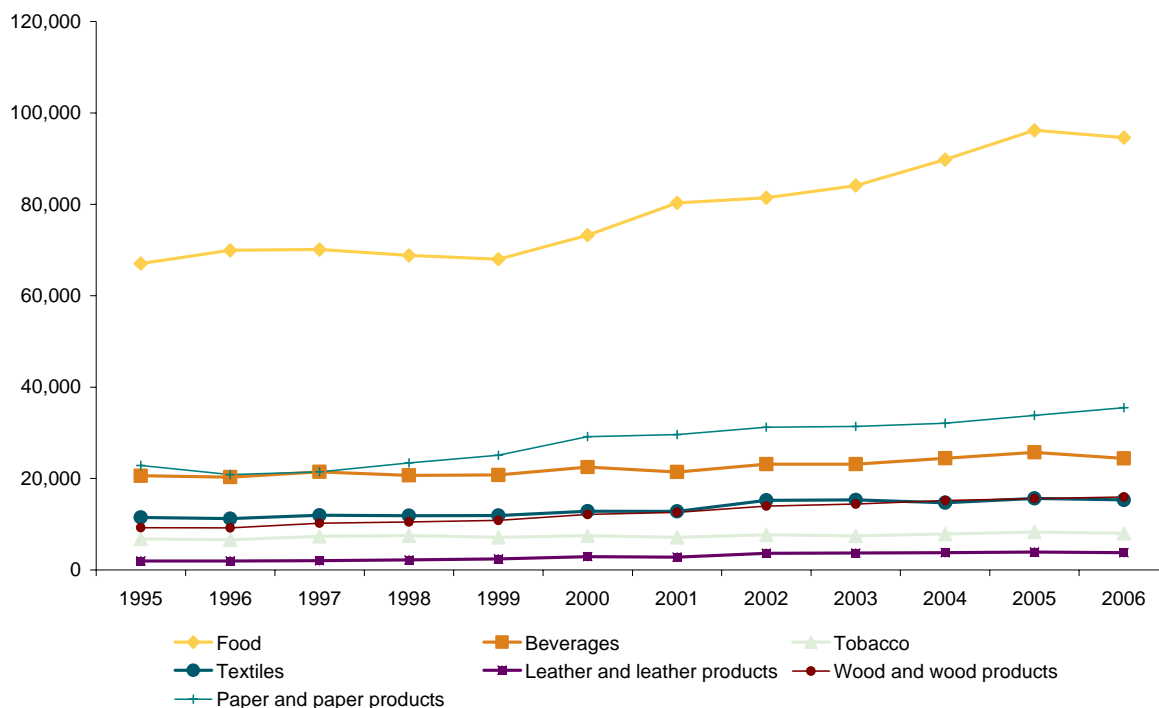
In response to the challenges faced by the agro-processing sector, the Agro-processing Sector Development Strategy lists five key action programmes aimed at improving the international competitiveness of the agro-processing sector whilst meeting South Africa's unique developmental objectives; these are (the dti, 2006c):

1. Policy coordination in the agri-value matrix
2. Geographical spread of economic activity
3. Increasing the flow of investment opportunity information to small, medium and micro enterprises (SMME) and black economic empowerment (BEE) entrepreneurs
4. Developing export capabilities
5. Enhancing the competitiveness of mature industries

The importance of agro-processing in South Africa is reflected in its contribution to output, employment and exports. What follows is an analysis of output, employment and exports for the six agro-processing sub-sectors identified previously. Output and export figures are in constant 2000 prices, while employment is in number of employees.

Output in the agro-processing sector increased between 1995 and 2006, as illustrated by the figure below:

Figure 2: Agro-processing output, 1995-2006 (Constant 2000 Rands)



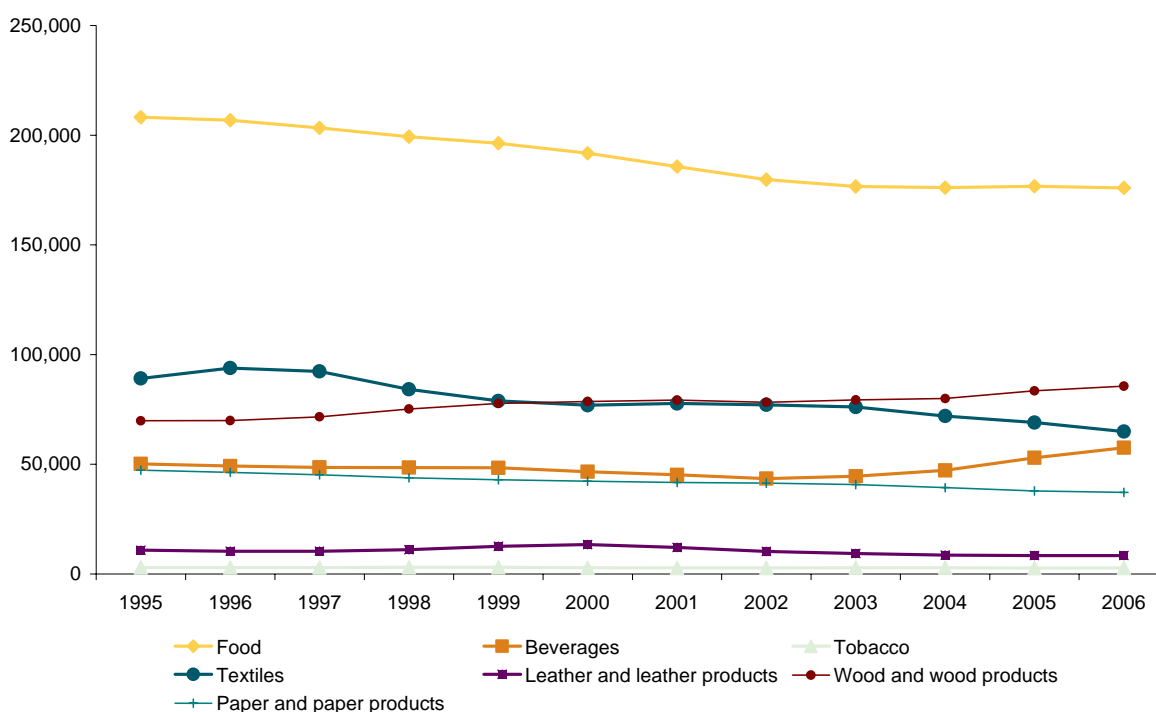
Source: Quantec (Available: www.quantec.co.za)

Food is by far the largest agro-processing sub-sector, followed by paper and paper products and beverages. The food sub-sector has also shown the largest growth in output between 1995 and 2006.

However, despite this growth, the agro-processing sector's share of total output steadily declined from 9.7% in 1995 to 7.8% in 2006 and its share of manufacturing output declined from 29.5% to 24.7% over the same period. This decline can be explained by output growth in the motor vehicles and vehicle parts, chemicals and televisions, and communication equipment sub-sectors (Mather, 2005). At 24.7% of total manufacturing output, agro-processing still represents a significant proportion of the total manufacturing sector.

The food sub-sector is the largest employer within the agro-processing sector – contributing 1.4% and 11.5% to total and manufacturing employment, respectively. Beverages and wood are the only sub-sectors that have experienced increased employment between 1995 and 2006, contributing 7,281 and 15,769 jobs, respectively.

Figure 3: Agro-processing employment, 1995-2006 (Number of employees)



Source: Quantec

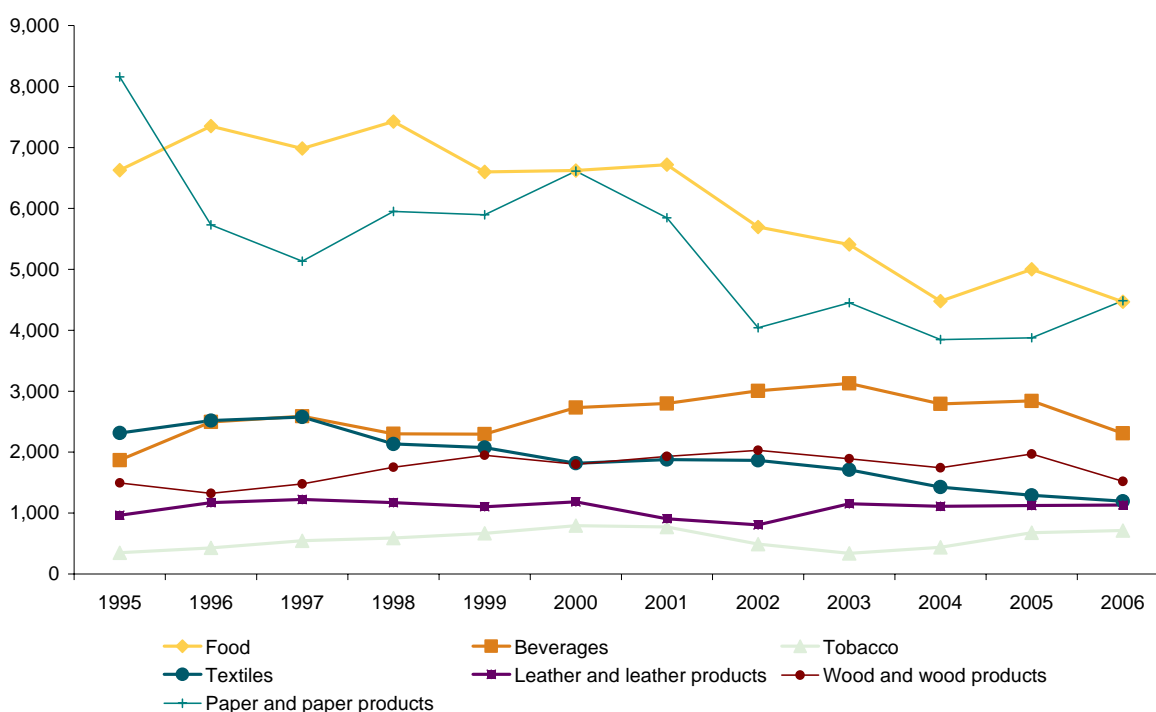
Although the economy as a whole gained 975,941 jobs between 1995 and 2006, **the agro-processing and manufacturing sectors lost 45,977 and 130,867 jobs, respectively.** Most of the employment growth came from the tertiary sectors (in particular, financial and business services and internal trade), which added 2.5 million jobs between 1995 and 2005 and the secondary sector (in particular, construction, which added 488,000 jobs over the same period) (Department of Labour, 2006).

The cause of declining employment in agro-processing is largely due to the **restructuring** of the sector in response to **greater competitive pressures** associated with lower tariffs and a freer trade regime. In the last ten years, South Africa's tariff structure has changed dramatically (Vink and Kirsten, 2001). The result has been a rapid increase in cheaper imports that have had a significant impact on several agro-processing sub-sectors.

Agro-processing sector's share of total employment declined marginally from 4% in 1995 to 3.6% in 2006 and its share of manufacturing employment declined from 29.1% to 28.2% over the same period.

The competitive pressures on agro-processing mentioned before also played a role in the decline of exports for the food, textiles and paper sub-sectors, as firms in these sectors **increasingly compete with lower cost producers**, particularly from China and India. Increased exports from the beverages, tobacco, wood and leather sub-sectors over the period are probably due to the presence of large dominant firms within these sectors in South Africa, that have managed to protect themselves from foreign competition.

Figure 4: Agro-processing exports, 1995-2006 (Constant 2000 Rands)



Source: Quantec

The agro-processing sector's share of total exports declined significantly from 10.7% in 1995 to 5.1% in 2006 and its share of manufacturing exports declined from 21.1% to 10.4% over the same period. However, research has shown that exports of processed food products to Southern African Development Community (SADC) countries – mainly in the form of cereals, milling products, dairy and sugar – increased dramatically (Vink et al, 2002). This **regional market is becoming increasingly important** for exporters of South Africa's processed food products (Mather, 2005).

The next section prioritises three agro-processing sub-sectors for a more detailed sector profile and quantitative and qualitative analysis.

1.2 Prioritised agro-processing sub-sectors

In this section, agro-processing sub-sectors are selected for a detailed profile and quantitative and qualitative analysis.

Selecting the agro-processing sub-sectors

The focus of each sector study is demarcated in an attempt to decide which sub-sectors to include or exclude. This decision has been informed by the prioritisation of the individual sub-sectors by industrial policies, such as ASGISA and the National Industrial Policy Action Plan, and takes growth prospects of these sub-sectors into account.

For this sector study, the decision on which sub-sectors to include or exclude is simplified by the fact that some of the agro-processing sub-sectors are covered by other sector studies. As indicated before, according to the SIC system there are seven manufacturing sub-sectors that can be classified as agro-processing industries. Of these, the textiles sub-sector is covered by the textiles and clothing sector study, while the wood and wood products and paper and paper products sub-sectors are covered by the wood, paper and pulp sector study. The tobacco sub-sector has been excluded from this analysis because it has not been prioritised by any national or provincial strategy.

Therefore this study will focus on the following 3 sub-sectors:

1. Food
2. Beverages
3. Leather and leather products

These three prioritised sub-sectors feature in the **labour-intensive sector cluster**, which is one of six clusters proposed by the National Industrial Policy Framework. As a number of sectors face similar challenges and therefore require similar support, clustering allows government departments to optimise administrative resources needed to develop these sectors (the dti, 2006b).

This section contains a sector profile for each of the three prioritised sub-sectors and provides a quantitative and qualitative assessment of each. A decision has been made to profile the food and beverages sub-sectors together. Some of the reasons behind this decision are highlighted below:

1. These sub-sectors share the same firms and several of the biggest companies produce both food and beverage products, for example:
 - AVI produces, amongst other goods, value-added chicken and beef products as well as fruit juices and iced teas
 - Illovo Sugar Ltd produces sugar products as well as ethyl alcohol
2. Companies in the food and beverages sub-sectors rely on similar inputs (agricultural produce) and therefore use the same suppliers, which exposes these firms to similar supply chain dynamics and logistics requirements

3. There is a high degree of overlap between the food and beverages sub-sector – e.g according to the SIC system, fruit juices are classified not under beverages, but under the food sub-sector as these involve the processing and preserving of fruit
4. The food and beverages sub-sectors are combined under the same sector education and training authority (SETA), namely the FoodBev SETA

1.2.1 Food and beverages

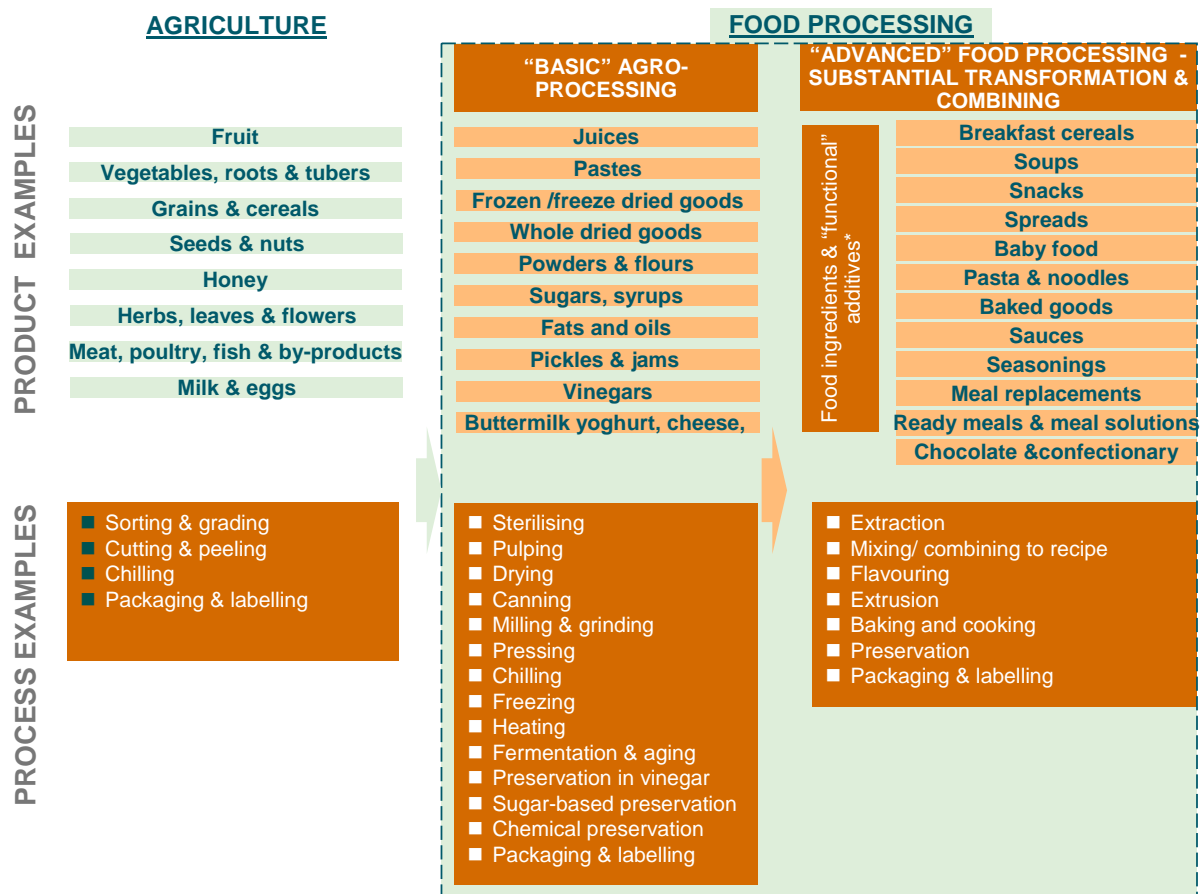
According to the SIC system, the food and beverages sub-sectors consist of the following products:

- ▶ Food:
 - Meat and meat products
 - Fish and fish products
 - Fruit and vegetables
 - Vegetable and animal oils and fats
 - Dairy products
 - Grain mill products
 - Starches and starch products
 - Prepared animal feeds
 - Bakery products
 - Sugar, including golden syrup and castor sugar
 - Cocoa, chocolate and sugar confectionery
 - Macaroni, noodles, couscous and similar farinaceous products
 - Other food products
- ▶ Beverages:
 - Spirits
 - Ethyl alcohol
 - Wine
 - Beer and other malt liquors and malt
 - Soft drinks
 - Mineral water

As indicated before, certain beverages, such as fruit juices, are classified as processed and preserved fruit under the food sub-sector.

The diagram below illustrates the various products and processes involved in food and beverages processing.

Figure 5: Product and process range for food and beverages



* Examples of food ingredients: flavours & flavour enhancers, enzymes, fat substitutes, sweeteners, fortifiers and nutraceuticals, other functional foods (e.g. probiotics), colourants, setting agents/hydrocolloids, preservatives, nature-identical ingredient substitutes

Source: Kaiser Associates

The greatest potential opportunities in food and beverages can be found as one moves further down the value chain to advanced food and beverage processing which relies on substantial transformation of agricultural produce (Department of Agriculture, 2004). However, the downstream end of the value chain tends to be **increasingly technology-intensive** and therefore requires **specific high-skilled workers**, such as food technologists and chemists, to ensure its sustainability (FoodBev SETA, 2006).

South Africa is active at all stages of the value chain, although basic agro-processing products dominate production and exports.

In the food sub-sector, the major exports (by value) are fresh fruit and nuts, sugar, processed fruit and vegetables, fish products and cereals and grains (USDA, 2004). Milled grain products constitute the largest food sub-sector as these contribute 17% to total output (USDA, 2004). The major food products (by volume) are refined sugar (1,232mt), bread flour (812,112t), sunflower seed oil (438,720t) and fish meal (142,654t) (Statistics South Africa, 2003).

The beverages sub-sector comprises three industries: malt and beverages, distilleries and wineries, and soft drinks; each of these constitute 41%, 32% and 27% of total production, respectively (USDA, 2004). The major beverages (by volume) are natural wines (211,210kl), brandy (18,144kl) and sparkling wines (9,654kl) (Statistics South Africa, 2003).

The following table shows major producers of food and beverages that are listed on the JSE and their products in alphabetical order:

Table 1: Major producers of food and beverages and their products

Listed entity	Company / brand	Products
AVI	<ul style="list-style-type: none"> ▶ National Brands Ltd ▶ Irvin and Johnson Ltd ▶ Denny ▶ The Real Beverage Company 	<ul style="list-style-type: none"> ▶ Branded snacks and beverages ▶ Frozen fish products ▶ Value-added chicken and beef products ▶ Fresh and processed mushrooms ▶ Fruit juices and iced teas
Astral Foods Ltd	<ul style="list-style-type: none"> ▶ Meadow Feeds ▶ National Chick ▶ County Fair ▶ Early Bird Farm ▶ Ross Poultry Breeders ▶ Nutec SA 	<ul style="list-style-type: none"> ▶ Broiler products ▶ Animal Feed
Conafex Holdings	<ul style="list-style-type: none"> ▶ Cape Natural Tea Products 	<ul style="list-style-type: none"> ▶ Nuts ▶ Tea and coffee
Illovo Sugar Ltd	<ul style="list-style-type: none"> ▶ Illovo Sugar ▶ Ubombo Sugar 	<ul style="list-style-type: none"> ▶ Raw and refined sugar products ▶ Ethyl alcohol, furfural and its derivatives
Namsea	<ul style="list-style-type: none"> ▶ Namsea 	<ul style="list-style-type: none"> ▶ Fish products
Oceana	<ul style="list-style-type: none"> ▶ Oceana 	<ul style="list-style-type: none"> ▶ Fish products
Rainbow Chicken Ltd	<ul style="list-style-type: none"> ▶ Rainbow Chicken Ltd 	<ul style="list-style-type: none"> ▶ Fresh and frozen chicken
Sovereign Foods Investment	<ul style="list-style-type: none"> ▶ United Chix ▶ Crowned Chicks ▶ Country Range Farm Products 	<ul style="list-style-type: none"> ▶ Value-added chicken products
SABMiller	<ul style="list-style-type: none"> ▶ SABMiller 	<ul style="list-style-type: none"> ▶ Alcoholic beverages
Tiger Brands	<ul style="list-style-type: none"> ▶ Tiger Brands 	<ul style="list-style-type: none"> ▶ Cooking aids, sauces and condiments ▶ Baby food ▶ Breakfast foods ▶ Pastas ▶ Perishables ▶ Grains ▶ Snacks ▶ Fish products
Tongaat-Hulett Group	<ul style="list-style-type: none"> ▶ African Products and Tongaat-Hulett Sugars) 	<ul style="list-style-type: none"> ▶ Raw and refined sugars ▶ Maize products and starches ▶ Glucose and related products

Source: Kaiser Associates

Although there are more than 7,297 food and beverage companies (FoodBev SETA, 2006), the top ten companies are responsible for 70% of the industry's turnover (USDA, 2004). These large companies tend to be vertically integrated into both primary production and retailing – e.g. Tiger Brands has a controlling interest in the Spar retail group as well as interests in grain milling (Mather, 2005).

The retail sector contains about 70,000 shops that can be broken down into three broad categories: large retail outlets (hypermarkets and supermarkets), medium retail stores (medium-sized retail stores) and small convenience stores (including spaza shops and cafes). The structure of retailing is similar to that of the food and beverage industry: a small number of very large, formal retail chains control around 70% of turnover, while a large number of smaller stores control the remaining 30% of turnover (Mather, 2005).

Institutions providing industry specific support include:

- ▶ Industry associations
 - South African Association for Food Science and Technology (SAAFoST)
 - SA Sugar Association (SASA)
 - South African Meat Industry Company (SAMIC)
 - SA Association of Flavours and Fragrances (SAAFFI)
 - SA Oil Pressers Association
 - SA Agricultural Processors Association
- ▶ Skills development
 - FoodBev SETA
 - Tertiary institutions (e.g. FET and tertiary institutions)
 - Private training providers (e.g. HACCP Academy)

Several global industry trends are currently impacting the food and beverages industry in South Africa. The major trends are discussed below.

Health consciousness – higher growth in categories that represent healthy staples (fruit and vegetables and water) or a healthier product alternative (sugar substitutes, soy-based drinks and cereal/muesli/fruit bars). Food products that offer weight-loss benefits such as low-fat or fat-free products (e.g. milk and yoghurt, cooking oils), salads, fruits and vegetables, nuts and malted drinks are in high demand. For example, in Europe the market for functional foods (i.e. foods with functions over and above the nutrient value) was worth around US\$5bn in 2005, with manufacturers from all product segments seeking to gain share of this high growth market (Food Production Daily, 2006).

Convenience – due to an increase in the number of hours devoted to work and entertainment by both men and women, there is strong demand for meals that can be prepared in a short period of time. Popular products include frozen and pre-cooked microwavable meals, shelf-stable dry dinner mixes, pre-cut vegetables, and fresh ready-to-eat salads and fruit. Apart from requiring little preparation, there is a growing preference for convenience foods that are also healthy and nutritious.

Private labels – retailers' own labels are becoming stronger in many markets, developing trust and associations of good value with customers. For example, own label food and grocery products will account for more than a quarter of the European grocery market (26.8%) by 2010 (IDG, 2006). Suppliers therefore need to compete for these private label manufacturing contracts.

Rising incomes – as incomes increase, individuals tend to purchase more varied and high-value food products, whilst simultaneously spending a smaller fraction of their total income on food. Higher income countries therefore tend to have a stronger demand for processed food, as evidenced by the higher proportion of processed food within their food retail structure than low income countries.

Organic foods, and foods with clear and detailed labelling – food safety concerns inspired by the threat of contamination (e.g. by chemicals found in pesticides etc.), uncertainties about the safety of genetically modified food, and the potential presence of allergens and other undesirable substances in food have all spurred demand for organic foods and foods whose packaging is sufficiently detailed to address common health and safety concerns.

Products certified as the result of fair trade practices and environmentally sustainable manufacturing – developed country consumers are particularly responsive to products which minimise environmental degradation, uphold fair labour standards and are socially responsible (this market is currently limited, with an emphasis on chocolates and beverages).

Products that are responsive to location-specific consumer trends – greater fragmentation of consumer demand due to a growing preference for specialised/customised products is creating niche opportunities that could be served by small-scale enterprises as they are potentially more flexible. Much publicised examples of this trend have been evident in the “fast food” industry, with companies such as McDonalds significantly varying their menu across global locations, compared to their previous target of maximum standardisation across locations.

Product innovation – higher levels of processing do not necessarily result in products which are the highest “value-add” segments of the food market. High quality, branding, association with a particular geographical region, and innovations such as the development of new raw materials or the use of unconventional materials may secure higher value across the product range.

A number of these trends, including consumer focus on health and diet, the need for convenience, and lower consumer prices through increased own label activity, **are continuing to shape market growth for different product categories** (AC Nielsen, 2004).

In terms of the global food industry structure, the **value chains of processed foods are increasingly being dominated by trans-national companies** (e.g. Kraft, Unilever and Nestle), particularly with respect to activities such as trading, processing/manufacturing and retailing. Even with these activities however, there are different degrees of market concentration. For instance, food manufacturing is highly fragmented at the global level, with the top 50 manufacturers accounting for less than 30% of global packaged food retail sales¹. However, firm concentration is evident in specific product lines and regional markets due to **manufacturers focusing on specific product lines where they have inherent advantages**. Overall, food manufacturing activities tend to be dispersed across markets (as opposed to being concentrated in a few locations), depending on proximity to the customer base.

As far as retail is concerned, **supermarkets dominate food retail sales**. There is concentration in the supermarket segment of food retailing with the **top 15 global supermarket chains accounting for more than 30% of world supermarket sales**². At the national level, the five biggest retailers control 30% to 96% of food retailing in the EU

¹ Source: Ibid

² Source: Ibid

and the US, and small retail firms increasingly account for a smaller share of total food sales³.

The next section provides a sector profile and quantitative and qualitative description of the leather and leather products sub-sector.

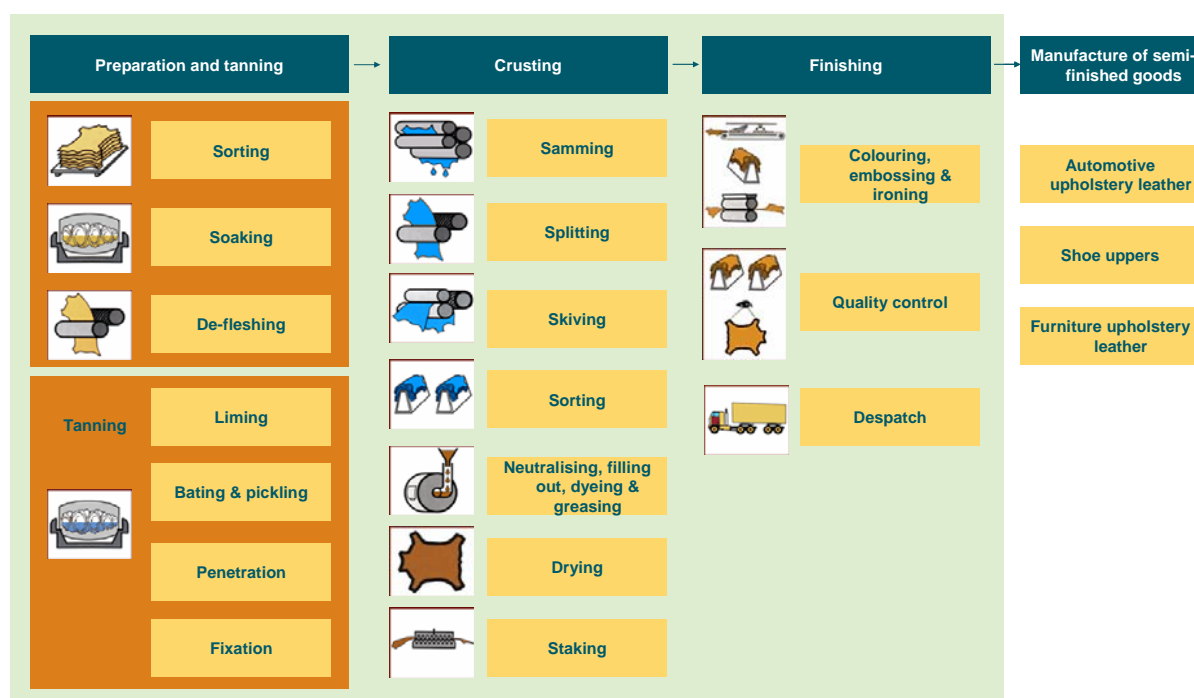
1.2.2 Leather and leather products

According to the SIC system, the leather and leather products sub-sector consists of the following products:

- ▶ Tanned and finished leather
- ▶ Luggage and handbags
- ▶ Saddlery and harnesses

The diagram below, which illustrates the leather value chain, highlights the exclusion of footwear and other manufactured leather products (e.g. leather clothing products) from this sub-sector.

Figure 6: Value chain for leather and leather products



Source: Confederation of National Associations of Tanners and Dressers of the European Community (Available: www.euroleather.com) and Kaiser Associates

South African leather value chains have undergone a substantial transformation over the last decade as a direct result of the effects of a more liberal economy – from being relatively untraded before liberalisation, where each stage of the value chain was orientated to a domestic market or supply base, leather has become **highly traded and exported at various stages of beneficiation** (Ballard, 2002).

³ Source: USDA (2004) Processed Food Trade Pressured by Evolving Global Supply Chains

Total exports of leather and leather products (including footwear) is US\$485.94m (Ballard, 2002). This is shared between automotive upholstery (58%), leathers, skins and hides (38%), general goods (e.g. exotic leather handbags) and footwear (5%). Exports of exotic leather are valued at US\$62m, compared to exports of bovine leather of US\$43.8m. Therefore, it is the most important component of exports of raw materials by value, despite the fact that almost 14 times less volume of exotic leather are exported than tanned bovine leather.

South Africa produces about 2 million cattle hides and 5 million sheepskins (Pursuit Magazine, 2002). Fifty percent of the total production is exported in wet-blue form and the remaining 50% is split between automotive leather and footwear industries (with the automotive leather industry consuming about 80%). South Africa currently produces 70% of the global ostrich leather output, down from 100% in the late nineties.

Table 2: Major producers of leather and leather products and their location

Product group	Company	Location
Shoe uppers	▶ Gringo Leathers	▶ Marburg, KZN
	▶ Mossop-Western Leathers	▶ Wellington, WC
Wet-blue (bovine) leather	▶ African Hide Trading	▶ Port Elizabeth, EC
	▶ North West Tanning	▶ Mogwase, NW
	▶ Pelts products	▶ Port Elizabeth, EC
	▶ Richard Kane Fur Skins	▶ Maitland, WC
Automotive leather	▶ Bader SA	▶ Rosslyn, Gauteng
	▶ Eagle Ottawa (SA) Ltd	▶ Bronkhorstspuit, Gauteng
	▶ Feltex Automotive leather	▶ Ladysmith, KZN
	▶ Mario Levi Manufacturing	▶ Uitenhage, EC
	▶ Seton SA	▶ Nigel, Gauteng
Ostrich, exotic leathers and gameskins	▶ Klein Karoo International	▶ Oudtshoorn, WC
	▶ Kwiktan	▶ West Krugersdorp, Gauteng
	▶ Oasis Tanning Company	▶ Bronkhorstspuit, Gauteng
	▶ Outeniqua Tanning	▶ George, WC
	▶ Phillippe Genuine Ostrich Products	▶ Grahamstown, EC
	▶ Prince Albert Tannery	▶ Prince Albert, WC
	▶ Rein Tanning	▶ Dana Bay, WC
▶ Swartland Tanning Company	▶ Malmesbury, WC	
Belts and other leather goods	▶ Saddler Belts and Leathercraft	▶ Durban, KZN

Source: Kaiser Associates and www.tanschool.co.za

In the past, most tanneries were orientated towards producing for the footwear industry – however, with the decline in footwear production and increased use of imported footwear leather, many of these tanneries either closed or switched to manufacturing leather for the automotive upholstery industry. As a result, there have been massive job losses in general leather goods.

However, growth in new sectors, in particular automotive upholstery, has compensated for these declines. At least one large company is vertically integrated into both tanning and semi-finished goods – KAP International Holdings Ltd owns both the largest tannery in South Africa (Mossop-Western Leathers) as well as the largest manufacturer of automotive leather goods (Feltex Automotive Leather).

Institutions providing industry-specific support include:

- ▶ Industry associations
 - Southern African Footwear and Leather Industries Associations (SAFLIA)
 - Skin, Hides And Leather Council (SHALC)
 - South African Footwear and Leather Export Council (SAFLEC)
- ▶ Skills development
 - International School of Tanning Technology
 - Clothing Textiles, Footwear and Leather (CTFL) SETA

The global leather industry is valued at about US\$85bn (IBEF, 2006), with developing countries (such as India) being the largest producers of leather. China and Italy are the leading producers and exports, with exports of US\$19bn and US\$13bn, respectively (IBEF, 2006). Value addition and final consumption of these products tends to occur in developed markets (such as Italy and US, respectively). The retail side of the global leather industry is extremely buyer-driven, with producing countries manufacturing in line with specifications, guidelines and technical advice provided by buyers.

In the EU, tanneries are typically family-owned SMMEs that are concentrated in particular regions. Flexibility, adaptability and the ability to respond quickly to changes in the global market for leather products are among the main assets of the EU leather industry. The industry is one of the most global industries in the world, and EU tanners depend highly on access to raw materials and to export markets. At the same time, EU tanners are adjusting their production towards higher quality output and high fashion content leathers and modernising their manufacturing plants through investments in environmental protection, waste reduction, recycling and the recovery of secondary raw materials (EU Commission, 2007).

Locally, firms are struggling to improve the quality of their leather in order to keep up with global demands for high quality leather products. Local tanneries currently do not manufacture the grade of nappa leather required for clothing. As a result, it is more cost-effective for manufacturers to import nappa leather. Another challenge concerns the likely impact of the Motor Industry Development Plan (MIDP) on the price for locally manufactured leather. Some industry commentators, most notable Ballard (2002), have suggested that South African leather is over-priced as a result of the MIDP due to the demand this incentive programme places on the use of local leather in the manufacture of motor vehicles for export.

The next section examines three key labour indicators for the prioritised sub-sectors: labour productivity, unit labour cost and remuneration per worker.

1.3 Key labour indicators for the prioritised sectors

The growth of a sector can be explained by either an increase in employment or more effective work by those who are employed (ILO, 2007). This section focuses on labour productivity, while Chapter 2 examines employment trends for each of the prioritised sub-sectors to determine which sub-sectors have experienced employment growth.

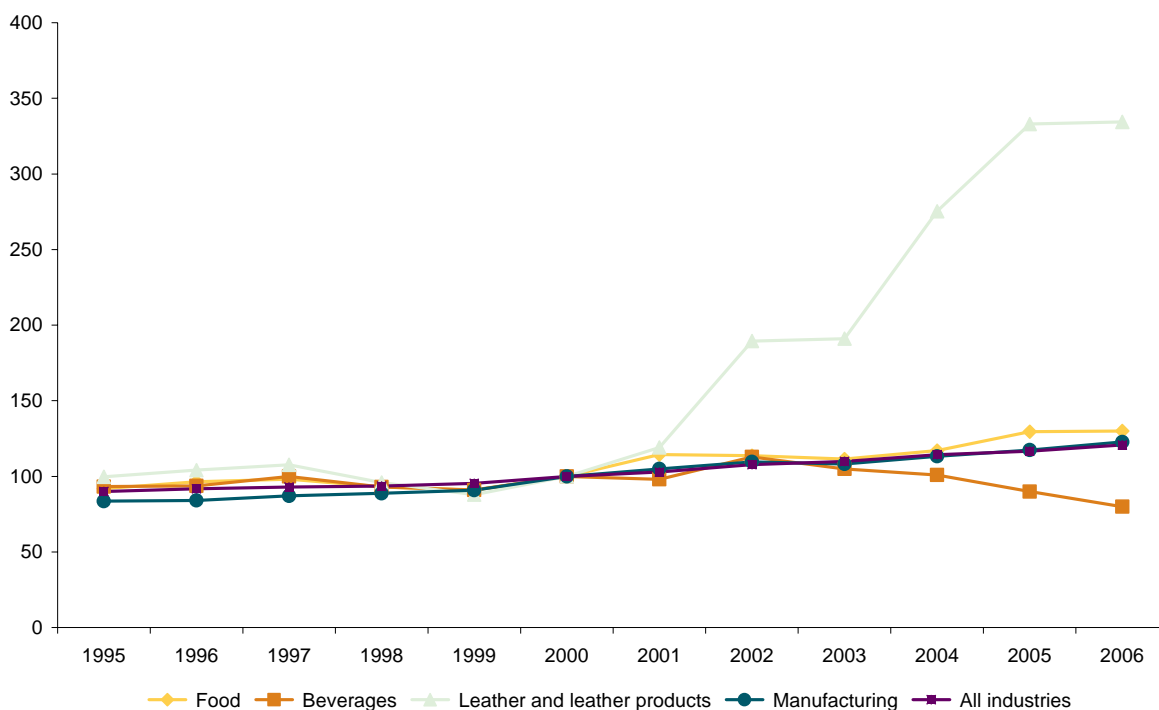
Due to its relationship with the growth of a sector, **labour productivity is a key measure of economic performance**. Some of the factors that increase labour productivity include (ILO, 2007):

- ▶ The accumulation of machinery and equipment
- ▶ Improvements in institutional arrangements and organisations
- ▶ Improvements in physical infrastructures

- ▶ Improved health and skills of workers
- ▶ New technology

Labour productivity, which is the **ratio between output and the labour input** used to produce that output, is illustrated for the three prioritised sub-sectors below.

Figure 7: Labour productivity, 1995-2006 (Index: 2000 = 100)

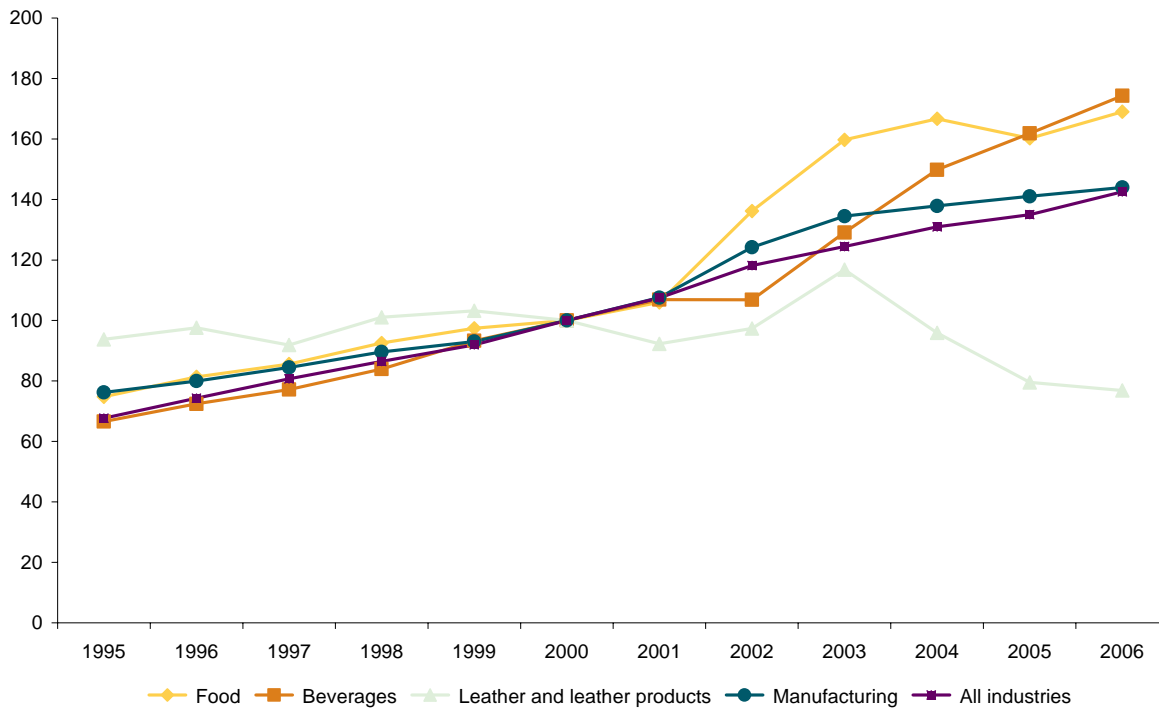


Source: Quantec

All prioritised sectors, except the beverages sub-sectors, experienced an increase in labour productivity between 1995 and 2006. Labour productivity is highest in the leather sector, which probably reflects the consolidation the sub-sector was forced to undertake after 1994, which resulted in significant job losses. Despite these job losses, output in the leather sub-sector remained largely stable during this period – this is consistent with the increase in labour productivity after 2001.

Unit labour cost represents a direct link between productivity and the cost of labour used in generating output. **Unit labour cost** measures the **average cost of producing one unit of output** and is equal to earnings per worker multiplied by the number of workers divided by the output produced by the workers.

Figure 8: Unit labour cost, 1995-2006 (Index: 2000 = 100)



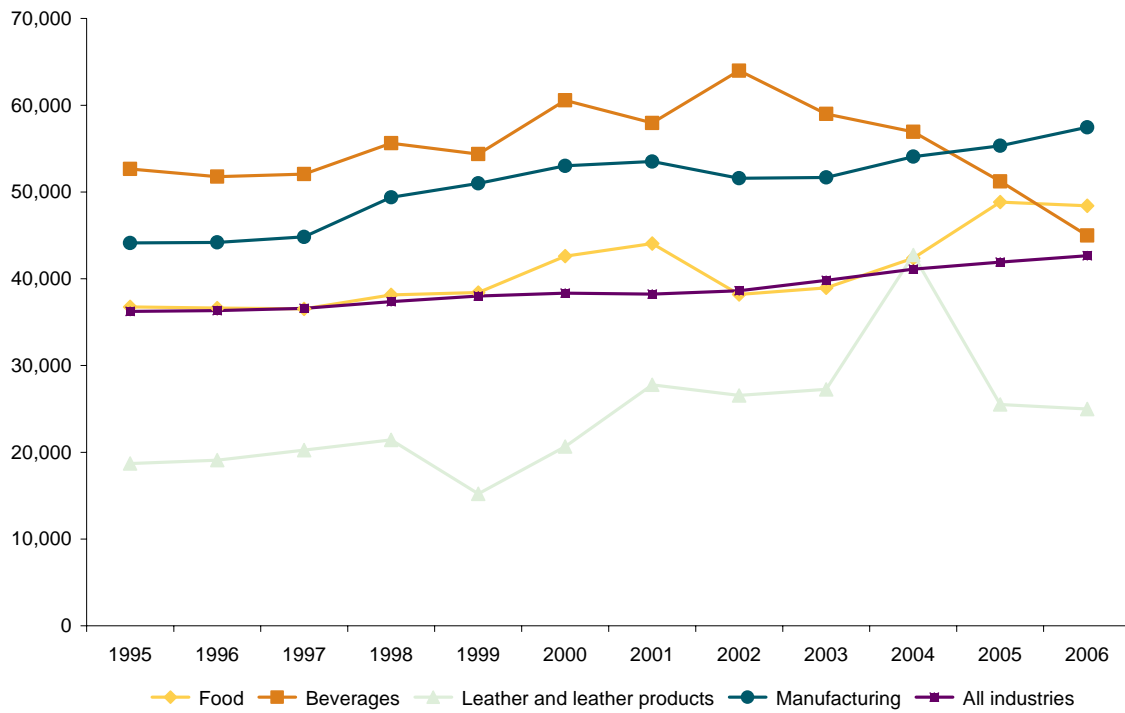
Source: Quantec

A rise in an economy’s unit labour cost represents an increased reward for labour’s contribution to output – this was the case in the food and beverages sub-sectors, the manufacturing sector, and the wider economy. Given the relationship between unit labour cost and remuneration, this **suggests that employees in the food sub-sector, which experienced significant job losses while output increased, were paid more during this period.**

The leather sub-sector was the only prioritised sector which experienced a decline in unit labour cost – this decrease is largely explained by the decrease in employment experienced by this sub-sector and increased output per worker.

Remuneration per employee in the beverages sub-sector declined while other sub-sectors, the manufacturing sector and the economy as a whole experienced increases in remuneration. This reflects the trend that these other sectors **have become more capital-intensive in response to global competitiveness pressures** – forcing companies in these sectors to hire more high-skilled employees and increase their remuneration.

Figure 9: Remuneration per employee, 1995-2006 (Constant 2000 Rands)



Source: Quantec

Beverages, the only sub-sector where employment increased, experienced a decrease in remuneration, suggested that the role of low-skilled (and lower earning) employees has become more prominent in this sub-sector.

2 THE DEMAND FOR SKILLS

This chapter focuses on employment and occupational data in the prioritised sub-sectors to conduct an analysis of the demand for skills in the prioritised sub-sectors. It also includes an analysis of recent vacancy data for occupational categories relevant to the prioritised sub-sectors.

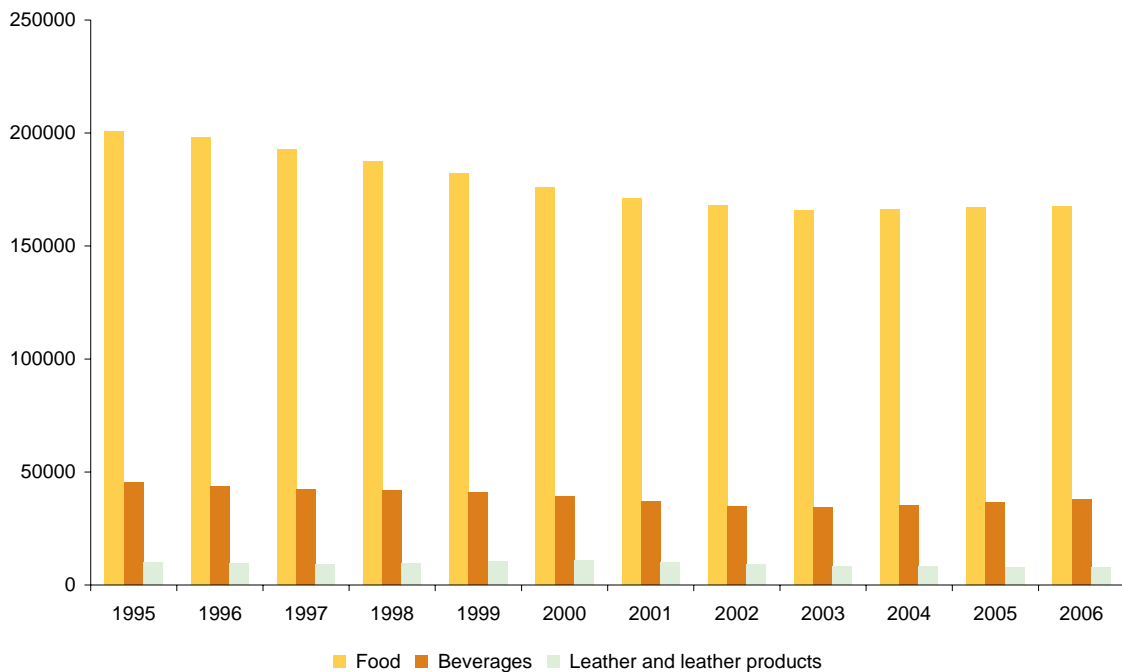
These employment and vacancy trends will be used as a proxy for employment demand and will be analysed in relation to scarce skills information from ASGISA and the relevant SETAs in Chapter 3.

2.1 Employment trends in the prioritised sectors

As mentioned earlier, although the food sub-sector is the largest employer of the prioritised agro-processing sectors, the beverages industry is the only sub-sector where employment levels have increased between 1995 and 2006.

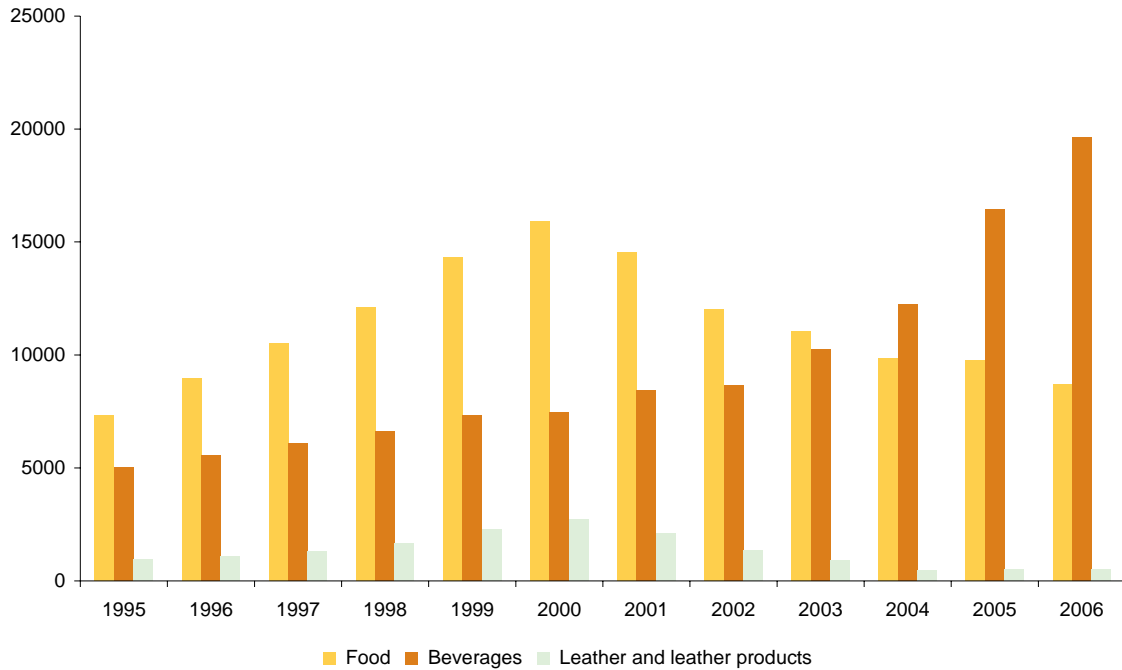
Formal employment in the three prioritised sub-sectors and informal employment in the food and leather sub-sectors decreased between 1995 and 2006. However, informal employment in the beverages sub-sector showed a significant increase during the same period. In the beverages sub-sector, informal employment, as a share of total employment, increased from 9% to 34% and formal employment, as a share of total employment, decreased from 90% to 65%.

Figure 10: Formal employment in the prioritised sectors, 1995-2006 (Number of employees)



Source: Quantec

Figure 11: Informal employment in the prioritised sub-sectors, 1995-2006 (Number of employees)

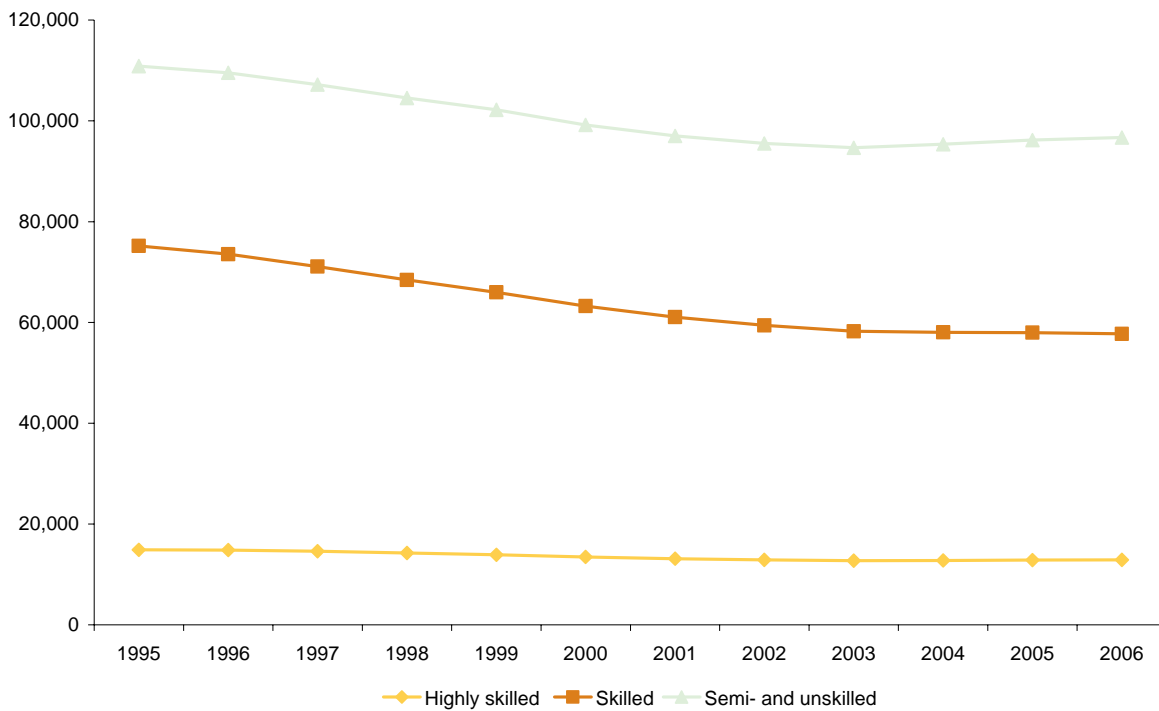


Source: Quantec

This is consistent with the decline in remuneration per employee shown for the beverages sub-sector in the previous section – indicating that the **informal sector**, in which wages are presumably lower, **has compensated for the decline in formal sector employment** and boosted overall employment for the beverages sector.

The following graph, which illustrates the skills breakdown for the food sub-sector, indicates that job losses predominantly affected the skilled and semi- and unskilled employees, while high-skilled employee numbers remained largely unchanged between 1995 and 2006.

Figure 12: Skills breakdown for food sub-sector, 1995-2006 (Number of employees)

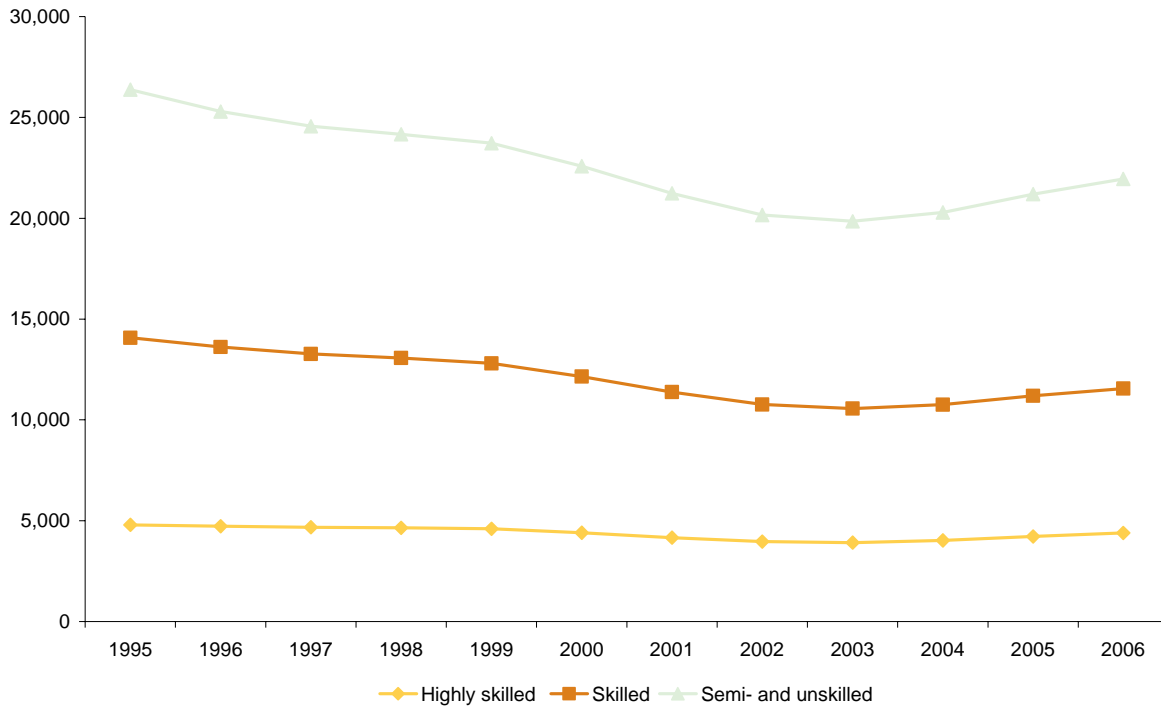


Source: Quantec

In the food sub-sector, high-skilled and semi- and unskilled employees, as a share of total employment, remained stable between 1996 and 2005, whereas skilled employees as a share a total employment declined from 36% to 32%.

The beverages sub-sector experienced similar dynamics, with skilled and semi- and unskilled workers most affected by job losses. However, it is clear that the skilled and semi- and unskilled workforce recovered after 2003.

Figure 13: Skills breakdown for beverages sub-sector, 1995-2006 (Number of employees)



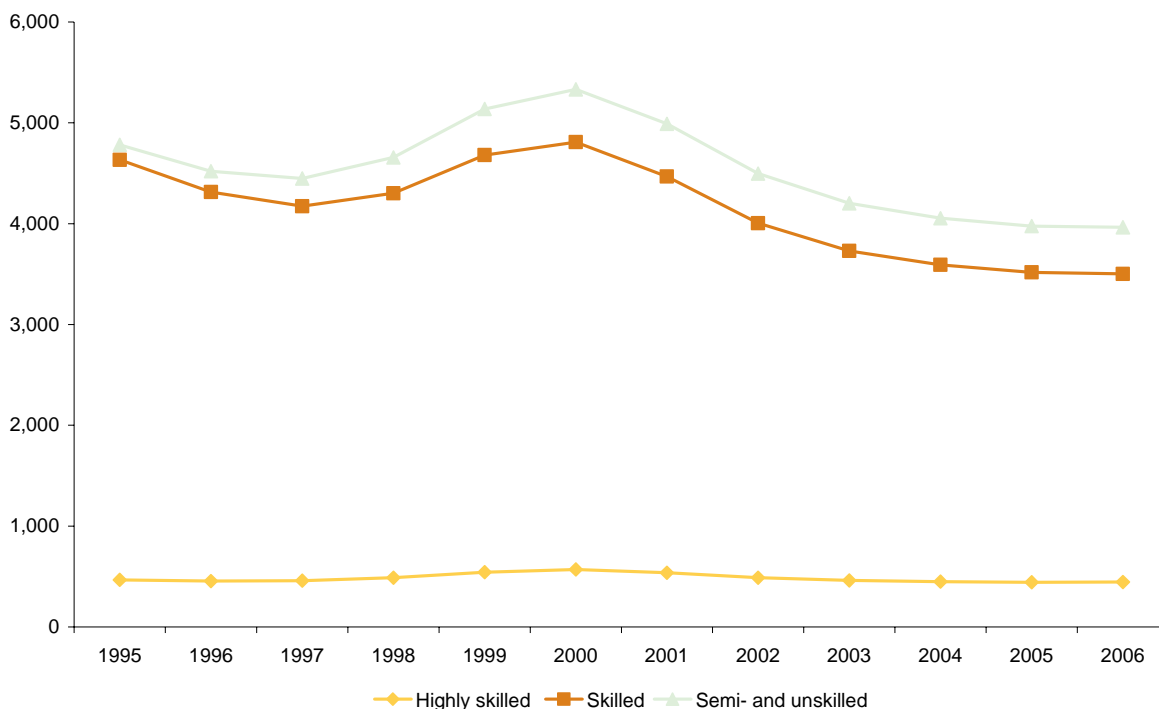
Source: Quantec

High-skilled, skilled and semi- and unskilled employees, as a share of total sector employment, decreased from 9% to 7%, 28% to 20% and 52% to 38%, respectively. This confirms the decline in formal employment in the beverages sub-sector, as most of the employment growth in the sub-sector came from the informal sector.

Employment in the leather sub-sector peaked in 2000, after which consistent job losses were experienced, in particular in the skilled and semi- and unskilled sections of the workforce. The **peak in employment coincided with the highest level of exports for the leather sub-sector** between 1995 and 2006. It is likely that restructuring in the industry and the closure of some manufacturing plants contributed to the decline after 2000.

These job losses were mostly confined to the general leather goods and wet-blue industries, because employment in the automotive leather industry increased in response to **recent demand resulting from the automotive industry incentive programme, the MIDP**, which encourages automotive manufactures to use local products.

Figure 14: Skills breakdown for leather sub-sector, 1995-2006 (Number of employees)



Source: Quantec

High-skilled and semi- and unskilled employees, as a share of total employment, increased from 4% to 5% and 40% to 47%, respectively, while skilled employees, as a share of total employment, decreased from 42% to 41%.

In all three prioritised sub-sectors, high-skilled labour has been the least affected by job losses between 1995 and 2006. The primary factor behind this is **increasing capital intensity in production**, which is occurring simultaneously with the expansion of exports in the beverages and leather sub-sectors. South Africa has a remarkably low, and declining, share of exports that use unskilled labour, and a relatively high share of exports using more skilled labour (Lewis, 2002). This reflects a **change in the structure of the South African economy away from primary towards tertiary or services-based output** (Bhorat and Oosthuizen, 2006).

This explains why the manufacturing sector as a whole has lost jobs at a rate greater than the growth of the labour force despite the rapid growth in exports (Altman and Mayer, 2003; McCord and Bhorat, 2003 and McCord, 2003).

2.2 Recent employment trends by occupation

This section provides two sets of data that can be used to analyse recent employment trends by occupational category, race and gender. The first dataset is based on a sample of employees in the consolidated Workplace Skills Plans (WSPs) compiled by the FoodBev and CTFL SETAs. The second dataset is based on the Labour Force Survey (LFS) conducted by Statistics South Africa, which is based on a survey of approximately 68,000 adults of working age (15 to 65 years) living in 30,000 dwelling units across the country. As a result, the data is not directly comparable to the LFS data, which disaggregates food and beverages into two distinct sub-sectors and contains a separate category for leather products. However, both these datasets should provide some insight into the nature of the workforce in each of the prioritised areas.

Comments on the data

The occupational data (standard occupational classification (SOC)), which are specified by race, gender and skills, is substantially less reliable than the Quantec data used in the preceding sections. The reasons behind the poor quality of this data are explored below and ways of dealing with this poor quality are highlighted at the end.

1. The occupational (demand) data was constructed from two separate datasets: the October Household Survey (OHS) and the Labour Force Survey (LFS)
 - The OHS contained several missing values
 - The two datasets do not align very well (significant increases or decreases from the OHS to the LFS were evident for almost all occupational categories)
2. The more detailed occupational data exhibited extreme inconsistencies for both datasets from 1996 to 2005, several values were missing and in many cases there were contradictions in the aggregated data
3. Skilled agricultural and fishery workers have been removed from the list of occupational categories because reliable and recent data in this category was unavailable for the food, beverages and leather sub-sectors.

As a result, to improve the robustness of the results, only occupational data between 2000 and 2005 was used for the purposes of this report, and the more detailed SOC categories were excluded from this study. In those cases where some data was missing, the CAGR was calculated from available data only. For example, if the 2005 value was missing, the CAGR was calculated from 2000 – 2004. The symbol “-” has been used to indicate a situation where there either was no data available for a particular category or when only one data entry was available (thus making a CAGR impossible to calculate). Other symbols have been used for when 2005 value was unavailable and the most recently available year was used: “*” represents 2004, “+” represents 2003 and “^” represents 2001.

The first table, which presents the occupational breakdown of the food and beverages workforce, is based on a sample of 62% of employees from WSPs consolidated by the FoodBev SETA for 2005/2006.

Table 3: Occupational breakdown of food and beverages workforce, number of employees (2005/2006)

Occupational category	African		Coloured		Asian		White		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Managers	532	121	301	111	344	53	3,067	719	4,244	1,004
Professionals	308	123	199	86	245	117	1,587	709	2,339	1,035
Technicians and trade workers	1,501	461	870	399	495	153	2,046	939	4,912	1,952
Clerical and admin workers	1,690	1,156	1,079	1,383	589	521	729	3,722	4,087	6,782
Sales workers	4,965	1,745	1,354	657	629	165	1,259	1,059	8,207	3,626
Machine operators and drivers	15,843	4,695	4,850	3,069	1,088	176	2,371	103	24,152	8,043
Labourers	16,769	8,487	4,119	8,070	273	118	253	115	21,414	16,790
Total	41,608	16,788	12,772	13,775	3,663	1,303	11,312	7,366	69,355	39,232

Source: FoodBev SETA (2007)

In the **food and beverages sub-sectors**, the majority of employees are male and can be found in the lower skill categories as labourers and machine operators and drivers. The single largest category of food and beverages employees is male machine operators and drivers. Most machine operators and drivers and labourers are African and Coloured, while White employees are generally found in the higher skill bands as managers and professionals. Gender equality decreases significantly as one moves from the lower skill bands to higher skill categories, such as managers and professionals. For example, women constitute 15% of all labourers, 6% of all machine operators and drivers, and 7% of all clerical and admin workers, but only 1% of all managers and professionals.

The following table presents the qualifications profile of the food and beverages workforce and is based on a sample of 50% of employees from WSPs consolidated by the FoodBev SETA for 2005/2006.

Table 4: Qualifications profile of food and beverages workforce, number of employees (2005/2006)

Qualification	NQF level	African		Coloured		Indian		White		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Higher education and training	8	31	13	4	2	17	8	134	56	186	79
	7	89	40	45	35	51	25	662	235	847	335
	6	423	185	197	149	155	94	1,230	694	2,005	1,122
	5	1,097	420	550	352	326	140	1,867	1,086	3,840	1,998
Further education and training	4	5,357	2,024	2,521	1,920	848	307	2,876	2,400	11,602	6,651
	3	3,040	1,078	938	746	191	37	275	130	4,444	1,991
	2	3,450	1,007	1,425	1,226	163	11	440	226	5,478	2,470
	1	4,990	1,751	1,393	1,282	116	17	109	99	6,608	3,149
Below GET		4,015	1,932	41	762	1,055	36	16	29	4,842	3,013
No proof of qualification		4,447	1,595	968	1,184	224	117	577	524	6,216	3,420
Total		26,939	10,045	8,803	7,951	2,127	772	8,199	5,460	46,068	24,228

Source: FoodBev SETA (2007)

African employees in the food and beverage sub-sectors are less qualified than their Coloured and Indian counterparts and make-up the highest share of workers with no proof of qualification (32% of total African workforce). Indian employees have the highest share of workers with below General Education and Training (GET) qualifications (54%), compared to 34% of blacks. For **NQF levels 8 to 4 the pattern is standard: White employees have the highest share of workers at each NQF level, followed by Indian, Coloured and Black employees.** This pattern is essentially reversed for NQF levels 3 to 1: Black employees have the highest share of workers at each NQF level, followed by Coloured, Indian and White employees. This confirms that the historical relationship between race and skill level is still very evident in the food and beverages sub-sectors.

The next table, which presents the occupational breakdown of the workforce for clothing, textiles, leather and footwear, is based on a sample of employees from 800 companies that were audited in 2004 as part of CTFL SETA's skills audit. This includes 121 footwear, leather and general leather goods companies, employing 11,763 individuals.

Table 5: Occupational breakdown for clothing, textiles, footwear and leather, % share of total workforce (2004)

Occupational category	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Senior officials, managers and owner managers	0.1%	0.3%	0.7%	1%	0.05%	0.2%	0.2%	0.4%	3.3%
Professionals	0.05%	0.1%	0.2%	0.3%	0.02%	0.1%	0.05%	0.1%	1%
Technicians	0.6%	0.5%	0.9%	0.5%	0.5%	0.7%	0.9%	0.3%	5%
Clerical and admin workers	0.5%	0.6%	1%	0.2%	0.7%	1%	2%	1%	7%
Service workers, marketing and shop staff	0.8%	0.2%	0.6%	0.3%	0.6%	0.4%	0.5%	0.4%	4%
Artisans or skilled trade workers	0.9%	0.9%	0.8%	0.6%	0.8%	1%	0.5%	0.1%	6%
Plant and machine operators and assemblers	8%	4%	2%	0.1%	22%	10%	6%	0.1%	53%
Labourers	3%	1%	0.3%	0.03%	10%	3%	1%	0.04%	19%
Apprentices	0.7%	0.2%	0.2%	0.02%	0.8%	0.3%	0.2%	0.01%	2%
Total	15%	8%	7%	3%	36%	17%	10%	3%	100%

Source: CTFL SETA (2006)

In the **clothing, textiles, footwear and leather sub-sectors**, the majority of employees are female and work as plant and machine operators and assemblers. These figures are slightly skewed by the number of females working in the clothing and textiles sub-sectors, which represent 89% of the total workforce included in this sample. Plant and machine operators and assemblers represent 53% of the total workforce – most of these are African and Coloured, while White employees are generally found in the higher skill bands as managers and professionals. Male and female Indian employees are relatively well represented in higher skill categories such as managers and technicians.

The following table presents the qualifications profile of the clothing, textiles, footwear and leather workforce and is based on the sample of employees from WSPs consolidated for 2004 by the CTFL SETA.

Table 6: Qualifications profile of clothing, textiles, footwear and leather workforce, % share of total workforce (2004)

Qualification	NQF level	African	Coloured	Indian	White	Total
Higher education and training	6-8	0.2%	0.2%	0.4%	1%	2%
	5	0.7%	0.9%	1%	2%	4%
Further education and training	3-4	14%	7%	6%	4%	30%
	2	17%	11%	5%	0.6%	34%
General Education and Training	1	17%	7%	3%	0.06%	27%
Below GET		2%	0.2%	0.2%	0%	2%
Total		52%	26%	7%	7%	100%

Source: CTFL SETA (2006)

The African workforce in the clothing, textiles, footwear and leather sub-sectors are less qualified than their Coloured and Indian counterparts and has the highest share of workers with below GET qualifications (2% of total African workforce compared to 0.2% for Indian and Coloured employees). A similar qualifications pattern to the food and beverages sub-sectors emerges: for **NQF levels 8 to 5 White employees have the highest share of workers at each NQF level, followed by Indian, Coloured and Black employees**. Again this pattern is essentially reversed for NQF levels 3 to 1; confirming that the historical relationship between race and skill level is still very evident in the clothing, textiles, footwear and leather sub-sectors.

The table below highlights current employment figures for occupational categories based on the number of employees from the LFS. The other categories (race, gender and skill level) were indicated by the percentage share these categories represent of the total.

Table 7: Employment trends in the food sector, 2005 value (2005 % share) and CAGR (2000-2005)

Category	Dairy		Grain		Meat and fish		Other food	
	2005	CAGR	2005	CAGR	2005	CAGR	2005	CAGR
Occupation								
Legislators, senior officials and managers	155	-40%	2,235	-14%	2,495	-3%	2,353	-7%
Professionals	480	5%*	443 ⁺	-19%	1,501	9%	1,943 [^]	16%
Technicians and associate professionals	2,599	91%	383*	-4%	3,884	-11%	3,417	-4%
Clerks	3,852	6%	2,098	-4%	9,692	9%	2,583	-19%
Service workers and shop & sales workers	2,718	12%	548*	2%	127	-36%	1,608	9%
Craft and related tradesworkers	549	-9%	1,959	29%	7,792	1%	17,417	-8%
Plant and machine operators & assemblers	8,556	4%	7,803	-3%	10,187	-5%	19,711	0.6%
Elementary occupations	8,620	22%	4,725	-7%	31,243	6%	22,331	-7%
Gender								
Male	63%	-0.2%	81%	-7%	49%	-2%	65%	-5%
Female	37%	61%	19%	-3%	51%	6%	35%	-6%
Race								
African/Black	58%	8%	56%	-10%	50%	-0.8%	65%	-8%
Coloured	27%	19%	27%	99%	37%	8%	9%	-8%
Indian/Asian	3%	2%	1%	-16%*	4%	-7%	22%	15%
White	12%	-6%	17%	-15%	9%	-1%	4%	-20%
Skill level								
Low	66%	14%	63%	-7%	59%	-3%	59%	-9%
Intermediate	33%	1%	34%	5%	37%	12%	41%	-0.3%
High	1%	-7%	2%	-25%	4%	8%	1%	13%

Source: HSRC (Labour Force Survey) and own calculations

As indicated earlier, although the reliability of this data is questionable, it does provide some insight into intra-sectoral variations in employment.

In the **dairy industry**, the majority of employees can be found in the lower skill bands, in two occupational categories: plant and machine operators and assemblers and elementary occupations. The remainder of employees are in the middle skill bands, such as technicians and associate professionals, clerks and service workers and shop and sales workers. All of these occupational categories in the lower and middle skill bands have experienced growth between 2000 and 2005. Overall, according to this data, employment in the dairy industry has grown between 2000 and 2005. Although males represent the majority of the workforce in dairy industry, most of the growth has been at the low skill levels and **African / Black and Coloured female employees have benefit the most from growth in this sector**. This is consistent with an increase in demand for dairy products by an emerging class of consumers in South Africa who are now able to afford dairy products such as yogurt and cheese as their incomes grow.

In the **grain industry**, the vast majority of employees are male (81%) and can be found in the lower skill bands, in 2 occupational categories: plant and machine operators and assemblers and elementary occupations. However, the grain industry has a much higher proportion of high-skilled employees relative to the dairy industry. Employment has generally declined in the grain industry, largely due to the consolidation of milling operations in response to global cost pressures. Despite overall job losses in the grain industry, there has been an **increase in employment for Coloured individuals and tradesworkers, such as millwrights and fitter and turners**. This is consistent with an increase in capital intensity in the grain industry, as the industry attempts to reduce labour cost and requires tradesworkers to operate and maintain capital machinery and equipment.

The **meat and fish industries** are the second largest employer in the food sub-sector and the vast majority of its employees (47%) can be found in the lowest skill band – elementary occupations. However, the meat and fish industries have a much higher proportion of high-skilled employees relative to the dairy industry. There has been a general decline in employment in the meat and fish industries, with some limited employment growth for female and Coloured workers. Most of this growth occurred in the higher skill bands. Again, this reflects a global trend of meat and fish industries becoming **more capital-intensive in response to global competitiveness pressures** – forcing companies in these sectors to hire more high-skilled employees and increase their remuneration. In contrast to the other food industries, women represent the majority of employees in the meat and fish industries.

The **other food category** is the largest employer in the food sub-sector and the vast majority of employees can be found in the lower skills bands – craft and related tradesworkers (25%), plant and machine operators and assemblers (28%) and elementary occupations (32%). At the same time it has a much higher proportion of high-skilled employees relative to the dairy industry. The other food industries are dominated by male and African / Black employees, however, both of these categories have experienced a decline in employment between 2000 and 2005. Most of the employment growth in these industries have been for Indian / Asian and high skilled employees.

African / Black and Coloured employees dominate all food industries – this is consistent with the skills profile of this sector, which employs a disproportionately larger number of skilled and semi- and unskilled workers.

The following table presents the number of employees in 2005 by occupational category, the share of employees by gender and race and the CAGR for the beverage and leather sub-sectors between 2000 and 2005.

Table 8: Employment trends in the beverages and leather sub-sectors, 2005 value and CAGR (2000-2005)

Category	Beverages		Leather	
	2005	CAGR	2005	CAGR
Occupation				
Legislators, senior officials and managers	5,258	14%	52	-42%
Professionals	248	-20%	710	-
Technicians and associate professionals	3,483	-11%	883*	26%
Clerks	3,719	-11%	259	-17%
Service workers and shop & sales workers	1,947	-9%	-	-
Craft and related tradesworkers	350*	-25%	1,555	-17%
Plant and machine operators & assemblers	7,062	-18%	275	-31%
Elementary occupations	9,462	-5%	574	-20%
Gender				
Male	87%	-8%	42%	-24%
Female	13%	-18%	58%	-17%
Race				
African/Black	39%	-18%	22%	-31%
Coloured	29%	3%	35%	-22%
Indian/Asian	1%*	8%	8%	-14%
White	32%	2%	35%	16%
Skill level				
Low	49%	-13%	16%	-40%
Intermediate	36%	-9%	84%	0.01%
High	15%	17%	-	-

Source: HSRC (Labour Force Survey) and own calculations

In the **beverages sub-sector**, the vast majority of employees are male (87%) and in the lower skill bands, in two occupational categories: plant and machine operators and assemblers and elementary occupations. However, the beverages sub-sector has a much higher proportion of high-skilled employees relative to the dairy industry. Also, the highest skill level occupation category, namely senior officials and managers, is the only category that experienced an increase in employment growth between 2000 and 2005. This is in contrast with the Quantec data which earlier suggested that most of the employment growth in the beverages sector in recent years came from the informal sector, which usually consists of a less skilled workforce. In addition, the Quantec data showed an overall increase in employment in the beverages sub-sector, while the LFS data presented above shows as overall decrease. This is possibly due to that fact that the LFS data does not capture the informal sector well and this has been the source of the majority of employment growth shown in the Quantec data.

In the **leather sub-sector**, where the female employees outnumber the males, the majority of employees are tradesworkers and technicians. As a result, 84% of the leather

workforce is classified as having intermediate skill levels. As mentioned earlier, most tanneries were orientated towards producing for the footwear industry – however, with the decline in footwear production and increased use of imported footwear leather, many of those tanneries either closed or switched to manufacturing leather for the automotive upholstery industry. As a result, there have been massive job losses in general leather goods and the wet-blue industries. This is consistent with the decline in overall employment represented in the table above. However, employment amongst White employees has grown – this suggests that with increasing capital intensity and consolidation of manufacturing capacity, white employees, who are presumable more skilled, were retained despite an overall decline in employment.

2.3 Recent vacancies by occupation

Growth trends in advertised vacancies can be explained by growth in a particular sector or the inability of employers to find the relevant skills. Therefore, it is difficult to draw conclusions about the scarcity of skills from vacancy data without some understanding of previous employment trends. However, this data does provide insight into demand trends for these occupations.

The table below presents vacancies for those occupational categories relevant to the prioritised sub-sectors (a more detailed table, containing other occupational categories that have an indirect impact on the prioritised sub-sectors, is included in Appendix 2):

Table 9: Vacancies by occupational category and NQF level for prioritised sub-sectors, 2004-2007

Occupational category	NQF level	Apr 2004 – Mar 2005	Apr 2005 – Mar 2006	Apr 2006 – Mar 2007	CAGR 2004-2007
Food and beverages					
Chemists and food and beverages scientists	5	48	96	97	102%
Chemistry and food and beverages technicians	4	27	27	82	204%
Food and beverages factory workers	2	0	0	1	-
Leather					
Canvas and leather goods makers	3	2	4	0	-100%

Source: HSRC (Sunday Times) and own calculations

There has been significant growth in demand for chemists and food and beverages scientists and technologists. The fact that the food sub-sector experienced a decline in overall employment and most of the growth in the beverages sub-sector came from the informal sector, suggests that this vacancy growth is due to the scarcity of those skills. Vacancies advertised for canvas and leather goods makers declined over the last few years; this is largely due to the overall decline in employment in the leather and leather products sub-sector.

Most other occupational categories experienced some growth in advertised vacancies despite an overall decline in employment for the food and leather sub-sectors and all of the employment growth in the beverages sub-sector coming from the informal sector. This suggests that most of this growth in demand is due to the scarcity of these skills.

Scarce skills are analysed in greater detail in the next chapter.

3 THE SUPPLY OF SKILLS

This chapter focuses on data for graduates from tertiary education institutions to understand the provision of skills that are relevant to the prioritised sub-sectors. It also identifies bottlenecks and constraints in skills development as well as scarce skills within the prioritised sub-sectors.

3.1 Graduates from FET institutions

The most important recent development in the FET sector has been the recapitalisation process which has entailed investing R1.9bn in new and improved infrastructure, equipment, administrative systems and staff development in all of the fifty public FET institutions throughout the country (Department of Labour, 2006).

The following table presents the number of FET graduates for several occupational fields relevant to the three prioritised sub-sectors at the following levels:

1. Number of students who passed a particular FET subject in 2005
2. Total number of students who passed a particular FET subject between 2000 and 2005
3. Growth rate in subjects passed from 2000 to 2005

To ensure comparison with the demand data presented earlier only subjects for which there is data between 2000 and 2005 have been included in this analysis.

The following table presents FET graduates in natural sciences subjects between 2000 and 2005 (the complete version of this table is available in Appendix 2).

Table 10: FET graduates in natural sciences subjects, 2005 value, average pass rate and CAGR (2000-2005)

Occupational field	Number of graduates (2005)	Average pass rate (2000 - 2005)	Average CAGR (2000- 2005)
Chemical technicians	2,327	58%	-4%
Electricians	20,439	46%	10%
Food tradesworkers	0	41%	-30%
Horticulturists	51	67%	-8%
Manufacturing technicians	6,315	63%	-2%
Manufacturing tradesworkers	11,712	51%	-2%
Mechanical engineering tradesworkers	64,566	50%	6%
Textile, clothing and footwear tradesworkers	2,834	68%	-13%
Waste water plant operators	307	45%	-7%

Source: HSRC (Further Education and Training Management and Information System) and own calculations

The highest number of FET graduates in natural sciences subjects is in the mechanical engineering trades (59% of the total number of graduates), followed by the electricians (19%) and manufacturing tradesworkers (11%). With the exception of mechanical engineering trades and electricians, all occupational fields experienced declines in numbers of FET graduates between 2000 and 2005. In terms of the prioritised sub-sectors, there were no graduates in food tradesworkers in 2005 and 2,834 graduates in textile, clothing and footwear trades. Both these occupational fields experienced a decline

in FET graduates from 2000 to 2005 of 30% and 13% respectively. Several technical occupational fields, including waste water plant operators, mechanical engineering trades, manufacturing trades, electricians and chemical technicians, exhibited very low average pass rates between 2000 and 2005.

According to the more detailed information in Appendix 2, where growth has occurred in the mechanical engineering tradesworkers and electricians it is highest in the lower NQF levels.

The following table presents FET graduates in general subjects between 2000 and 2005 (the complete version of this table is available in Appendix 2).

Table 11: FET graduates in general subjects, 2005 value, average pass rate and CAGR (2000-2005)

Occupation field	Number of graduates (2005)	Average pass rate (2000 – 2005)	CAGR (2000 – 2005)
Accountancy	31,456	65%	9%
Administration	2,680	64%	-8%
Agricultural technicians	395	56%	4%
Clothing trades	2,617	75%	-4%
Communication	29,432	63%	-4%
Economics	7356	49%	13%
Hospitality	3,382	61%	0%
Human resources	12,004	62%	-9%
Interior design	24	85%	-9%
Management studies	39,103	59%	-8%
Marketing	15,362	55%	-7%

Source: HSRC (Further Education and Training Management and Information System) and own calculations

The highest number of FET graduates in general subjects is in the management studies (27%), accountancy (22%) and communication (20%). With the exception of accountancy, agricultural technicians and economics, all occupational fields experienced declines in numbers of FET graduates between 2000 and 2005. In terms of the prioritised sub-sectors, there were 2,617 graduates in the clothing trades, 395 agricultural technicians and 3,382 graduates in hospitality. On average, the pass rates for general subjects were much higher than those for natural sciences subjects.

Many of the courses offered by FET institutions were in the HET band (either NQF 5 or 6) – this is significant because the FET band generally relates to NQF levels 2 to 4. The natural sciences courses offered in HET bands included:

- ▶ Refrigeration, air conditioning and ventilation
- ▶ Chemical plant operation
- ▶ Chemical technology
- ▶ Chemistry
- ▶ Plant engineering: factories
- ▶ Production and quality control
- ▶ Supervisory management
- ▶ Engineering physics
- ▶ General textiles
- ▶ Industrial affairs
- ▶ Occupation health and safety act

The general courses offered in HET bands included:

- ▶ Computerised financial systems
- ▶ Cost and management accounting
- ▶ Financial accounting
- ▶ Clothing construction
- ▶ Pattern construction
- ▶ Communication
- ▶ Communication and human relations
- ▶ Management communication
- ▶ Public relations
- ▶ Economics
- ▶ Catering theory and practical
- ▶ Food and beverage service
- ▶ Labour relations
- ▶ Personnel management
- ▶ Personnel training
- ▶ Applied management
- ▶ Entrepreneurship and business management
- ▶ Marketing management
- ▶ Marketing research
- ▶ Sales management

These courses are included in the national certificates and diplomas provided by FET institutions and refer to post-N3 level enrolments (e.g. N4 – N6). The Department of Education has encouraged FET institutions to focus on the FET band, i.e. NQF levels 2 to 4 (Department of Labour, 2005). However, many FET institutions are still offering courses that fall within the HET band (i.e. NQF levels 5 to 8). In 2004, the following numbers of students were enrolled at FET institutions for courses in the HET band (Department of Labour, 2006); the share of total 2004 enrolments is indicated in brackets:

- ▶ Arts and music: 826 (20%)
- ▶ Business studies: 71,017 (64%)
- ▶ Educare / social services: 759 (25%)
- ▶ Engineering: 50,690 (25%)
- ▶ General education / not specified: 622 (2%)
- ▶ Utility industry: 3,913 (33%)

Relative to universities, which offer the same courses in many cases, the FET institutions place less emphasis on theoretical grounding and greater emphasis on practical relevance and training. As a result, many of these diploma courses include an internship with relevant firms in the private sector aimed at providing students with practical experience before they enter the workforce.

It should be noted that employment prospects for FET graduates remain very low (Department of Labour, 2005). In South Africa, only 33.6% of FET students found employment after graduation, with 69.7% of African graduates unemployed but only 24.2% of White graduates unemployed (Cosser et al, 2003). In addition, research conducted by the Development Policy Research Unit (DPRU) showed that there are approximately 200,000 unemployed graduates in South Africa with a mix of certificates, diplomas and degrees – unemployment among Black graduates, in particular, rose faster than any other category of the unemployed: between 1995 and 2005, the unemployment rate for graduates increased by half from 6.6% to 9.7% (Office of the President, 2006b).

Contributing factors to high levels of unemployment amongst FET graduates are (DPRU, 2006):

- ▶ Perceived poor quality of tuition at historically disadvantaged higher education institutions
- ▶ Poor labour market value of diploma and certificate courses obtained from FET institutions, former technikons and many private institutions offering these qualifications
- ▶ Absence of opportunities for work placement
- ▶ Poor career guidance at school

Anecdotal evidence from interviews conducted with HR managers in the food and beverages industry suggests that this can be attributed to a mismatch between the skills of the graduates and the skills demanded by the economy. Even in those cases where graduates gained practical experience during their studies, this falls short of industry standards and is limited to a very specific competency area (while graduates are often expected to master a few competency areas).

Also, some HR managers have cited a lack of “soft skills”, especially amongst Black graduates (e.g. interpersonal, communication, writing and presentation skills) that inhibits the ability of graduates to adapt to the working environment.

In addition, there is a difference in the employability of Black (including Coloured and Indian) and White graduates, which is largely influenced by the physical location and lack of industrial experience available at many FET institutions with a predominantly Black enrolment as well as the fact that these colleges are far from centres of employment and that certain formerly White college/employer recruitment networks continue to be more advantageous to White graduates (Department of Labour, 2005).

3.2 Graduates from universities and universities of technology

Higher education in South Africa plays a major role in the development of a high-skilled workforce, in the form of professionals, managers, as well as producing the scientists and knowledge base critical to the national system of innovation (Department of Labour, 2005).

The following tables present numbers of graduates from universities (and universities of technology) for courses that are relevant to the prioritised-sub-sectors. This data is segmented according to qualification, gender and race.

Table 12: Engineering and technology graduates, 2005 value and CAGR (2000-2005)

Category	Agriculture and renewable resources		Home economics		Engineering and engineering technology				Industrial arts, trades and technology	
	Agricultural food technology		Food and nutrition		Agricultural engineering and technology		Manufacturing engineering and technology		Manufacturing	
	2005 value	CAGR	2005 value	CAGR	2005 value	CAGR	2005 value	CAGR	2005 value	CAGR
Qualification										
Certificate/Diploma	0	-	0	-	0	-	0	-	0	-
National diploma	0	-	381	12%	5	-	15	0%	77	7%
B Tech	0	-	95	26%	0	-	1	-16%	16	49%
B degree	21	51%	54	80%	0	-	0	-	0	-
Prof B Degree	24	9%	68	14%	14	-3%	0	-	2	-3%
PG Cert/Dip	6	-	0	-	0	-	0	-	0	-
Honours	9	-3%	3	-16%	0	-	0	-	0	-
Masters	10	-14%	5	-12%	13	27%	0	-	0	-
Doctorate	4	19%	0	-	2	-	0	-	0	-
Gender										
Male	16	-2%	84	14%	25	7%	11	2%	26	11%
Female	56	14%	511	11%	8	28%	5	-14%	69	11%
Race										
African/Black	26	22%	339	22%	15	40%	14	3%	33	1%
Coloured	0	-31%	54	21%	0	-	0	-100%	18	38%
Indian/Asian	2	-5%	44	-5%	1	0%	1	-30%	8	24%
White	45	7%	168	-2%	17	-0.4%	1	-10%	36	11%

Source: HSRC (Higher Education Management and Information System) and own calculations

In **agricultural food technology**, there were no certificate, diploma or B Tech graduates in 2005. The largest numbers of graduates were those who obtained bachelor degrees; graduates obtaining these qualification also increased between 2000 and 2005. Graduates were mostly White and female, with no Coloured graduates in 2005. There were significantly more graduates in **food and nutrition** (595 graduates compared to 72 graduates in agricultural food technology). The majority of these graduates were African / Black and female and these categories grew by 22% and 11% between 2000 and 2005, respectively. Most food and nutrition graduates obtained a national diploma, with very few obtaining higher qualifications – it is likely that provision of this qualification is skewed towards universities of technology. However, albeit from a low base, there has been significant growth in the number of graduates obtaining a B degree – indicating that universities are becoming more active in the provision of this qualification.

In engineering and technology qualifications that are relevant to the prioritised sub-sectors, namely **agricultural engineering and technology** and **manufacturing engineering and technology** there were very few graduates at all levels. This is

particularly significant given that these qualifications are most relevant to the intermediate skills required by these prioritised sub-sectors in the form of tradesworkers.

In addition, the graduates in agricultural engineering and technology were split between higher qualification levels, i.e. professional B degree and Master qualifications; highlighting that this qualification is generally provided by universities and often feed into specialist agricultural programmes (such as the viticulture programme for winemakers at the University of Stellenbosch). In contrast, graduates in manufacturing engineering and technology obtained national diplomas, which indicate that these are the intermediate qualifications required by the prioritised sub-sectors. However, given that there were only 16 graduates in 2005, this may be insufficient to meet needs.

Table 13: Business, commerce and management graduates, 2005 value and CAGR (2000-2005)

Category	Business, commerce and management sciences					
	Marketing		Personnel management		Other management	
	2005 value	CAGR	2005 value	CAGR	2005 value	CAGR
Qualification						
Certificate/Diploma	7	16%	8	-4%	2	-41%
National diploma	970	14%	837	0%	165	-30%
B Tech	296	30%	252	32%	101	-11%
B degree	377	28%	114	-12%	327	-6%
Prof B Degree	1	-	16	-	531	15%
PG Cert/Dip	59	1%	45	-18%	114	4%
Honours	129	25%	81	13%	94	-16%
Masters	32	10%	47	38%	558	3%
Doctorate	1	-	16	68%	2	-5%
Gender						
Male	830	21%	504	-0.2%	1,040	-8%
Female	1,034	16%	910	4%	847	-1%
Race						
African/Black	1,021	20%	977	2%	698	1%
Coloured	88	9%	114	-2%	103	-11%
Indian/Asian	144	36%	98	15%	293	19%
White	610	14%	225	1%	793	13%

Source: HSRC (Higher Education Management and Information System) and own calculations

Business, commerce and management (BCM) graduates were more evenly split between the various levels of qualifications (and therefore more evenly split between universities and universities of technology). There were **1,864 marketing** graduates in 2005, with the vast majority of these obtaining the national diploma (970) and B Tech (296) offered by universities of technology. Most of these graduates were female and African / Black and both these categories increased between 2000 and 2005. In addition, 221 graduates obtained post-graduate qualifications at universities, including 129 honours and 32 master

graduates. All the marketing qualifications experienced growth between 2000 and 2005, with the highest growth recorded for B Tech qualifications.

There were **1,416 personnel management** graduates in 2005, with the majority of these graduates obtaining the national diploma (837) and B Tech (252) offered by universities of technology. Most of these graduates were female and African / Black; however, the most significant growth occurred amongst Indian / Asian graduates. Again, there a significant number of graduates (189) who obtained post-graduate qualifications – this is also where most of the growth in graduates between 2000 and 2005 occurred. Honours, masters and doctorate graduates grew by 13%, 38% and 68%, respectively.

There were **1,894 other management** graduates in 2005, with 69% of these graduates obtaining post-graduate qualifications offered by universities. These graduates were split between those who obtained professional bachelor (532) and masters (558) degrees. The majority of these graduates were male and White and African / Black; however, the most significant growth occurred amongst Indian / Asian graduates.

Table 14: Business, commerce and management graduates, 2005 value and CAGR (2000-2005)

Category	Business, commerce and management sciences					
	Accounting		Administration		Management	
	2005 value	CAGR	2005 value	CAGR	2005 value	CAGR
Qualification						
Certificate/Diploma	34	-35%	10	0%	55	-15%
National diploma	2,889	16%	660	7%	2,296	15%
B Tech	576	22%	123	31%	866	16%
B degree	3,652	0%	0	-	1,822	38%
Prof B Degree	1,338	33%	0	-	221	83%
PG Cert/Dip	1,057	20%	4	7%	375	18%
Honours	2,539	4%	0	-	615	47%
Masters	177	15%	2	-10%	712	58%
Doctorate	5	6%	0	-	36	86%
Gender						
Male	5,599	5%	150	5%	3,404	25%
Female	6,605	11%	649	10%	3,571	28%
Race						
African/Black	5,855	17%	521	11%	3,468	22%
Coloured	686	11%	67	30%	577	29%
Indian/Asian	1,132	3%	17	-13%	567	30%
White	4,531	0.2%	74	-6%	2,362	33%

Source: HSRC (Higher Education Management and Information System) and own calculations

There were **12,267 accounting graduates** in 2005 – excluding post-graduate qualifications, these were generally evenly split between universities of technology (3,499) and universities (4,990). However, it is clear that universities produce more accounting graduates. Accounting graduates who wish to obtain their Chartered Accountant (CA)

qualification need to complete their honours as well as a post-graduate diploma in accounting at university. As a result, 3,596 graduates undertook further studies in order to make themselves eligible for the mandatory internship and CA exam, the successful completion of which are prerequisites to obtain the CA qualification. Accounting graduates were evenly split between males and females and African / Black and White graduates.

There were **799 administration graduates** in 2005; this is significantly less than the other business, commerce and management categories. This qualification is not offered by universities, as 98% of all graduates in 2005 obtained their qualification (a national diploma or B Tech) at a university of technology. These two types of qualification also experienced the most significant growth at 7% and 31%, respectively. The vast majority of graduates were female (649) and Black (521).

There were **6,998 management graduates** in 2005, with the majority of these graduates obtaining the national diploma (2,296) offered by universities of technology and B degree (1,822) offered by universities. All of the qualifications showed significant growth between 2000 and 2005, with the exception of graduates obtaining a certificate. Qualifications offered by universities showed higher average growth than those offered by universities of technology – indicating that universities have produced more management graduates, in particular, those obtaining post-graduate qualifications. The graduates were fairly evenly split between males and females, with both genders experiencing growth greater than 20% between 2000 and 2005.

Progress has been made in shifting the balance of enrolment in higher education institutions between the humanities, social sciences and education (HSSE), BCM sciences, and science, engineering and technology (SET) as proposed by the National Plan for Higher Education (Department of Education, 2001).

The share of enrolment in the fields of HSSE has decreased from 47% in 2001 to 41% in 2005, approaching the 40% target set by the National Plan for Higher Education, BCM has increased its share to 32%, above the target of 30%, while enrolment in SET has increased from 26% in 2001 to 28% in 2005, which is still short of the 30% target specified in the National Plan for Higher Education (Department of Labour, 2006).

The ability of the higher education system to produce sufficient skilled graduates required by South Africa is constrained by the high rate of student drop-out (Department of Labour, 2006). Of the 120,000 undergraduates who entered higher education for the first time in the year 2000, half of the cohort dropped out before completing their degree and only 22% of the total cohort had graduated at the end of their third or fourth year of study (Department of Education, 2005).

3.3 Bottlenecks and constraints in the provision of skills

3.3.1 Introduction

The issue of scarce skills has become a key government priority as it is now generally accepted that skills shortages in key occupational areas are inhibiting future economic growth.

As a result of its role in constraining economic development, the issue of scarce skills has been prioritised through the development of various policies at a national level. These include:

- ▶ **National Skills Development Strategy (NSDS)** – scarce and critical skills emerged as a major issue in the development of the second phase of the NSDS
- ▶ **National Scarce Skills List** – initiative by an inter-governmental team jointly led by the Departments of Labour and Education
- ▶ **Joint Initiative in Priority Skills Acquisition (JIPSA)** – discussed below, which led to the creation of the ASGISA-aligned national scarce skills list

Defining scarce and critical skills

Scarce and critical skills refer to an absolute or relative demand, current or in future, for skilled, qualified and experienced people to fill particular roles, professions, occupations or specialisations in the labour market.

Absolute scarcity – this applies where suitably skilled people are not available, for example:

- ▶ In a new or emerging occupation – there are few, if any, people in the country with the requisite skills
- ▶ Institutional delays – when firms, sectors and even the country are unable to implement planned growth strategies and experience productivity, service delivery and quality problems directly attributable to a lack of skilled people
- ▶ Where replacement demand is high – there are no people enrolled or engaged in the process of acquiring the skills that need to be replaced

Relative scarcity – this applies where suitably skilled people are available but do not meet other employment criteria, for example:

- ▶ Geographical location – people are unwilling to work outside of urban areas
- ▶ Equity considerations – that is, there are few if any candidates with the requisite skills from specific groups available to meet the skills requirements of firms and enterprises
- ▶ Lead time – replacement demand would reflect a relative scarcity if there are people in education and training (formal and work-place) who are in the process of acquiring the necessary skills (qualification and experience) but where the lead time will mean that they are not available in the short term to meet replacement demand

Priority skills are scarce and critical skills that are needed at a particular point in time.

Source: Department of Labour (2006)

ASGISA established a joint council in government, including private sector firms, to strengthen and coordinate activities to address skills shortages – this is known as the Joint Initiative on Priority Skills Acquisition (JIPSA). JIPSA sets skills priorities in support of ASGISA’s economic growth objectives and advises on aligning the training and skills-development efforts of the public and private sectors with the objectives of ASGISA (Office of the President, 2006b).

The scarce and priority skills identified by JIPSA are (Skills Portal, 2006):

- ▶ High-level, world-class **engineering and planning skills for the network industries** (transport, communications and energy), which are central to the infrastructure programme
- ▶ **City, urban and regional planning and engineering skills** required by local and provincial governments
- ▶ **Artisanal and technical skills**, in particular those relevant for infrastructure development
- ▶ **Management and planning skills** in education, health and local government
- ▶ **Teacher training** for mathematics, science, ICT and language competence in public education
- ▶ Specific **skills needed by the priority ASGISA** sectors starting with tourism and business process outsourcing (BPO) and cross-cutting skills needed by all sectors, especially finance, project managers and managers in general
- ▶ Skills relevant to the **local economic development** needs of local government, especially developmental economists

The next section examines scarce skills in the food and beverages sub-sectors as highlighted in the sector skills plan of the FoodBev SETA.

3.3.2 Scarce skills in food and beverages

Food manufacturing requires many similar skills to manufacturing in general, such as supply chain management, production management, engineering, quality control, marketing and financial management. In addition, it requires certain technical skills specific to the food processing sector or its sub-sectors (such as food technologists and food processing machine operators). Many of these skills are in short supply in the South African labour market.

It should be noted that the reliability of the FoodBev SETA scarce skills data has been questioned by the SETA review, published by the Employment Promotion Programme (2007) due to a number of inconsistencies observed in the data.

Engineering and tradesworkers have been identified as **absolute scarce skills** across all of the occupations specified below (FoodBev SETA, 2006).

Table 15: Engineering and tradesworkers required, numbers required (2007 and 2010) and CAGR (2007-2010)

Occupation	Numbers required by 2007	Numbers required by 2010	Total numbers required by 2010	CAGR 2007 - 2010
Managers				
Engineering manager	8	0	8	-100%
Specialists				
Mechanical engineer	15	36	51	55%
Electrical engineer	23	36	59	25%
Engineering professionals	18	9	27	-29%
Electronics engineer	5	10	15	41%
Trades / Apprenticeships				
Millwright	746	243	989	-43%
Electrician	573	192	765	-42%
Fitter	19	36	55	38%
Fitter and turner	5	35	40	165%
Electronics trades worker	7	15	22	46%

Source: FoodBev SETA Sector Skills Plan and own calculations

Apprenticeships and tradesworkers, in particular millwrights, fitters and turners, which are in short supply throughout the manufacturing sectors are the most critical skills required by the food and beverages sub-sectors.

The quality of training received by tradesworkers has been a concern – many of these workers have inadequate mathematical skills, language ability and time management skills (FoodBev SETA, 2006).

Engineering and tradesworkers have been identified as **relative scarce skills** across all of the occupations specified below:

Table 16: Manufacturing, production and operations workers required, numbers required (2007 and 2010) and CAGR (2007-2010)

Occupation	Numbers required by 2007	Numbers required by 2010	Total numbers required by 2010	CAGR 2007 - 2010
Managers				
General manager	55	76	131	18%
Production / operations manager	117	264	381	50%
Research and development manager	3	8	11	63%
Quality assurance manager	4	8	12	41%
Specialists				
Food technologist	190	325	515	31%
Microbiologist / science technician	15	16	31	3%
Specialised operators / factory workers				
Process machine operator	136	252	388	36%

Packing machine operator	215	424	639	40%
Boiler or engine machine operator	21	19	40	-5%
Bakers	596	1,111	1,707	37%
Meat boner and slicer / butcher	46	69	115	22%
Dairy products maker	31	72	103	52%
Winemaker / cellar master	17	13	30	-13%
Confectionary maker	3	23	26	177%
Factory workers / farm workers				
Food and drink factory worker	21	24	45	7%
Seafood packer	40	0	40	-100%
Seafood process worker	20	0	20	-100%
Vineyard worker	33	5	38	-61%
Fruit or nut farm worker	20	110	130	135%

Source: FoodBev SETA Sector Skills Plan and own calculations

The scarcity of food technologists is critical for the food and beverages sub-sector as demand for individuals with this qualification will continue to increase as these sub-sectors become more technology-intensive and consumers attach greater importance to food safety and quality.

Table 17: Workers required in support functions, numbers required (2007 and 2010) and CAGR (2007-2010)

Occupation	Numbers required by 2007	Numbers required by 2010	Total numbers required by 2010	CAGR 2007 - 2010
Sales and marketing				
Sales and marketing manager	65	98	163	23%
Sales representatives	89	178	267	41%
Telemarketer	7	15	22	46%
Finance				
Accountant	58	127	185	48%
Finance manager	13	20	33	24%
Management accountant	10	0	10	-100%
Logistics, warehousing and distribution				
Supply and distribution manager	6	12	18	41%
Truck driver / delivery driver	62	28	90	-33%
Human resources				
Human resources manager	14	36	50	60%

Source: FoodBev SETA Sector Skills Plan and own calculations

The finance and logistics occupations were identified as absolute scarce skills while sales and marketing and human resources were identified as relative scarce skills.

A detailed list of scarce and critical skills in the food and beverages sub-sectors can be found in the sector skills plan published by the FoodBev SETA (2006).

The following vacancies are difficult to fill in the food and beverage sub-sectors (FoodBev SETA, 2006):

- ▶ Supply and distribution managers
- ▶ Quality assurance managers
- ▶ Production / operations managers
- ▶ Engineering specialists and engineers
- ▶ Fitters
- ▶ Millwrights
- ▶ Electricians
- ▶ Cellar masters

As mentioned earlier, in the food sub-sector, high-skilled and semi- and unskilled employees, as a share of total employment, remained stable between 1996 and 2005, whereas skilled employees as a share of total employment declined from 36% to 32%. In the beverages sub-sector experienced similar dynamics, with skilled and semi- and unskilled workers most affected by job losses. However, it is clear that the skilled and semi- and unskilled workforce recovered after 2003. Most of the employment growth in the beverages sub-sector came from the informal sector.

3.3.3 Scarce skills in leather and leather products

Leather manufacturing requires many similar skills to manufacturing, in particular since the sector has become more technology intensive and improved its competitiveness in response to the liberalisation of the leather sector.

Table 18: Scarce skills in the leather sector, employees required (2005 - 2009)

Scarce skills	Occupational categories	Employees required
Technological skills	Scientists and researchers	465
Production skills	Managers: production planning	375
Leadership skills	Managers: business leadership	200
Engineering skills	Electrical engineers	195
	Mechanical engineers	
	Chemical engineers	
Artisanal skills	Artisans and related workers (e.g. machine mechanics)	915

Source: CTFL SETA Sector Skills Plan

More high-skilled employees in areas such as supply chain management, production management, engineering and quality control are required to assist this industry to cope in a competitive global environment. As indicated before, many of these skills are in short supply in the South African labour market.

The following vacancies are difficult to fill in the leather and leather products sub-sector (CTFL SETA, 2005):

- ▶ Technologists
- ▶ Researchers and scientists
- ▶ Engineers
- ▶ Technicians and artisans

- ▶ Production managers
- ▶ Business managers
- ▶ ICT professionals
- ▶ Education and training practitioners

3.3.4 Gender: demand and supply

In the food sub-sector, the demand for male workers remained stable and even declined slightly, while the demand for female workers increased. In contrast, in the beverages and leather sub-sectors, the demand for both male and female workers declined between 2000 and 2005; reflecting the overall decline in formal employment in both sub-sectors.

This did not match well with changes in supply – although the supply of female graduates in manufacturing and engineering remained stable, while the supply of male graduates increased, the demand for male and female workers in communication and BCM studies increased.

The increases in the demand for female workers in the food sub-sector would be of concern were it not for an increase in the supply of female graduates with food qualifications. Therefore, it seems that supply is well-matched with demand in the food sub-sector – in particular because growth in BCM graduates should be absorbed by other sectors of the economy as these skills are easily transferable.

3.3.5 Race: demand and supply

Despite an overall decline in employment in the food sub-sector, demand for African, Coloured and Indian workers increased slightly, while the demand for white employees decreased. This reflects the pressures of EE in the recruitment practices of firms. In contrast, the demand for white workers, who are presumably more skilled than their African, Coloured and Indian counterparts, increased in the beverages and leather sub-sectors. This suggests that despite overall declines in formal employment in these sub-sectors and EE pressures, increasing capital intensity results in continued increases in the employment of skilled white workers.

The supply of African, Coloured, Indian and White communications and BCM graduates increased significantly between 1996 and 2005. The fact that these skills are currently scarce throughout the economy, suggests that these increases are either insufficient or that the graduates are not employable.

The supply of African graduates in food sciences and coloured graduates in manufacture and engineering increased, while other racial categories remained stable. This is consistent with demand data from the food sub-sector, but does not match demands from the beverages and leather sub-sectors as these sectors experienced an increase in demand for white employees.

4 SECTOR CASE STUDIES

4.1 Introduction

This chapter contains nine case studies which were conducted with companies in the prioritised sub-sectors. These case studies are aimed at identifying the differences in skill requirements which arise because of differentiation between companies within the prioritised sub-sectors.

The following table provides an introduction to the case studies by highlighting some of those factors which differentiate these companies:

Table 19: Summary of the case studies

Sub-sector	Company	Location	Exporter?	Number of employees	Have scarce skills affected production?	Problematic vacancies
Food	Epic Foods	Aeroton, Gauteng	✓	170	✓	<ul style="list-style-type: none"> ▶ Artisans ▶ Engineer with GCC
	Langeberg and Ashton Foods	Wellington, Western Cape	✓	371	✓	<ul style="list-style-type: none"> ▶ Artisans
Beverages	Ceres	Ceres, Western Cape	✓	450	✓	<ul style="list-style-type: none"> ▶ Technicians ▶ Industrial engineer
	Distell	Stellenbosch, Western Cape	✓	4,237	✓	<ul style="list-style-type: none"> ▶ Artisans ▶ Marketing staff (EE)
Food and Beverages	Fairfield Dairy	Howick, Kwazulu-Natal	✗	220	✗	<ul style="list-style-type: none"> ▶ None
	Illovo Sugar	Mount Edgecombe, Kwazulu-Natal	✓	2,352	✓	<ul style="list-style-type: none"> ▶ Engineering managers ▶ Plant engineers ▶ Artisans ▶ Technicians ▶ Maintenance foremen ▶ Shift foremen ▶ Boiler operators
Leather and leather products	Mossop-Western Leathers	Wellington, Western Cape	✓	261	✗	<ul style="list-style-type: none"> ▶ None
	African Hide Training	Port Elizabeth, Eastern Cape	✓	229	✗	<ul style="list-style-type: none"> ▶ None
	Swartland Tanning Co.	Wellington, Western Cape	✗	19	✗	<ul style="list-style-type: none"> ▶ None

4.2 Enterprises in the food sub-sector

Langeberg and Ashton Foods⁴

Langeberg and Ashton Foods was formed through the merger of the deciduous fruit interests of Tiger Brands and Ashton Canning Company. The intention was that a merged company would have a lower cost base and a broader currency exposure. Langeberg and Ashton Foods is a subsidiary of Tiger Brands, which is a branded food and healthcare company that operates mainly in emerging markets in the following areas:

- ▶ Domestic food
- ▶ Consumer healthcare
- ▶ Pharmaceuticals
- ▶ Hospital products
- ▶ Fishing

Langeberg and Ashton Foods is the largest canner in the Southern Hemisphere and among the largest globally. The company has manufacturing facilities in Worcester and Ashton in the Western Cape where it employs 371 permanent staff and 6,400 seasonal employees. Its product range consists of canned apricots, peaches, pears, guava, apples and fruit cocktail which are produced in a variety of styles (halves, slices, quarters and dices) and packing mediums (sugar syrup, natural fruit juices and artificial sweeteners). Puree concentrates are mainly produced in large containers for reprocessing by manufacturers of fruit juices, dairy products and jams. These products are exported to Europe, Asia, Australia and New Zealand under the Gold Reef, Silver Leaf and Koo labels. The company converts 140,000 tons of fruit into 6 million boxes of canned fruit generating average annual turnover of R900 million.

Most of the domestic sales of canned deciduous fruit go to large retail chains such as Pick 'n Pay, Shoprite Checkers, Spar or through the wholesalers such as Metro Cash and Carry. A smaller proportion goes to the food service market, where the customers are largely commercial caterers.

According to HR Manager at Langeberg and Ashton Foods, Mr Phillippe Olivier, the major occupations amongst permanent staff employed at the company include (share of total permanent workforce indicated in brackets):

- ▶ Basic occupations and operators (42%)
- ▶ Semi-skilled and clerks (22%)
- ▶ Junior management and artisans (32%)
- ▶ Middle management (3%)
- ▶ Top management (1%)

The company also employs 6,400 seasonal mainly as fruit pickers on various farms for an average period of 4 months. Currently, more than half of the management positions (54%), at junior, middle and senior levels, are filled with black people. According to HR Manager, Phillippe Olivier, current skills development initiatives include:

- ▶ Manufacturing training programmes at NQF levels 3, 4, 5 and 6 through the Tiger Academy
- ▶ In-house training conducted as part of Tiger Brands Initiative
- ▶ Thirty-six learnerships through the FoodBev SETA

⁴ Source: Tiger Brands website (<http://www.tigerbrands.co.za>) and interview with Phillippe Olivier (HR Manager)

▶ Artisan Development Programme through False Bay College

In addition, Tiger Brands have launched a graduate recruitment programme in order to attract black graduates to the company and a Workplace Improvement Programme, which is being implemented by the manufacturing sites. The latter is focused on achieving world-class management practices and setting in place an implementation process for operating efficiency and measurable output.

These skills development initiatives are aimed at reducing the number of vacancies at the company and alleviating the impact of skills constraints. Current vacancies at Langeberg and Ashton Foods include:

- ▶ Procurement manager (logistics)
- ▶ Shipping coordinator (exports)
- ▶ Electrician
- ▶ Seamer mechanic
- ▶ Maintenance fitter
- ▶ Occupational nurse

As a major employer in Wellington and due to its affiliation with a major South African producer, in the form of Tiger Brands, Langeberg and Ashton Foods do not currently experience any difficulty in its recruiting – as a bigger company, it is able to pay higher salaries to attract suitable individuals. However, the company is currently struggling to find artisans and this is having the most negative on production. In addition, due to the high demand of artisans in general and black candidates in particular, this occupational category currently has a shortage of employment equity (EE) candidates for artisan positions. In response, the company has developed the Artisan Development Programme through False Bay College, which is aimed at producing artisans in relevant areas.

A strong Rand is one of the major factors that have a negative impact on the industry. As a result, it is very important that input costs are reduced in order to improve international competitiveness. Deciduous fruit exports are also impacted by a stronger Rand, which erodes the margins achieved by the company in export markets. Notwithstanding the above, market shares in key markets such as the Far East were still maintained.

In addition, heavy tariffs on local canned goods exported to the EU have inhibited growth of the South African canning industry. Therefore, the dti is pushing for duty- and quota-free access to the EU for canned fruit under the mid-term review of the EU-SA trade agreement. According to Philippie Olivier, access to international markets for canned fruit at reduced tariffs is a key success factor for the deciduous fruit industry. As a result, the industry continues to work closely with the government and other regulatory bodies, to assist in negotiating reduced tariff barriers for South African canned fruit.

According to Langeberg and Ashton Foods, reducing its export prices by 20% will make a significant difference in terms of its ability to access new international markets (such as China, Eastern Europe and the Middle East) and increase existing market share in places like India.

Epic Foods⁵

Epic Foods (Pty) Ltd is an independent manufacturer (not listed or owned by a larger food conglomerate) based in Aeroton, Gauteng since 1998. The company manufactures consumer products such as margarine, oils and spreads and industrial products such as shortening (100% fat), yellow margarine, white margarine, concentrates, oils and other baking ingredients.

The company's vision is to be a successful household brand name in the food industry, by becoming a purchaser and supplier of choice and thereby bringing value to customers, employees and shareholders. The company's philosophy is to focus strongly on brand building, by marketing a range of high quality products that offer superior value for money to customers

This philosophy is achieved through the application of the firm's core business values. According to Karl Schilling, the firm's outsourced HR Manager, these are:

- ▶ **Business ethics** – commitment to business practices of the highest moral norms and standards
- ▶ **World class quality** – determination to deliver products and services of consistently high quality, which offer value for money to customers and consumers, through the application of world class innovative thinking and actions
- ▶ **Customer focus** – prioritisation of customer needs and continuously striving to exceed customer expectations
- ▶ **Magic people** – employment and development of “magic” people of superior competencies that can apply our shared vision, to take Epic Foods into the future
- ▶ **Stakeholder value creation** – value addition for all our stakeholders through forming strategic partnerships across the entire supply chain
- ▶ **Social responsibility** – commitment to social responsibility in the new South Africa, through small business development assistance, youth sport sponsorships and financial support for community development programmes

The company currently exports mostly to Southern African Development Community (SADC) and have some export presence in the United Arab Emirates (UAE). Epic foods employees 170 permanent staff and do not rely on any casual labour.

According to HR Manager at Epic Foods, Mr Karl Schilling, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Managers (4%)
- ▶ Professionals (8%)
- ▶ Technicians (5%)
- ▶ Clerical (12%)
- ▶ Service/sales (2%)
- ▶ Craft/trade (11%)
- ▶ Operator (33%)
- ▶ Elementary (25%)

Current skills development initiatives at Epic Foods are focused around learnerships that provide experiential learning opportunities for food technology students. The aim of the programme is to expose students to an actual working environment in the food sub-sector

⁵ Source: Epic Foods website (<http://www.epic.co.za>) and interview with Karl Schilling (HR Manager)

and evaluate their progress in order to determine whether they will make suitable employees at Epic Foods. Existing staff employed by the company attend mainly training offered by the FoodBev SETA and the company conducts on-the-job operational training.

At the moment Epic Foods have two vacancies: a quality control manager and an engineer with a government certificate of competency (GCC) – the company is currently struggling to fill the latter vacant position. In addition, the company struggles to fill any vacancies related to all types of artisans. In particular, due to the high demand for Black artisans, the company struggles to find and retain these individuals.

The impact of scarce skills on turnover has been direct – the company's maintenance function has become more expensive as certain services are outsourced due to skills shortages. In addition, the company has been recruiting foreign nationals in order to plug the holes left by a local shortage of skills.

In addition to skills constraints, Epic Foods has to operate in an environment with low cost producers from abroad that constantly threaten to erode its local market share. The products produced by the company are low margin products – as a result, it is very difficult to compete with cheaper imports from abroad without making significant improvements in productivity. As a producer of low margin products, the firm also struggles to grow exports and explore new markets because the logistics costs involved in exporting to international destination, consume a large part of margins that are already extremely low.

There has been a global decline in the consumption of trans-fatty acid products (one of the major products produced by Epic Foods) due to its role in the development of coronary disease. In fact, certain governments have started banning the use of trans-fatty acid products by restaurants due to its adverse health effects. As a result, there has been an increase in the development of alternative functional foods that provide health benefits – e.g. margarine fortified with essential oils, calcium and vitamins. Therefore, Epic Foods will need to continue developing new products in order to ensure that it does not become irrelevant as consumer demand healthier alternatives to their products.

4.3 Enterprises in the beverages sub-sector

Ceres Fruit Juices⁶

Ceres Fruit Juices started producing juice for the first time in 1982, with the launch of the Ceres brand in South Africa. In 1986, the Ceres Fruit Juices company was established with the merger of Liqui-Fruit and Fruitree. Since then, the company has experienced significant growth and won many food and beverage awards worldwide on its way to becoming one of the largest fruit juice companies in the world. Both Ceres and Liqui-Fruit juices are flash pasteurised, de-aerated and aseptically packed to provide 100% fruit juice that enjoys a preservative-free shelf-life of up to 12 months.

The company has manufacturing facilities in Ceres, Bloemfontein and Gauteng and employs 450 staff at its Ceres plant. Ceres Fruit Juices currently exports to more than 80 countries throughout the world; including countries in Africa, Europe, the Far East, Middle East, Asia and North America. Its main products are:

- ▶ Fruit juice
- ▶ Fruit nectar
- ▶ Iced fruit teas
- ▶ Organic fruit juice
- ▶ Fruit juice formulated for children
- ▶ Long-life fruit juice

In 2005, Ceres Fruit Juices acquired the assets of Frucon Food and Beverages. Frucon produced fruit nectars, dairy fruit mixes, squashes, cordials, syrups, carbonated soft drinks, teas and coffees. Its juice brands included Superfruit, Caribbean, Daly's, Wild Island and Squeeza as well as tea and coffee brands Importers, Teeco and Southalls. The acquisition of Frucon extends the capacity of Ceres Fruit Juices into Bloemfontein, Boksburg, Cape Town, Durban and Nelspruit.

In addition to this expansion, Ceres Fruit Juices own two subsidiaries, Retail Brands Inter Africa and Continental Beverages, which manage contract packing of carbonated soft drinks, teas and alcoholic beverages.

Ceres Fruit Juices is wholly owned by Pioneer Foods. Pioneer Foods was established in 1920 and is currently the third largest food manufacturer in South Africa. The company has its roots in maize and wheat milling and currently dominates the staple food sector (which accounts for 70% of its revenue); its product range includes:

- ▶ Baking aids
- ▶ Cake mixes
- ▶ Canned soup, fish and preserves
- ▶ Chicken and meat products
- ▶ Coffees and teas
- ▶ Condiments
- ▶ Dog food
- ▶ Dried fruit and nuts
- ▶ Eggs
- ▶ Frozen meals

⁶ Source: Ceres Fruit Juice website (<http://www.ceres.co.za>), Pioneer Foods website (www.pioneerfoods.co.za) and interview with Frank Mathee (HR Manager – Ceres)

- ▶ Grain products
- ▶ Jellies and custards
- ▶ Meal enhancers
- ▶ Non-alcoholic beverages
- ▶ Processed salads
- ▶ Spreads and jams

Ceres Fruit Juices is a consumer oriented business, operating at world class standards across all operations, with complete dedication to unique products and a passion for continuous improvement. Apart from being a well-known brand in the South African market, Ceres fruit juices are exported to more than 80 countries around the world.

According to Frank Mathee, HR Manager at the company's manufacturing plant in Ceres, the major occupations amongst staff employed at the manufacturing plant include (share of total workforce indicated in brackets):

- ▶ Administration (15%)
- ▶ Management (5%)
- ▶ Supervisors (7%)
- ▶ Engineering (15%)
- ▶ Technical (15%)
- ▶ Logistics (15%)
- ▶ Operations (28%)

Current skills development initiatives conducted by the Ceres manufacturing facility under the direction of Mr Frank Mathee include learnerships for supervisors through the FoodBev SETA and apprenticeships for millwrights through MERSETA. According to Mr Mathee, the type of learnership they require for the millwrights are not offered through the FoodBev SETA – as a result, these apprenticeships have to be registered with MERSETA. For those tasks that are specific to the manufacturing plant in Ceres, on-the-job training is provided to staff. Also, staff members attend additional training at universities and universities of technology.

Despite these skills development initiatives, due to its rural location (Ceres is approximately 2.5 hours from Cape Town), the company often struggles to attract and retain suitable personnel. Current vacancies include:

- ▶ Industrial engineer
- ▶ Accountant
- ▶ Buyer
- ▶ Logistics manager
- ▶ Technicians (millwrights)

Of these vacancies, the company is struggling to fill the posts of technicians and industrial engineer. According to Mr Mathee, this is due to a national shortage for these individuals and the company's rural location. Despite its ability, as a medium-sized beverage company, to offer competitive, market-based salaries, its rural location is often cited as a reason when positions are declined by potential candidates. Also, it struggles to compete for talented individuals with much bigger companies that have greater financial resources; in particular in its ability to attract EE candidates.

According to Mr Mathee, these vacancies have a direct and measurable impact on productivity and the ability of Ceres Fruit Juices to meet manufacturing expectations.

Other constraints faced by Ceres Fruit Juices include access to raw materials. There is currently a shortage of bananas and banana puree (and certain other fruit) in South Africa, which means these products have to be sourced abroad. As a result, prices of these raw materials have increased in recent years, driven by increasing demand for fruit and vegetables. In general, there has also been a rise in other input costs such as fuel and transport costs, which have been the main drivers of increasing inflation in South Africa in recent years.

Ceres Fruit Juices is enjoying a period of significant growth in the local and export markets. It expects both markets to continue growing at above 20%, in particular as consumers in developed countries move away from carbonated soft drinks towards healthier alternatives such as fruit juice.

Distell⁷

Distell was created in 2000 by the merger of Stellenbosch Farmers' Winery (SFW) and Distillers Corporation. Distell Group Limited is South Africa's leading producer and marketer of fine wines, spirits and ready-to-drinks (RTDs). The Group is listed on JSE Limited. Distell employs 4,237 employees (including 375 at the corporate head office) and has an annual turnover in excess of R7.9 billion.

The firm's product range includes:

- ▶ Brandies, premium and super premium brandies
- ▶ White spirits and gins
- ▶ Whiskies, liqueurs and rum
- ▶ Basic, premium and super/ultra premium wines
- ▶ Wine aperitifs
- ▶ Ciders and ready-to-drinks (RTDs)

These products are exported to North America, Europe and Asia-Pacific. The company has a very sophisticated supply chain management system and distribution network. Its South African distribution network consists of 20 depots situated in all regions of the country. These include:

- ▶ Corporate head office (Stellenbosch)
- ▶ Wineries
 - Adam Tas Winery
 - Bergkelder and JC le Roux (Stellenbosch)
 - Durbanville Hills Winery (Durbanville)
 - Nederburg Winery (Paarl)
 - Plaisir de Merle Winery (Simondium)
 - Robertson Distillery (Robertson)
 - Drostdy-Hof Winery (Tulbagh)
- ▶ Distilleries
 - Van Ryn Distillery (Vlottenburg)
 - The James Sedgwick Distillery (Wellington)
 - Worcester Distillery (Worcester)
 - Goudini Distillery (Goudini)
- ▶ Other operations
 - Ecowash (Wadeville)

⁷ Source: Distell website (<http://www.distell.co.za>) and interview with Lesley Rose (HR Manager)

- Green Park (Epping)
- Port Elizabeth plant
- Springs plant

In Africa, the company has offices in Windhoek, Accra and Nairobi, and the Johannesburg service the markets in Namibia, West, East, and Southern Africa. Joint ventures in Tanzania and Kenya and investments in Namibia, Zimbabwe and Mauritius create operating capacity as well as provide distribution facilities. Outside of Africa, Distell has offices in London, New York, Sao Paulo and Singapore that provide support and direction to a network of agents in 78 countries.

According to Lesley Rose, HR Manager at Distell, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ General workers (15%)
- ▶ Sales (9%)
- ▶ Drivers (including forklift drivers) (6%)
- ▶ Machine operator (5%)
- ▶ Picker (3%)
- ▶ Clerks and controllers (5%)
- ▶ Other (including management) (57%)

The firm's current skills development initiatives include the use of learnerships and apprenticeships and Distell also conduct on-the-job training. In addition, the firm has an internal Leadership Development Programme (comprehensive one-year programme) which is managed by Gordon Institute of Business Science (GIBS).

As a large company, the Distell have many vacancies at its various operations throughout the country. There company's current vacancies are listed below:

- ▶ Reverse logistics controller
- ▶ Debtors and Creditors (DAC) clerk (x3)
- ▶ Fitter and turner
- ▶ Sales representative (x2)
- ▶ Scanner
- ▶ Relief manager
- ▶ Activation manager
- ▶ Driver
- ▶ Distribution centre manager
- ▶ General worker
- ▶ Machine attendant

According to Lesley Rose, HR Manager at Distell, the company is struggling to fill the vacancies of artisans and marketing staff (EE candidates, in particular). This has had a direct and measurable impact on the operations of Distell where these vacancies exist. Due to the pressure on manufacturing lines to meet increasing demand for Distell's products, manufacturing operations have been under significant pressure. When a breakdown of production lines occurs, insufficient artisans to solve problems have resulted in shortages of stock.

In addition, the company is struggling to find suitably experienced and qualified EE candidates; in particular senior EE candidates.

Other constraints faced by Distell in the South African market include the negative impact rising interest rates and reduced credit availability on consumer spending. Higher energy prices, and therefore higher transport costs, have decreased exports to certain markets. Also, the effects of global oversupply of wine are still being felt by the industry in the form of lower prices, in particular in lower price segments.

Higher price segments, such as premium and super premium brandies and wines have exhibited the strongest growth in recent years. The strongest market growth has been in Germany, Scandinavia and the US.

4.4 Enterprises in the food and beverages sub-sectors

Fairfield Dairy⁸

Fairfield Dairy was founded by Kevin and Shannon Lang in 1987, in Howick, KwaZulu-Natal. Although its first enterprise was producing pre-packed vegetables for Woolworths, it began producing milk in 1991, and over the years built up a client list that includes large retailers including Pick n Pay, Spar and Woolworths.

Fairfield currently supplies Woolworths with milk, flavoured milks, smoothies, yoghurts and drinking yoghurts; the Spar Brand yoghurt, cottage cheese, dips, maas, cream and flavoured milks and Pick and Pay with the No Name brand milk as well as Choice brand yoghurt, cottage cheese, cream, maas and juices. Initially, the Fairfield brand of milk, yoghurts, cottage cheese, cream, dips, flavoured milk and 100% juices were only distributed to Pick and Pay outlets across KwaZulu-Natal, however, it can now be found in Gauteng and Pretoria.

In response to a growing market, with turnover and staff doubling over the last 5 years, Fairfield has recently completed a new state of the art production facility on premises facing the N3 near Midmar Dam. This investment will allow the dairy to explore other innovative product categories as well as meet the growing demand for its existing range of products. Fairfield is a medium-sized company that supplies the local South African market only (it is currently trying to expand into Namibia) and employs 220 individuals. The company manages its own deliveries within KwaZulu-Natal and employs a specialist firm to handle all deliveries to the rest of the country.

Of the 220 staff employed at the company, 190 are wage employees, while the rest are salaried. According to HR Manager at Fairfield, Mr Keith Stainbank, staff employed by the company are mostly unskilled – the majority are packers or trolley pushers. The major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Top management (3%)
- ▶ Middle management (3%)
- ▶ Technical staff (4%); including quality control, food technologists and lab technicians
- ▶ Logistics staff (32%); including drivers
- ▶ Administrative staff (3%); including human resources, telesales, accounting, etc
- ▶ Maintenance staff (23%)
- ▶ Semi and unskilled workers (32%)

According to Keith Stainbank (HR Manager), the company tries to develop employees into supervisory roles (production supervisor and mixing supervisor) and only advertise for higher-skilled / management level jobs. Mostly low skilled jobs are filled by using existing employees as a resource by employing their close family and friends. However, he adds that it's often difficult to upskill an unskilled employee into higher than supervisory role, and as a result, the focus is mainly on workers with some existing skills.

The company is currently struggling to promote supervisors into management positions as many of these individuals lack basic management expertise. As a result, the company, in

⁸ Source: Fairfield Dairy website (<http://jit11.firsttech.net/default.asp?id=1>) and interview with Keith Stainbank (HR Manager)

conjunction with an outsourced skills development facilitator, have developed a range of skills development initiatives aimed at upskilling their workforce. These include:

- ▶ In-house training on basic operating practices; e.g. Good Manufacturing Practices (using SAMPRO coaching manual)
- ▶ Training by external service providers:
 - Good Manufacturing Practices (GMP) milk and cream handling and storing
 - Raw milk analysis for intake
 - Good Hygiene Practices level 1
 - Tanker driver
 - Supervisory development
 - First aid level 1 training
 - Fire fighting basics training
 - Health and safety representative training
 - Food safety and HACCP course
 - Dangerous goods handling
 - Hazard and Critical Control Point (HACCP) course

According to Keith Stainbank, the company has not struggled to obtain suitable skills – when a skilled position is advertised, it receives between 50 – 100 CVs. The company also regularly receive CVs from people with relevant qualifications – as a result, there is no shortage of the required skills and the firm has no vacancies at present. Fairfield is currently not using apprenticeships, but according to HR Manager Keith Stainbank, these are very useful for artisanal and maintenance positions.

The company is operating a growing market, especially has a emerging class of customers start consuming more dairy products. According to Keith Stainbank, all their brands are currently experiencing significant growth. However, there are increasing levels of competition and higher input costs (milk prices have doubled over the last year). As a result, Fairfield Dairy has to ensure that improvements in productivity absorb some of the increases in input costs.

Generally the market share is significantly linked to price and favours high volume and low cost producers. The industry exception is Woolworths, which places greater emphasis on quality and therefore able to charge a higher price for premium products.

Illovo Sugar⁹

Illovo Sugar is a leading, global, sugar producer and a significant manufacturer of high-value downstream products. Illovo is listed on the JSE Limited and is a subsidiary of Associated British Foods plc which holds 51% of the issued share capital. Illovo's corporate headquarters are located in Mount Edgecombe, Kwazulu-Natal.

Its South African operations include three sugar cane estates, five sugar factories, two refineries and three downstream operations, while its global operations include ownership in Ubombo Sugar Limited in Swaziland, Illovo Sugar Malawi, Zambia Sugar plc, Kilombero Sugar Company Limited in Tanzania and Maragra Açúcar Sarl in Mozambique. The company, which employs 2,352 employees in South Africa, is Africa's leading sugar producer and a top five global producer. Its product range includes raw and refined sugar products as well as a range of downstream products (such as ethyl alcohol, furfural and its derivatives)

Illovo Sugar produces 5.5 million tons of sugar cane on agricultural estates in South Africa, Malawi, Zambia, Swaziland, Tanzania and Mozambique. Annual sugar output amounts to approximately 1.9 million tons; consisting of 900,000t produced in South Africa, 290,000t in Malawi, 250,000t in Zambia, 230,000t in Swaziland, 140,000t in Tanzania and 75,000t in Mozambique.

Illovo sells 59% of its South African sugar production, by volume, into domestic markets, 13% of production is sold into high priced preferential markets in the EU and US and 12% of production is sold into regional markets where premiums to the world price are earned.

Illovo Sugar is a major supplier of sugar to African consumer and industrial markets, particularly in its own countries of operation. In Malawi, Illovo is that country's sole sugar producer and in Zambia, manufactures 91% of all local production. The group's share of industry production in South Africa is 36%, 33% in Swaziland, 55% in Tanzania and 28% in Mozambique. Illovo has significant and increasing access to preferential markets in the EU and US, whilst the operations outside South Africa also have access to the SACU market in terms of the SADC Sugar Protocol on Trade. Pre-packed and bagged sugar is supplied into other regional markets within Africa.

Illovo Sugar supplies sugar and downstream products to domestic, regional and world markets. Sales to the domestic markets in the countries in which the group operates contributed 64% to total revenue, whilst exports to 110 countries contributed the balance. A significant strength of the group was that 74% of sugar production by volume and 80% by value was sold into the domestic or premium-priced export markets.

The majority of downstream products are sold internationally into high-value, niche markets. Furfural and its derivatives are produced at the Sezela mill complex on the south coast of KwaZulu-Natal. High quality ethyl alcohol, from which various grades of alcohol are made, is produced at the Merebank plant near Durban (which also produces lactulose) and at the Glendale distillery on the north coast.

Downstream products produced by Illovo include:

- ▶ Furfural (used mainly in lube oil refineries for the purification of oils)

⁹ Source: Illovo Sugar website (www.illovosugar.com) and interview with Celeste Beath (Assistant HR Manager)

- ▶ Furfuryl alcohol (used mainly to produce a resin in the foundry industry as a binder for foundry sands)
- ▶ Crop Guard (an agricultural nematicide)
- ▶ Diacetyl and 2,3-Pentanedione (both used as butter flavouring)
- ▶ Ethyl alcohol
- ▶ Lactulose (a natural laxative)

Whilst the group's range of downstream products is primarily aimed at export markets, the Merebank and Glendale distilleries remain important suppliers of ethyl alcohol to the South African liquor, pharmaceutical and industrial chemical industries. Relatively small volumes of furfural and its derivatives, as well as lactulose, are traditionally sold in the local South African market, whilst Crop Guard, an agricultural nematicide, is presently produced almost exclusively for the domestic market.

Illovo Sugar has significant access to preferential markets in the EU and the US, which are supplied by producers with export quotas to these regions at premiums to the world free market price. In 2006/07, the group's preferential exports from its countries of production outside South Africa amounted to approximately 191,000 tons.

According to Celeste Beath, Assistant HR Manager at Illovo, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Directors (0.1%)
- ▶ General Managers (0.9%)
- ▶ Senior Managers (4%)
- ▶ Middle Managers (4%)
- ▶ First Line Managers (9%)
- ▶ Skilled (18%)
- ▶ Semi-skilled (45%)
- ▶ Unskilled (19%)

The company's current skills development initiatives include in-house skills programmes offered to employees in the following areas: ABET, business management, computer skills, sugar manufacturing and sugar technology. In addition, the company currently has 20 apprentices and plan to take on an additional 14 before the end of the financial year. Staff members also attend training organised by the SETAs, universities and FET colleges.

As a large company, the Distell have many vacancies at its various operations throughout KwaZulu-Natal. There company's current vacancies are listed below:

- ▶ Assistant production managers
- ▶ Engineering managers
- ▶ Plant engineers
- ▶ Artisans
- ▶ Boiler operators
- ▶ Engineers-in-training
- ▶ Apprentices
- ▶ Accountant-in-training
- ▶ Chemists
- ▶ Shift foremen
- ▶ Maintenance foremen
- ▶ Technicians

▶ Artisans

According to Assistant HR Manager, Celeste Beath, the company has experienced very high turnover among artisans, engineers and foremen in particular. Replacing these positions has proved difficult due to the national skills shortage of these key, technical positions, and this affects production. Illovo Sugar is currently experiencing difficulty filling the following vacancies:

- ▶ Engineering managers
- ▶ Plant engineers
- ▶ Artisans
- ▶ Technicians
- ▶ Maintenance foremen
- ▶ Shift foremen
- ▶ Boiler operators

According to Celeste Beath, employment equity is a practice that is entrenched within Illovo Sugar. There is great focus on this, particularly when it comes to recruitment and promotions and certain targets have been set in-house to achieve. Over the last financial year, good progress has been made against these targets. Skills development has also made a great contribution to EE mobility.

Higher world market prices during the past two years allowed producers worldwide to expand their sugar crops – the resultant increased sugar availability has dampened world market prices in 2007. Illovo's access to the EU market has increased due to the re-allocation of additional quota under the Everything But Arms (EBA) initiative in 2006/07. Illovo also faces increasing competition from low cost producers in producers in Brazil, Guatemala, Sudan and Australia and quotas and other trade barriers restrict access to major markets, situation unlikely to improve soon given deadlock in the Doha round of trade negotiations.

4.5 Enterprises in the leather and leather products sub-sector

Mossop-Western Leathers¹⁰

Mossop-Western Leathers was established in 1846 and is the largest tannery in South Africa supplying bovine leathers to the footwear and leather goods industries. Mossop-Western Leathers was founded by Mr JH Coaton in 1871 on his farm Olyvenhout John Henry Coaten, Western Tanning and Boot Company on the outskirts of Wellington. The company was originally named "The Western Tanning and Boot Company." The tannery is the second oldest in the country and still situated on the same spot.

KAP International Holdings Limited, listed on the JSE Securities Exchange South Africa under the Diversified Industrial sector, is a holding company of subsidiaries and associate companies invested in a portfolio of diverse manufacturing businesses. These include fresh and processed meat, automotive and leather products and components, footwear, speciality fibres, bottle resin, maize milling and towelling products.

The group is operationally focused through an industrial (Feltex automotive, industrial footwear and Hosaf fibres) and a consumer segment (Bull Brand Foods, Brenner Mills, Jordan & Co and Glodina).

The company represents a diversified suite of investments across some of South Africa's most buoyant industrial and consumer sectors. From processed meat and leather products, to footwear, towelling, synthetic fibres, bottle resins, automotive components and maize milling, KAP plays a leading, or dominant, role in the majority of its markets.

The head office is situated in Paarl with operations located in Johannesburg, Durban, Cape Town, Pretoria, Port Elizabeth, East London, Ladysmith and Krugersdorp.

The current production capacity is 1.2 million square feet per month making it the largest tannery in South Africa. Situated in Wellington, in the Western Cape, the company employs some 250 people at two plants, a wet-blue operation at Hermon Road and crust and finishing plant at Hillcrest.

Mossop-Western Leathers is an active member of the International Council of Tanners (ICT), the African Federation of Leather and Allied Industries (AFLAI), the South African Skin, Hide and Leather Council (SHALC), the Southern African Footwear and Leather Industries Association (SAFLIA) and the South African Footwear and Leather Export Council (SAFLEC).

The company's product range includes grain leathers, Tek-Tan / Eco-Tan PU coated leathers, suede leather and finished split leather. Mossop-Western Leathers is a major supplier to local footwear manufacturers and also exports leather to the UK, Spain, Portugal, India and the Far East.

Mossop-Western, tan mainly in bovine with 90 percent of their leather going to the footwear industry and the remaining percentage being produced for small leather goods and belting. The company does not tan more expensive nappa leather because the

¹⁰ Source: KAP Holdings International website (<http://www.kapinternational.com>) and interview with Julie Blerk (HR Manager)

quantities are too small; therefore, it is more viable for the manufacturers to import. Even when the Rand lost some of its value against major currencies, it was still cheaper to import leather than to source it locally. These high costs are attributable to the fact that the wet-blue chemicals necessary to tan the hides are imported. According to Julie Blerk, HR Manager at Mossop-Western, the company has to import the wet-blue chemicals which are expensive and they struggle to find suitable hides in South Africa because of the thorn bushes and barbed wire – farmers are not encouraged to protect the skins.

According to Julie Blerk, HR Manager at Mossop-Western, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Senior officials and managers (4%)
- ▶ Supervisors and associate professions (7%)
- ▶ Clerks (2%)
- ▶ Maintenance staff (3%)
- ▶ Machine operators (41%)
- ▶ Elementary positions (43%)

Several skills development initiatives are currently conducted by the company to ensure that skills constraints do not have a significant impact on the company. Over the past year, this included:

- ▶ Three employees attend received bursaries for qualifying as assessors and skills development facilitators through the University of Johannesburg and the University of Cape Town
- ▶ The company also attends quarterly information sessions presented by the SETA
- ▶ Most training is conducted in-house – a lot of on-the-job training is conducted in particular in the fields of supervision and health and safety

Mossop-Western doesn't currently make use of any learnerships / apprenticeships, although these are included in its workplace skills plan for next year. As a result of successful skills development initiatives, the company currently have no vacancies and the impact of scarce skills have been negligible. The company has been successful in ensuring the diversity of its workforce and suitable representation of EE candidates. Black individuals (African and Coloured) are well represented in the company – 90% of the supervisors are EE employees and 80% of the successors to our top management are EE employees.

According to Mossop-Western, the shoe manufacturing industry has declined from 80,000 pairs to 30,000 pairs of shoes per year in the last 10 years, and has stabilized during the last 2 years. This, in turn, has resulted in a decline for the demand of the company's leather, which is primarily used for the manufacture of shoes. Despite these conditions, the company's production experienced good growth the last 12 months, but has reached its peak this year.

Although Mossop-Western's products are sold locally, the wet-blue chemicals required to tan hides are imported. Therefore fluctuations in the exchange rate, in particular a stronger Rand, have a severe impact on the reliability of production planning and cash flow management. In addition, the cost competitiveness of South Africa's leather industry is still an issue – downstream manufacturers of footwear and clothing can import better quality leather at lower prices

African Hide Trading¹¹

African Hide Trading (Pty) Ltd is a hide, skin, wool and leather company situated in Port Elizabeth, Eastern Cape. The company was established in 1949 and was taken over in 2003 by Springbok Trading; a group of experienced and dynamic hide, skin and leather personnel, who recognised the need for a quality product, improved service and flexibility in the industry. According to HR Manager, Mr Johan van den Heever, this vision has resulted in the exponential growth of the company.

African Hide Trading has experienced international representation in all major countries in order to ensure that products are produced to match the requirements of their varying client base. The company employs 229 individuals and produces various types of hides and skins; including:

- ▶ Wet-blue, wet salted and dry salted hides
- ▶ Pickled, drum salted and dry salted sheepskins
- ▶ Dry salted goat skins
- ▶ Tanned hair on and dry salted game
- ▶ Finished, natural crust and dyed crust ostrich leather

According to Mr Johan van den Heever, HR Manager at African Hide Trading, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Legislators, senior officials and managers (8%)
- ▶ Professionals (1%)
- ▶ Technical and associate professionals (1%)
- ▶ Clerks (14%)
- ▶ Service and sales workers (1%)
- ▶ Craft and related tradesworkers (10%)
- ▶ Plant and machine operators and assemblers (24%)
- ▶ Elementary occupations (41%)

The company currently has no vacancies and skills constraints have not had an adverse impact on the firm. According to the HR Manager, Mr Johan van den Heever, the wet-blue leather industry, which is its major product, has experienced significant declines in recent years and is struggling to compete with low cost suppliers from India and China. As a result, many tanneries have closed down, which has resulted in a surplus of skilled labour.

However, Mr Johan van den Heever adds that they have struggled to meet EE targets because the relevant EE skills remain difficult to find. Also, appropriate EE skills come at a high premium due to the demand for these individuals and this is difficult for smaller companies to afford. In response, the company has started a learnership programme to contribute skilled individuals to its EE profile. At the moment, the company has registered 31 learnerships; 20 of these learners are currently writing exams.

According to Mr Johan van den Heever, in recent the leather industry is currently experiencing significant growth in demand for automotive leather. This is mainly due to the Motor Industry Development Plan (MIDP), which allows vehicle manufacturers in South Africa to obtain import rebates / credits for using local inputs in the production of the vehicles for the export market. As a result, vehicle manufacturers have been using local leather in to access this rebate. However, according to African Hide Trading, only a small

¹¹ Source: African Hide Trading website ([http:// www.springboktrading.co.za](http://www.springboktrading.co.za)) and interview with Johan van den Heever (HR Manager)

percentage of local hides meet the grading standards set by the automotive sector. This is mainly because local cattle are generally reared for their meat, not their hides (which are often damaged by barbed wire and other fencing). Therefore, the remainder of the hides that do not meet the grading requirements, are put through a wet-blue process and exported as lower quality leather. At the same time, there is an increase in global demand for niche leather and leather products, such as ostrich leather and a global decline in the market for lower grade leather and leather products.

Swartland Tanning¹²

Swartland Tanning is situated in the town of Wellington, in the Western Cape, South Africa, approximately 70km from Cape Town.

The tannery is fully owned by Swartland Ostriches Ltd (which is jointly owned by 96 ostrich producers and an established meat producer and packer in the Western Cape) and who possesses its own abattoir (based in Malmesbury in the Western Cape) for the slaughter of ostriches for meat processing. Jointly owned by 96 ostrich producers and an established meat producer and packer in the Western Cape. The abattoir has an annual capacity of 22,000 birds per year. With producers being joint owners of the abattoir, production is constant and a high degree of competitiveness and pride of product ensures quality birds. The direct link from the farm to the abattoir allows monitoring of quality throughout the process, thus resulting in first rate products.

The fact that the company is active in both the production of ostrich meat as well as leather (i.e. vertically integrated) ensures a guaranteed supply of skins for hide processing and assists in producing ostrich skins that are suitable for leather processing. The tannery boasts four modern tanning drums giving it a capacity of some 3000 skins per month. These skins are available in three options; these are:

- ▶ Natural crust
- ▶ Dyed crust
- ▶ Finished colours per customer requirements

The company continuously researches and creates new colours and finishes in order to maintain a high degree of customer satisfaction at all times.

The tannery is managed by General Manager Paul Jooste who was interviewed for the purposes of this case study. Mr Jooste has a high degree of craftsmanship gained from experience over a long period in the tanning trade. He is assisted by 2 well qualified technicians, one a wet end specialist and one a finishing specialist, who ensure constant colour consistency and superior quality.

Swartland Tanning is a small company which employs 19 employees and has the capacity to produce 3,000 skins per month. The company is not exporting currently and instead sells to a downstream manufacturer in SA for finishing, who then exports the leather.

According to Mr Paul Jooste, General Manager at Swartland Tanning, the major occupations amongst staff employed at the company include (share of total workforce indicated in brackets):

- ▶ Production (63%) (including one supervisor)
- ▶ Security (16%)

¹² Source: Swartland Tanning website ([http:// www.swartlandostrich.co.za](http://www.swartlandostrich.co.za)) and interview with Paul Jooste (General Manager)

- ▶ Administration (11%)
- ▶ Management (10%)

According to Mr Paul Jooste, as Swartland Tanning is a small company it is more cost-effective and efficient for it to conduct most of its training for staff members in-house. This training is usually in the form of on-the-job training and some limited use of learnerships is being made. Also for cost reasons, and because many of the tasks are very simple and require little formal education or experience, no SETA training is conducted.

In addition, the prospects for expansion for the tannery are limited due to increases in the price for ostriches. As a result of a shortage in the supply of birds and the dramatic increase in input costs for ostrich leather manufacturers, margins have decreased significantly in recent years.

Since the company has not experienced any significant growth in recent years and it does not require individuals with significant education or experience, it is not suffering any vacancies at present as skills constraints have had little impact on the tannery. Also, as a small company it struggles to identify suitable EE candidates, who are often too expensive for smaller firms to afford. According to Mr Jooste, the need to appoint more EE candidates has been identified.

4.6 Summary

Four firms were interviewed in the **food sub-sector**. Langeberg and Ashton Foods is a fruit canning operation owned by Tiger Brands, which employs 371 permanent and 6400 seasonal staff at its two manufacturing plants in the Western Cape. Epic Foods is a privately owned manufacturer of margarine, butter and oil which employs 170 permanent staff at its facility in Gauteng. Illovo Sugar is a listed entity and subsidiary of Associated British Foods, which manufactures sugar and related downstream products. The firm employs 2,352 staff in its South African operations, which are mainly in KwaZulu-Natal. Fairfield Dairy, which manufactures food and beverage dairy products, is privately owned and employs 220 staff at its two manufacturing facilities in KwaZulu-Natal.

With the exception of Fairfield Dairy, which is currently exploring export opportunities, all of these firms export to destinations around the world. Langeberg and Ashton Foods exports to Europe, Asia, Australia and New Zealand, Epic Foods exports to the United Arab Emirates and Illovo Sugar exports mainly to the EU and US (due to preferential access to these markets).

Current vacancies at these firms include:

- ▶ Langeberg and Ashton Foods
 - Procurement manager (logistics)
 - Shipping coordinator (exports)
 - Electrician
 - Seamer mechanic
 - Maintenance fitter
 - Occupational nurse
- ▶ Epic Foods
 - Quality control manager
 - Engineer with a government certificate of competency (GCC)
- ▶ Illovo Sugar
 - Assistant production managers

- Engineering managers
- Plant engineers
- Artisans
- Boiler operators
- Engineers-in-training
- Apprentices
- Accountant-in-training
- Chemists
- Shift foremen
- Maintenance foremen
- Technicians
- Artisan hands
- ▶ Fairfield Dairy
 - None

Four firms were interviewed in the **beverages sub-sector**. Ceres Fruit Juices is a fruit juice manufacturer owned by Pioneer Foods that employs 450 staff at its manufacturing facility in the Western Cape. Distell is listed on the JSE and produces wines, spirits and RTDs. The company employs 4,237 staff (including 375 at its corporate head office in Stellenbosch) throughout the country with a strong presence in the Western Cape. Fairfield Dairy, which manufactures food and beverage dairy products, is privately owned and employs 220 staff at its two manufacturing facilities in KwaZulu-Natal. Illovo Sugar is a listed entity and subsidiary of Associated British Foods, which manufactures specialist alcohols (e.g. ethyl alcohol) as part of its downstream business. The firm employs 2,352 staff in its South African operations, which are mainly in KwaZulu-Natal.

With the exception of Fairfield Dairy, which is currently exploring export opportunities and Illovo Sugar, which produces alcohols for the local market only, the other firms export to destinations around the world. Ceres Fruit Juices exports to Africa, Europe, the Far and Middle East, Asia and North America and Distell exports to North America, Europe and Asia-Pacific.

Current vacancies at these firms include:

- ▶ Ceres Fruit Juices
 - Industrial engineer
 - Accountant
 - Buyer
 - Logistics manager
 - Technicians (millwrights)
- ▶ Distell
 - Reverse logistics controller
 - DAC clerks (x3)
 - Fitter and turner
 - Sales representatives (x2)
 - Scanner
 - Relief manager
 - Activation manager
 - Driver
 - Distribution centre manager
 - General worker
 - Machine attendant
- ▶ Illovo Sugar

- Assistant production managers
- Engineering managers
- Plant engineers
- Artisans
- Boiler operators
- Engineers-in-training
- Apprentices
- Accountant-in-training
- Chemists
- Shift foremen
- Maintenance foremen
- Technicians
- Artisan hands
- ▶ Fairfield Dairy
 - None

Three firms were interviewed in the leather and leather products sub-sector. Mossop-Western Leather, which is a leather manufacturer based in the Western Cape which supplies the footwear and leather goods industries, is owned by JSE listed KAP International and employs 250 staff. African Hide Trading, which is based in the Eastern Cape, is a hide, skin, wool and leather company that employs 229 staff. Swartland Tanning, which is situated in the Western Cape, is jointly owned by 96 ostrich producers. The company produces ostrich leather and employs 19 staff.

With the exception of Swartland Tanning, which does not currently export, the other firms export to destinations around the world. Mossop-Western exports to the UK, Spain, Portugal, India and the Far East. Export destinations for African Hide Trading are not available.

5 RECOMMENDATIONS

This chapter contains recommendations based on an analysis of the demand and supply data as well as the case studies, aimed at proposing sector and skills development initiatives that respond to the current and future trends in the prioritised sub-sectors.

5.1 Food and beverages

The food and beverages sub-sectors are expected to be underpinned by significant growth in food sales, which will drive higher prices for many food and beverage products, including wheat, maize and milk. While developed economies, such as the EU, are experiencing continued upgrades away from staples (such as bread and rice) to higher value food products (such as organic alternatives), current global growth in food and beverages is linked to the growing wealth of emerging economies like China and India.

In addition, increasing global demand for food and beverages as well as subsidies for biofuel production in many developed economies such as the US, are driving increased food prices throughout the world. Biofuel subsidies have the effect of pushing up prices for maize, sugar and other feedstock for biofuel as well as the general prices of food throughout the economy. When governments subsidise biofuel feedstocks such as maize, farmers switch from other produce such as grain to maize in order to benefit from the subsidy. This results in a decline in the supply of grain, which increases the grain price if demand is unchanged. Also, when biofuel plants compete with food producers for biofuel feedstock such as sugar cane, this increased demand has the effect of pushing up prices for these products.

Small-scale markets (10%), including South Africa and Latin America (7%), experienced the fastest overall regional growth in food and beverages. Europe experienced the slowest growth with only 2% growth in sales in 2004, while the Asia-Pacific region grew at 5%. North America (i.e. the US and Canada) grew at 4% over the same period, but showed the largest growth in absolute value terms. According to the FoodBev SETA (2006), economic growth in South Africa's food and beverages sub-sectors is projected to match that of the wider economy which is expected to grow at 4% to 5% between 2007 and 2010.

5.1.1 Sector development

In general, the requirements for the development of the food and beverages sub-sectors to serve highly competitive export markets are high. Based on the challenges faced by the food and beverages firms interviewed as part of the case studies and the wider industry dynamics, local firms should focus on the following areas:

Competitive cost structure – cost competitiveness is initially driven by the availability of key primary inputs (e.g. crops and chemicals) and key secondary inputs (e.g. labour, electricity and water) at competitive prices. However, for local and export market penetration, transport and logistics costs can be substantial. Therefore cost-to-market needs to be competitive for firms to grow within their respective industries.

Product safety and quality control – to meet increasingly stringent local and international requirements by consumers, retailers and regulators, food and beverage manufacturers need to run appropriate quality procedures, such as hazard analysis critical

control point (HACCP) methodology, in their operating environments. There is also increasing emphasis on tracking and tracing systems through which ingredients and their handling can be monitored across the entire supply chain right back to the producer.

Economies of scale for retail and export supply – food and beverage manufacturing operations in South Africa are clearly sustainable at all levels of operation – from small-scale local to large-scale manufacturing. However, to serve retailers and participate in export opportunities, significant production volumes and economies of scale are required. The ability to consistently produce the required volume at the right quality and price, and just-in-time (JIT) to meet tight supply windows are key supplier selection requirements for retailers and exporters.

Highly efficient supply chain management – food and beverage manufacturing involves complex supply chain management to ensure availability of raw material inputs and to meet the increasingly stringent delivery windows demanded by retailers and export/import agents. In addition to the required management capability, the use of ICT for supply chain management is now a key driver of competitiveness. The trend is towards ICT system integration across the entire food supply chain.

High quality of transport infrastructure – processed foods range from perishable to non-perishable products, all with their own storage requirements and sell-by dates. Transport infrastructure that can cater to the needs of the entire range of processed food products to ensure they reach markets timeously and in saleable condition is therefore crucial. The extent to which the quality of infrastructure can minimise transport costs (during processing and delivery of final goods) is important as it enhances the overall competitiveness of food producers.

Ability to tailor products, packaging and marketing strategies to suit varied consumers – consumer and retailer needs vary by region; hence producers cannot adopt a standardised or uniform approach to all their market segments. As the regional SADC market is becoming increasingly important for South African exporters of food and beverages, manufacturers should focus on understating the tastes and preferences (including packaging, etc.) of regional customers.

Innovation and customer applications and processes expertise – there has been a shift in the relationship between industrial user and ingredients suppliers. Industrial customers in the fruit and beverage processing industries now look for more knowledge and expertise, rather than just the products. Increasingly, this important buyer group is looking to suppliers to sell them a product concept that is closely tailored to their needs. Accordingly, products increasingly need to be provided with product specifications, instructions for use and storage, product presentation, and information on quality assurance (e.g. HACCP). Suppliers need a strong understanding of the industrial manufacturer's applications and processes to ensure that the products they supply are tailored to the customer's operations and complement their business and R&D strategies. As a result, there is an increased focus on the supply of value-added products and related business services.

Professional business-to-business (B2B) transactions – international retailers in key consumer markets are driving industry consolidation and an increased focus on standards throughout the entire food supply chain. This requires suppliers to become more sophisticated business partners to the retailing and food processing industry. In terms of business management, there is an increasing focus on professional logistics, strong

supply chain management capabilities and electronic data exchange in order to facilitate a seamless supply chain.

Trademarks, market relationships and institutions – in the processed fruit and vegetable industries, intangible assets such as brand trademarks are often more important than capital or technology and may drive higher returns (USDA, 2005). Other intangible issues that are important are the relationships with increasingly global retailers. To achieve this, it is often beneficial for food and beverages firms to have significant product category expertise, as retailers are increasingly organised according to category management practices. Strong relationships with retailers are particularly critical for entering new markets and launching new products. Institutional support is particularly important as a driver of better coordination and cooperation between market players across the food supply chain (i.e. growers, manufacturers, market intermediaries, retailers, etc.).

5.1.2 Skills development

Several skills development themes emerge from the case studies as well as the wider industry dynamics discussed earlier; this section contains recommendations for skills development based on these dynamics.

Matching supply and demand – there were no graduates in food tradesworkers from FET institutions in 2005 and a decline of 30% from 2000 to 2005. In terms of HET institutions, there were no certificate, diploma or B Tech graduates for agricultural food technology in 2005. There were significantly more graduates in food and nutrition, a course provided largely by FET institutions, compared to graduates in agricultural food technology (a course provided largely by HET institutions). Also, in the relevant engineering and technology qualifications, such as agricultural engineering and technology and manufacturing engineering and technology, there were very few graduates at all levels. This is confirmed by the vacancy data presented earlier. Given that skills are demanded at the higher NQF levels, HET institutions, in particular, should introduce more courses related to food technology and chemistry and companies should promote on-the-job coaching, mentoring and guidance to address the graduates' lack of work experience.

Producing employable graduates – current supply from tertiary institutions does not provide adequate skills sets required by the food and beverages sub-sectors. HR managers have indicated that many graduates, particularly Black graduates, lack the “soft skills”, such as communication and writing skills, required in the work environment. There should be a greater degree of partnership between training providers and industry. For example, courses could be jointly designed by employers, FET and HET institutions and professional bodies and funded through the NSDS or bursary schemes to deal with any skill deficiencies evident amongst graduates; in particular those graduates who are currently unemployed. The provision of work orientation and life skills programmes should be introduced by employers to address the lack of “soft skills”.

Greater private sector involvement – the private sector should become more proactive in signalling the type of skills they require to training providers such as HET and FET institutions. For example, manufacturers should provide a greater number of bursary schemes that are aligned to their own scarce skills to ensure that there are fewer mismatches between supply and demand and therefore improve the employability of graduates. Currently, there is insufficient investment by companies to supply bursaries

and internship opportunities to develop skills at the higher occupational levels. In addition, private sector firms should ensure industry participation in public education initiatives, curriculum development, field trips and career fairs for students and providing short work experience opportunities and internships on an ongoing basis.

Addressing racial inequalities – African / Black employees in the food and beverage sub-sectors are less qualified than their Coloured and Indian counterparts and have the highest share of workers with no proof of qualification (32% of total African workforce). Indian employees have the highest share of workers with below GET qualifications (54%), compared to 34% of blacks. White employees have the highest share of workers at higher NQF levels (4 – 8), followed by Indian, Coloured and African / Black employees. Skills development initiatives must continue to focus on improving racial equality in the workplace through the use of grants offered by the FoodBev SETA and learnerships and apprenticeships offered by the private sector. Also, the FoodBev SETA must ensure that its recognition of prior learning (RPL) processes are working and widely understood in order to ensure that workers with no proof of qualification, but significant practical experience, are brought into the NQF framework.

Increasing the number of private service providers – there is currently a shortage of private providers of industry specific training, for example in the dairy industry. In addition, some firms have mentioned that specific courses, which could be provided by private service providers are currently not being offered widely enough by private or public training providers. This includes training on aspects related to SPS requirements for specific food and beverages industries, the workings of contracts and futures and currency forecasting and cash flow management.

Targeted training interventions – the greatest potential opportunities in food and beverages can be found as one moves further downstream in the value chain to advanced food and beverage processing (e.g. health foods, naturally-derived food ingredients, organic products and ready-made meals). This end of the value chain tends to be increasingly technology-intensive and therefore requires specific high-skilled workers, such as food technologists, chemists and quality assurance managers, to ensure its sustainability. Training interventions by the FoodBev SETA and other training providers should be linked to identified growth areas and the emergence of new occupations as the emphasis shifts to food safety, food quality and environmental sustainability.

Achieving gender parity – in the food and beverages sub-sectors, the majority of employees are male and can be found in the lower skill categories as labourers and machine operators and drivers. Gender equality decreases significantly as one moves from the lower skill bands to higher skill categories, such as managers and professionals. For example, women constitute 15% of all labourers, 6% of all machine operators and drivers and 7% of all clerical and admin workers, but only 1% of all managers and professionals. Skills development initiatives must continue to focus on improving gender parity in the food and beverages sub-sectors through the use of grants offered by the FoodBev SETA and learnerships and apprenticeships offered by the private sector.

5.2 Leather and leather products

In recent years European tanners have experienced significantly reduced order volumes and the continued strength of the Euro has eroded some of its international market share. However, low cost tanners in Asia are experiencing much better market conditions; tanners in China, in particular those who are selling their products into the Chinese market, are expected to continue experiencing significant growth. Most of the demand in the leather industry is driven by upholstery manufacturers and other high-value products (Friedrich Sturm, 2007).

In South Africa, the leather and leather products sub-sector has undergone significant transformation in recent years. There has been significant decline in the wet-blue industry – many of these tanneries either closed or switched to manufacturing leather for the automotive upholstery industry. As a result, there have been massive job losses in general leather goods.

However, growth in new sectors, in particular automotive upholstery, have compensated for these declines. Greater certainty in the future of the leather industry will be obtained at the end of the 2007 when some detail on the revision MIDP is made public (further details on the revised MIDP will be released in 2008). If the revision of the MIDP results in an increase in demand from the automotive sector for seat leather, this should significantly improve the growth prospects of the automotive leather industry. At same time, in order to hedge against possible loss of leather upholstery business from South Africa, some firms are diversifying into the export of cloth seat covers (Ballard, 2002).

In addition, there is growing demand for high-end, niche leather products, such as exotic leather handbags and clothing. Ostrich leather manufacturers based in South Africa may be able to break into the automotive upholstery sector in the future if this becomes an alternative to the leather used in vehicles at the moment – in particular for higher end vehicles and sports cars. The market for low grade leather and leather products is expected to continue its decline.

5.2.1 Sector development

As with food and beverages, due to the existence of competitive, low cost producers throughout the world (particularly in India and China), the requirements for the development of the leather and leather products sub-sector to serve highly competitive export markets are high. Based on the challenges faced by the leather and leather products firms interviewed as part of the case studies and the wider industry dynamics, local firms should focus on the following areas:

Improving cost competitiveness – South African tanners face severe competition from low cost producers in Brazil, China and India. Also, South African manufactures of leather products compete with producers in the EU (in particular, Italy) whose industries are often heavily subsidised. This results in a difficult global trading environment for South African tanners and manufacturers. Therefore, it is important for local leather manufacturers to have the ability to absorb increases in input costs (e.g. hides and chemicals – hides prices have increased by 25% over the last 2 years and the wet-blue chemicals used to tan leather are imported and therefore subject to currency pressures). Increasing efficiency (through capital investments and capacity building of staff, for example) is the only way to remain viable under increasing price pressures.

Competing against entrenched “preferred suppliers” – local manufacturers of footwear and other leather products (such as handbags and belts) as well as retailers, have preferred suppliers that are entrenched within these markets. This is largely because downstream manufacturers and retailers prefer to maintain existing relationships with larger volume suppliers that are able to meet their quality and quantity demands. As a result, many retailers do not allow significant price increases, despite increases in input costs (raw materials and transport costs). Again, improving productivity is the only way to remain viable under increasing price pressures.

System improvements – given the requirement for traceability and certification demanded by manufacturers of leather products and retailers, tanners need to ensure that their systems and processes meet traceability requirements. There is increasing emphasis on tracking and tracing systems through which raw materials can be monitored across the entire supply chain right back to the producer. This requires putting in place the necessary record-keeping, production management and IT systems to meet certification requirements. Systems improvements should also be aimed at overcoming cash flow constraints related to large volume orders and long payment cycles (e.g. financial management and cash flow management systems).

Access to raw materials – bovine hides represent the major part of raw materials used in the tanning industry. Access to such raw materials is a great concern for South African tanners, in particular because cattle are generally not reared for their hides, but their meat. Also, the best hides are currently consumed by the automotive leather industry. Therefore, the relevant industry associations (e.g. Skin, Hides and Leather Council) may need to discuss their requirements with producers through a relevant forum, such as the Footwear and Leather Cluster Initiative (This initiative is a joint exercise between the dti and the leather and footwear industry to define a strategy for growth for the industry. It includes the following 6 working groups: customs, industrial relations, materials procurement, marketing (export and local), manufacturing, and training; the cluster is represented by manufacturers, suppliers, labour, government, IDC, retailers, and the Skin and Leather Council producers).

Improving market access – South African tanners are exposed to increasing competition from a large number of low-labour cost leather manufacturers such as China and India. Therefore it is important that the South African government, through the dti (and structures such as the India-Brazil-South Africa (IBSA) agreements) ensure fair and reciprocal market access to allow South African tanners to access new markets; including strengthening the lobby effort for the removal of trade distorting quotas and other trade barriers through the completion of the Doha round of trade talks.

Improving preferential trade access – in addition to ensuring fair and reciprocal market access to allow South African tanners to access new markets as mentioned above, due to South Africa’s developing status and given that some of its industries (such as automotive leather producers) are infant industries, preferential trade arrangements should also be negotiated. This includes the finalisation of preferential trade agreements such as the new SADC EPA and changes to AGOA and the MIDP, which have underpinned growth in the automotive leather sector until now.

5.2.2 Skills development

In contrast to the food and beverages sub-sectors, due to the consolidation of the leather industry and subsequent retrenchments, the pool of available skills in the industry is much greater. The firms interviewed as part of the case studies indicated that scarce skills have had very limited impact on their operations. However, these firms have indicated that more EE candidates need to be employed in key positions.

Despite this, some skills development themes have emerged from the case studies as well as the wider industry dynamics discussed earlier; this section contains recommendations for skills development based on these dynamics.

Producing higher value leather products – it is important for South African producers to move further down the value chain towards the production of leather products, including niche high-value leather products instead of its current narrow focus on low grade leather. However, at the moment many tanneries suffer from old and obsolete equipment and lack of spare parts, a shortage of technical skills and on the marketing side, poor design capabilities and international exposure. In particular, design skills will have to be improved in order to allow South African companies to capitalise on indigenous products and knowledge – e.g. ostrich leather, exotic leather and gameskins and related products. This requires investment in improvements in the capabilities of local designers to encourage downstream activity in niche products that use indigenous products.

Addressing racial inequalities – African/ Black employees in the clothing, textiles, footwear and leather sub-sectors are less qualified than their Coloured and Indian counterparts and have the highest share of workers with below GET qualifications (2% of total African / Black workforce compared to 0.2% for Indian and Coloured employees). A similar qualifications pattern to the food and beverages sub-sectors emerges: in higher NQF levels (8 – 5) White employees have the highest share of workers at each NQF level, followed by Indian, Coloured and African / Black employees. Skills development initiatives must continue to focus on improving racial equality in the workplace through the use of grants offered by the FoodBev SETA and learnerships and apprenticeships offered by the private sector.

Improving provider responsiveness – unit standards and courses have to be updated to ensure that these respond to future scarce skills that may exist in the sub-sector. For example, training interventions should be linked to demand for technicians (e.g fitter and turners) as the sector becomes more technology intensive and the supply chains become more complex (e.g. logistics management). In addition, the CTFL SETA has to ensure that its recognition of prior learning (RPL) processes are working and widely understood in order to ensure that workers without qualifications, but significant practical experience, are brought into the NQF framework.

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APPENDIX 1: List of individuals consulted for case studies

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Celeste Beath	Illovo Sugar Ltd	Assistant HR Manager	Tel: 031 508 4300 Email: CBeath@illovo.co.za
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APPENDIX 2: Detailed tables

1. Vacancies by occupational category and NQF level, 2004-2007

Occupational category	NQF level	Apr 2004 – Mar 2005	Apr 2005 – Mar 2006	Apr 2006 – Mar 2007	CAGR 2004-2007
Prioritised sub-sectors					
Food and beverages					
Chemists and food and beverages scientists	5	48	96	97	102%
Chemistry and food and beverages technicians	4	27	27	82	204%
Food and beverages factory workers	2	0	0	1	-
Leather					
Canvas and leather goods makers	3	2	4	0	-100%
Other relevant occupations					
Management					
Chief executives and managing directors	5	92	114	209	127%
General managers	5	75	116	127	69%
Advertising, marketing and sales managers	5	476	435	455	-4%
Corporate services managers	5	136	140	251	85%
Finance managers	5	277	491	570	106%
Human resource managers	5	138	275	268	94%
Research and development managers	5	70	61	31	-56%
Production / operations managers	5	212	244	475	124%
Supply and distribution managers	5	94	140	125	33%
ICT managers	5	107	343	111	4%
Safety and security managers	5	2	46	7	250%
Other specialist managers	5	55	96	104	89%
Professionals					
Accountants	5	521	477	819	57%
Human resource professionals	5	352	328	716	103%
Advertising and marketing professionals	5	175	153	207	18%
Public relations professionals	5	141	144	127	-10%
Technical sales representatives	5	72	56	215	199%
Workers, operators and clerks					
Manufacturing tradesworkers	3	5	1	4	-20%
Other technicians and tradesworkers	3	8	17	219	2638%
Office administrators	3	7	14	46	557%
Personal assistants	3	177	135	249	41%
Secretaries	3	216	165	371	72%
Receptionists	3	13	14	30	131%
Bookkeepers	3	39	40	54	38%
Payroll clerks	3	10	1	9	-10%
Purchasing and supply logistics clerks	3	87	59	189	117%
Transport and despatch clerks	3	2	5	6	200%
Human resource clerks	3	6	4	4	-33%
Sales representatives	3	56	66	98	75%
General clerks	2	415	519	761	83%

Occupational category	NQF level	Apr 2004 – Mar 2005	Apr 2005 – Mar 2006	Apr 2006 – Mar 2007	CAGR 2004-2007
Miscellaneous stationary plant operators	2	10	12	26	160%
Delivery drivers	2	7	0	63	800%
Truck drivers	2	3	0	15	400%
Product quality controllers	2	4	1	5	25%
Switchboard operators	1	7	0	44	529%
Sales assistants (general)	1	47	118	73	55%

Source: HSRC (Sunday Times) and own calculations

2. FET graduates in natural sciences subjects, 2005 value, Average pass rate and CAGR (2000-2005)

Occupation field	Instructional offering name	NQF level	Number of graduates (2005)	Average pass rate 2000 - 2005	CAGR 2000 – 2005
Chemical technician	Chemical laboratory technology	1	156	51%	-7%
		2	102	57%	-12%
		3	108	47%	-16%
	Chemical plant operation	4	111	54%	-5%
		5	89	44%	25%
		6	37	53%	1%
	Chemical technology	6	38	46%	-9%
	Chemistry	4	147	52%	2%
		5	77	72%	-9%
	Industrial chemistry	1	593	54%	0%
		2	477	60%	4%
		3	385	65%	4%
	Textile chemistry	1	1	92%	-46%
2		6	72%	11%	
Electrician	Electrical trades theory	1	11,854	47%	15%
		2	8,585	45%	5%
Food trades	Industrial confectionary manufacture	1	0	41%	-100%
Horticulturist	Horticulture science	1	10	61%	-11%
		2	11	51%	12%
		3	7	42%	-14%
	Horticulture theory	1	3	75%	-35%
		2	11	85%	2%
		3	9	87%	-3%
Manufacturing technicians	Engineering technology	1	6,247	56%	10%
	Plant engineering: factories	6	41	17%	-12%
	Textile engineering science	1	9	74%	-5%
		2	13	87%	27%
Manufacturing trades	Communication	3	51	87%	-25
		4	41	69%	-19%
	Industrial organisation and planning	3	127	18%	37%
	Industrial orientation	1	18	38%	-23%
		2	35	64%	14%
		3	304	33%	40%
	Industrial science	1	0	19%	-100%
		2	0	10%	-100%
		3	0	22%	-

	Plant operation theory	1	471	42%	7%
		2	326	45%	11%
		3	205	43%	18%
	Production and quality control	4	57	75%	10%
		5	28	88%	-3%
		6	34	90%	2%
	Supervisory management	4	1,238	57%	4%
		5	616	57%	1%
		6	455	69%	3%
Mechanical engineering trades	Engineering physics	5	450	55%	5%
		6	286	54%	7%
	Engineering science	1	19,246	47%	3%
		2	15,913	51%	7%
		3	13,078	42%	6%
		4	5,615	44%	4%
Fitting and machining theory	1	2,842	48%	7%	
Textile, clothing and footwear trades	Dyeing and fibre technology	4	1	55%	-24%
	Dyeing and fibre theory	1	9	65%	3%
		2	3	88%	-12%
	Fabric construction and testing	2	4	62%	-10%
		3	4	65%	-13%
	Fitting and machining theory	2	2,691	51%	6%
	General textile technology	1	21	80%	-16%
		2	7	72%	-9%
	General textiles	4	3	70%	-43%
		5	6	85%	-16%
		6	1	88%	-42%
	Patternmakers' theory	2	2	83%	-16%
	Spinning theory	1	12	67%	19%
	Upholstery and trimming theory	1	30	29%	-14%
		2	6	47%	-26%
		3	2	43%	-35%
	Weaving	4	3	91%	-7%
	Weaving theory	1	6	63%	-29%
		2	13	79%	21%
		3	10	75%	0%
Waste water plant operator	Waste-water treatment practice	3	46	31%	-12%
		1	99	40%	-8%
		2	90	45%	-2%
		3	72	65%	-6%
Other	Industrial affairs	4	21	50%	-17%
		5	5	40%	-32%

		6	2	41%	-46%
	Occupational health and safety act	6	79	44%	-14%

Source: HSRC (Further Education and Training Management and Information System) and own calculations

3. FET graduates in general subjects, 2005 value, Average pass rate and CAGR (2000-2005)

Occupation field	Instructional offering name	NQF level	Number of graduates (2005)	Average pass rate 2000 - 2005	CAGR 2000-2005
Accountancy	Applied accounting	2	1,923	44%	-8%
		3	1,501	52%	0%
	Computerised financial systems	4	4,854	76%	16%
		5	2,227	69%	15%
		6	1,233	74%	12%
	Cost and management accounting	5	2,590	83%	20%
		6	1,451	77%	15%
	Financial accounting	4	5,271	53%	9%
		5	2,877	48%	8%
		6	2,028	67%	12%
Introductory accounting	4	5,501	76%	-2%	
Administration	Administration and management	2	15	58%	-17%
		3	23	56%	-25%
	Business practice	2	2,575	48%	-11%
	Personal and administrative skills	3	67	95%	23%
Agricultural technicians	Animal production	1	38	59%	15%
		2	15	47%	0%
		3	51	66%	125%
	Beef cattle production	2	3	59%	-
		3	39	39%	-
	Cereal production	2	0	59%	-100%
	Crop production	1	67	51%	37%
		2	21	56%	20%
		3	22	56%	82%
	Dairy production	2	13	63%	-9%
		3	48	69%	3%
	Fruit production	3	27	55%	-9%
	Mutton production	3	17	65%	-19%
	Pig production	3	15	40%	-
	Poultry	2	11	54%	-9%
Vegetable production	2	2	70%	-36%	
Vine production	3	6	49%	-37%	
Clothing trades	Clothing construction	4	286	82%	-9%
		5	268	90%	-11%
		6	234	97%	-15%
	Clothing construction theory and practical	2	219	55%	10%
		3	169	57%	25%

	Introductory clothing construction	4	150	88%	-21%
		4	151	67%	-16%
	Pattern construction	4	316	82%	-7%
		5	262	86%	-12%
		6	234	87%	-11%
	Pattern construction theory and practical	2	210	58%	5%
		3	118	56%	17%
Communication	Communication	4	3,749	63%	2%
		5	2,363	63%	0%
		6	1,650	64%	-1%
	Communication and human relations	6	244	66%	-12%
	Introductory communication	4	4,880	68%	-11%
	Management communication	4	13,168	59%	5%
		6	1,349	50%	-7%
	Public relations	5	1,505	66%	-7%
		6	524	67%	1%
Economics	Applied business economics: manufacturing	2	217	27%	27%
		3	337	43%	53%
	Economic and legal environment	2	2,604	51%	3%
		3	1,874	45%	8%
	Economics	4	1,550	62%	-8%
	5	774	67%	-7%	
Hospitality	Catering practical	2	213	67%	7%
		3	171	64%	17%
	Catering theory	2	142	46%	-1%
		3	99	39%	5%
	Catering theory and practical	4	491	56%	-4%
		5	375	74%	-5%
		6	244	76%	-14%
	Food administration	2	142	47%	-6%
	Food and beverage service	5	427	87%	-4%
	Food and drink service	2	167	60%	7%
		3	110	66%	3%
	Food preparation	2	144	53%	10%
		3	109	61%	8%
	Introductory catering theory and practical	4	125	77%	-17%
	Sanitation and safety	2	139	49%	-4%
4		284	62%	1%	
Human resources	Introductory personnel management	4	787	78%	-11%
	Labour relations	5	1,873	48%	-8%

		6	672	42%	-18%
	Personnel management	4	2,879	56%	2%
		5	1,557	63%	-9%
		6	1,288	70%	-8%
	Personnel training	5	1,804	67%	-7%
		6	1,144	68%	-9%
Interior design	Upholstery theory and practical	3	24	85%	-9%
Management studies	Applied management	4	586	59%	1%
		5	370	60%	-5%
		6	239	56%	-14%
	Entrepreneurship and business management	4	17,788	70%	5%
		5	7,382	69%	2%
		6	2,924	67%	-1%
	Factory organisation	2	159	47%	-3%
		3	75	37%	-2%
	Introductory entrepreneurship	4	4,594	67%	-8%
	Introductory factory organisation	4	133	48%	-16%
Small business management and entrepreneurship	OBE	8	73%	-50%	
		3	4,845	60%	-6%
Marketing	Introductory marketing	4	500	66%	-18%
	Marketing management	4	3,236	60%	-1%
		5	1,505	49%	-9%
		6	787	45%	-15%
	Marketing research	6	1,184	46%	-3%
	Sales management	5	4,530	58%	-3%
		6	3,620	61%	2%
Other	Engineering science	3	3	95%	32%
	Industrial electronics	3	1	98%	0%
	Introductory hygiene and safety	4	123	73%	-15%
	Preparation and preservation theory	2	1	47%	0%

Source: HSRC (Further Education and Training Management and Information System) and own calculations