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TRADE INFORMATION BRIEF

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Participation in international trade has become one of the most important factors in increasing the prosperity of countries. Yet for many developing countries, perhaps particularly for those in Sub-Saharan Africa (SSA), trade is viewed primarily from a defensive perspective, with a focus on the disruptive effects of imports rather than on the opportunities presented by increased access to world markets. A key reason is the existence of information market gaps that are often associated with trade facilitation and development in developing countries – information on the export performance and potential of many developing countries remains incomplete.

The TRADE INFORMATION SERVICE series of market briefs aims to contribute to bridging this information gap for existing producers in the Southern African Development Community (SADC) who may not have the financial resources to generate a fully fledged market research process. The briefs are not intended to act as the detailed export market intelligence that successful exporting requires, but rather as a basic first-cut analysis of export prospects, to allow enterprises to make the decision on whether to initiate further market research.

Each Trade Information Brief will cover a product cluster of particular interest to members of SADC. The cluster may represent an existing key set of export products with potential for expansion, or a relatively new set where there is an indication of competitive advantage for the region.

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1. Introduction

Capsicum is the most consumed spice in the world. It is used in the food, medical and chemical industries, in preparations as diverse as sauces, pain medication and agro-chemical insecticides. It thrives in the climatic conditions of SADC and is a labour-intensive product that enjoys price stability. The following reasons make it an attractive potential export crop for SADC countries:

- Demand for capsicum is steadily increasing due to changes in consumers' food preferences and demand is not seasonal.
- Capsicum has a higher income elasticity of demand than other stable crops.
- Capsicum is classified as a high-value agricultural product. These products tend to require two to four times more labour than cereal crops and provide opportunities for unskilled labour.
- Capsicum provides opportunities for SADC's growers to move up the value chain, as a growing market exists for high-quality processed spices, semi-finished and finished products and oleoresins.

This Trade Information Brief is divided into four sections. In the first, the product is defined and the capsicum value chain is briefly explained. The second section provides an understanding of the value and growth of the consumption, production and trade of capsicum. The third section addresses issues regarding market access, including distribution channels, tariff and non-tariff barriers. Finally, this Brief suggests strategies that SADC farmers could use to trade in the international capsicum market.

The demand for capsicum should increase over the medium to long term. Over the past decade, the value of processed foods in global agricultural trade has been on a constant upward curve and by 1995 comprised more than 60% of world trade. Demand was aided by a host of enabling technologies in transportation, packaging, storage, and marketing activities. Supply and demand side changes have increased the value-added share of processing and distribution within the agribusiness and non-staple sub-sectors. Over the past decade the increase in developing countries' processed food exports has exceeded that of developed regions. The revolution in the food retail industry provides SADC farmers with an opportunity to place new products in new markets. Other developing countries, including Chile, China, Malaysia and India, are already exploiting these burgeoning markets.

References

A full set of references for this report can be accessed at www.sadctrade.org/TIB/capsicum.

2. Product definition and value chain

2.1. Product definition

The genus Capsicum is a member of the Solanaceae family and consists of approximately 22 wild species and five domesticated species. The five domesticated species are C. annuum L., C. baccatum L., C. chinense Jacq., C. frutescens L. and C. pubescens R. & P. The five domestic species contain numerous cultivars, although most commercially cultivated capsicum cultivars in the world belong to the species C. annuum.

The Capsicum genus is a diverse plant group that encompasses a range of sub-species, from sweet green bell peppers to fiery habanero peppers (see figure 1). Sub-species are classified by their fruit characteristics, including pungency, colour, shape, flavour, size and their use. Major pod types include bell and pimento for sweet pepper, New Mexican, Jalapeno, Serrano and Ancho for hot peppers, and paprika and cherry which are both kinds.

Capsicum naming terminology is confusing due to the plethora of sub-species. Generally, pepper, chili, chile, chilli, aji, paprika and capsicum are used interchangeably for plants of the genus Capsicum.

Figure 1: Peppers belonging to the Capsicum genus

Table 1: Capsicum terminology

German	Paprika, getrocknet (dried)
North American	Chile
English	Capsicum
French	Paprika
Spanish	Pimento
Scientific	Capsicum pimento or capsicum tetragonum
HS code	0904 Pepper of the genus piper, capsicum or pimenta 090420 Capsicum or pimenta – dried or crushed

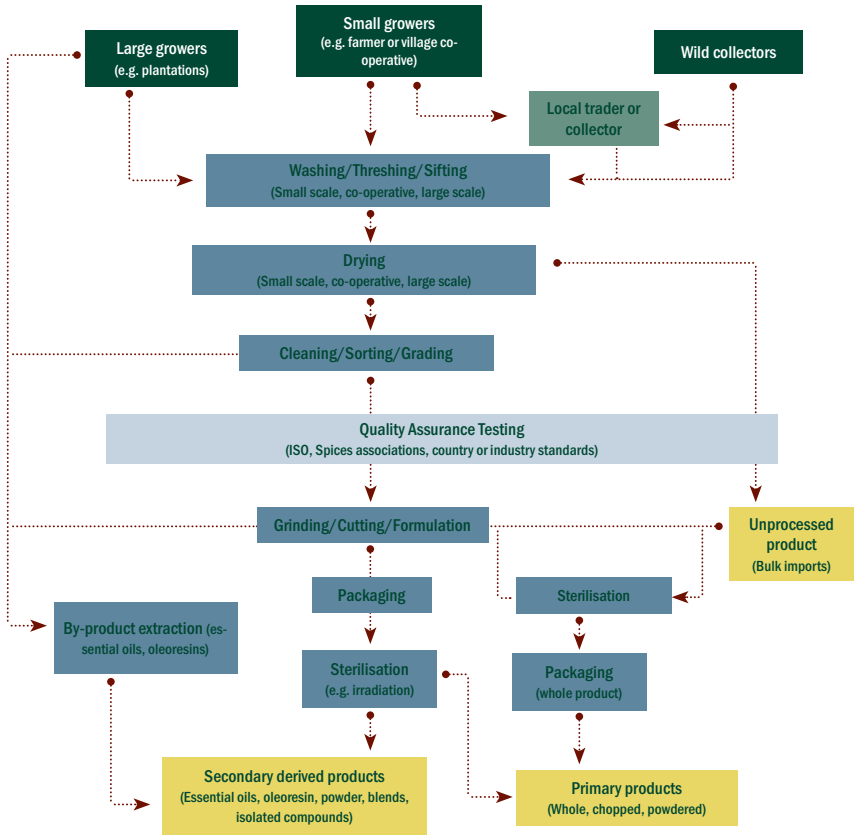
Source: TIS

2.2. Value chain

The value chain includes developing cultivars, preparing land, planting, growing, drying, cleaning, grinding, blending, oleoresin extraction, packaging, storing, distributing and marketing (see figure 2).

Capsicum is a perennial shrub that grows within three months and is harvested over a three- to six-week period. Given capsicum's rela-

Figure 2: Capsicum value chain



Source: Douglas et al (2005)

tively quick growing and harvesting period, it is a low-risk crop that does not require substantial working capital investment. This bodes well for SADC farmers. A short growing and harvesting period makes the industry more competitive as it is easy for other farmers to enter into the market. This could create a situation where capsicum is over-supplied and prices become volatile; however, high demand for capsicum makes this scenario unlikely.

Capsicum requires sunny, semi-tropic or tropical conditions and annual rainfall of between 600mm and 1,250mm. Heavy rainfall can damage plants if they are flowering. Capsicum plants are sensitive to cold conditions – below five degrees Celsius their growth is retarded and they are killed by frost. The SADC region, in particular Zambia, Tanzania, Madagascar, the Democratic Republic of Congo (DRC) and Malawi, has the right climatic conditions to grow capsicum. Plants grow in well-drained sandy or silt loam soil with a pH range of 4.3 to 8.7.

Traditionally, activities associated with growing, harvesting, processing and marketing agricultural commodities benefit from economies of scale. These activities ideally require managerial skills, certification and quantification and vertical co-ordination to deliver products to markets, access to processing facilities to beneficiate products within short-time frames, insurance to withstand price and supply fluctuations and quality labour inputs. Compared to large-scale farmers, small farmers have limited access to capital, education and marketing institutions, and are at a relative competitive disadvantage to big commercial farmers. This scenario does not, however, apply to a high-value agricultural crop like capsicum, which thrives with constant care and monitoring of plant health, including weeding, watering and harvesting based on an assessment of individual pieces' readiness and careful handling.

Another advantage of producing capsicum is that downstream processes do not require large capital investments. Harvesting capsicum is a labour-intensive process as fruit must be cut from the vine by hand. One of SADC's competitive advantages is its source of abundant labour.

Capsicum can either be dried in sunlight or placed in electric convection / gas ovens.

Capsicum plants have a long shelf life of 12 months, provided they are stored in cool, dry, well-ventilated conditions. Optimal storage conditions have 60% to 70% humidity, water content of up to 13% and maximum equilibrium moisture content of up to 65%. Capsicum is odour sensitive and should not be stored with other plants and substances. Capsicum's non-perishable nature simplifies logistical arrangements required to deliver products to market, making it easier and cheaper for SADC farmers to service distant markets.

The value of capsicum increases as it passes through each successive stage of the value chain. In the US, the net profit to a grinder/packer is roughly 5% to 15% of a retailer's profit. This statistic does not take into consideration processing, distribution or promotional costs included in the retail price. The difference in value between a commodity and a processed product is best illustrated by comparing farmer prices to retail prices. In the US from 2001 to 2005, farm cash receipts for chilli peppers averaged US$113-million. However, the US Department of Agriculture (USDA) believes that this figure is understated by 30%, as it only takes into consideration the top four states' production. Although the retail value of chilli peppers is not reported, based on estimates extrapolated from farm-retail value margins, the market for bell peppers may exceed $500m.

In the EU the purchase price of a product also increases at each successive stage of the value chain. Generally parties add the following mark-ups to the retail price – agents and brokers: 2%-5%; importers and traders: 10%-15%; grinders, processors and packers: 15%-25%; and retailers: 30%-40%. These figures change depending on the type of spice traded, current and expected harvest, availability and number of sources, demand levels and price trends.

A farmer's product increases in value as it moves up the value chain. A profitable strategy for SADC farmers would be to sell products instead of commodities, especially given high transportation costs in the region that erode margins. But farmers becoming processors is rare. For example, in the US, 54% of all chile acreage is harvested for processing (canning, drying/dehydrating and freezing), but only 7% of farms with chile peppers harvest for processing.

Selling a product into a market is more difficult than selling a commodity. According to CBI, about 85% of spices are marketed whole and the remainder is sold ground or as spiced essential oils and oleoresins. Pepper loses it taste faster when it is stored in a powdered form. Other factors that dampen the demand for the importation of processed spices packed in the country of origin include the fact that different markets have different tastes. Ground spices are also subject to stricter quality regulations and the consolidated nature of the retail food industry. Although these factors make it more difficult to export a beneficiated product, it is not impossible. The 'Way Forward' section of this Brief explores strategies that could be used to enter into this market.

2.3. Product uses

Capsicum is a base ingredient for exotic prepared foods, a food flavouring and colouring agent, a pharmaceutical ingredient and a natural dye in cosmetics and clothing.

Capsicum is predominately used by the food industry. Within this sector it is used in the industrial sector, food service sector and retail sector, which is dominated by food and meat processors, restaurants and supermarkets. In developed countries, the industrial sector consumes 55% to 60% of capsicum, the retail sector 35% to 40% and the catering sector 10% to 15%. It is expected that the food service and industrial sectors' share of total capsicum consumption will increase. Consumers are buying a larger proportion of their meals from canteens and fast-food outlets, and demand for convenience meals continues to increase. In developing markets, the primary consumers of capsicum are households.

3. Demand drivers

A population includes a greater proportion of fruit and vegetables into its diet as it becomes more urbanised and disposable incomes increase. Food consumption is also influenced by perceptions and preferences shaped by cultural norms, which are often affected by urbanisation, the prices of competing goods and product availability. The popularity of convenience foods have risen dramatically in recent decades, leading to a surge in demand for spices. In 2002, high-income regions such as the EU, the US and Japan accounted for more than 60% of packaged food sales in the world.

Travel and migration across borders have given consumers the benefit of tasting food from other cultures and learning new taste sensations, influencing and broadening the demand for foodstuffs and spices. As a result the primary market for capsicum in terms of market size is the developing countries; however, the fastest growing market for capsicum is upper-income developing countries.

In developed countries, consumers have become more health consciousness, which has prompted them to substitute sugar, salt and artificial flavours with healthier alternatives. Food manufacturers are replacing artificial spices with natural products (although there is also a counter trend in the food industry toward replacing natural spices with spice oleoresins because they are cleaner and easier to use in manufacture). These trends are seeing the demand for capsicum increase.

4. Production patterns

The production of capsicum is concentrated in a few countries, mostly developing nations. The top 10 producers of capsicum accounted for 80% of production in 2004 (see table 2). India was the dominant producer (44%), followed by China with a 9% market share.

Mexico's production of sweet and pungent peppers increased after 1990, as NAFTA allows Mexico duty-free access to the US, the world's third-largest consumer of capsicum.

Table 2 : Major producers of capsicum ('000 tons)

	Years				Average annual growth (%)		Share of total (%)	
	1990	1995	2000	2004	90-99	00-04	1994	2004
India	719	810	970	1,100	4.3	3.2	42.9	43.7
China	160	175	212	235	3.3	2.6	9.7	9.3
Bangladesh	52	53	143	138	11.9	-0.9	2.9	5.5
Ethiopia	-	105	115	116		0.2	5.4	4.6
Pakistan	101	136	175	90	1.5	-15.2	5.1	3.6
Viet Nam	64	74	77	79	1.8	0.6	3.9	3.1
Hungary	69	41	40	70	-7.9	15.0	2.2	2.8
Myanmar	33	32	49	70	2.2	9.3	2.1	2.8
Mexico	43	54	55	55	2.7	0.0	2.4	2.2
US	61	-	-	55	-100.0		0.0	2.2
Rest of the world	358	446	462	512				
Total world production	1,661	1,924	2,298	2,520	3.8	2.3		
Top 10's share	78.4	76.8	79.9	79.7				

Source: Food and Agricultural Organisation Statistics (FAOSTAT)

From 1990 to 1999, Bangladesh was the world's fastest growing producer of capsicum and by 2004, its third largest producer. Thailand and Peru are also significant exporters and producers.

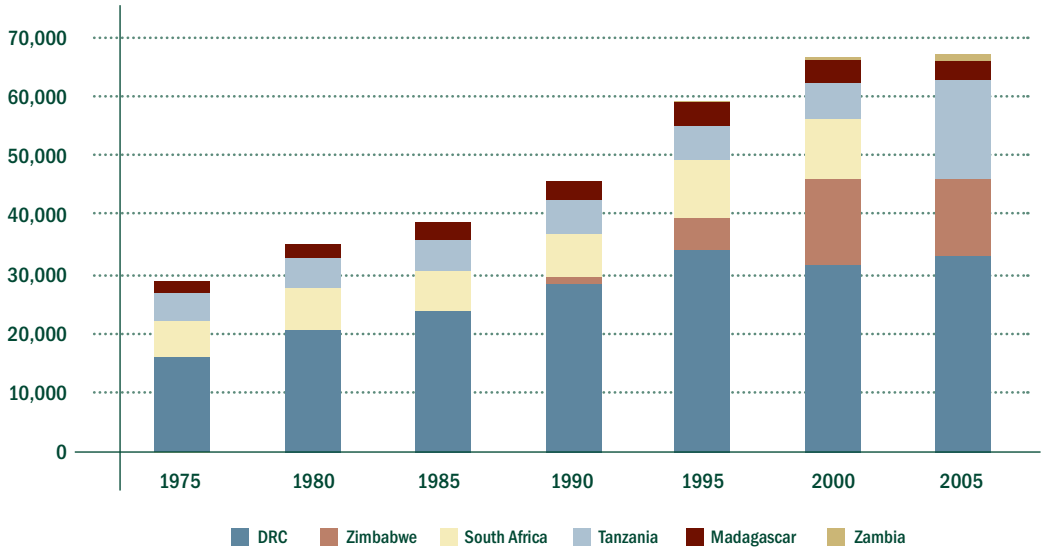
Table 3: SADC production of capsicum ('000 tons)

	Years				Average annual growth (%)		Share of total (%)	
	1990	1995	2000	2004	90-99	00-04	1994	2004
DRC	28	38	29	30	1	2	2	1
Zimbabwe	1	5	15	13	40	-4	0	1
South africa	7	5	15	13	3	0	1	0
Tanzania	6	6	6	7	1	0		
Madagascar	4	4	3	3	0.00	0.00	0.00	0.00
Malawi	0	1	2	2	0.00	0.00	0.00	0.00
Zambia		0	1	1		13	0	0
Total SADC prod.	46	59	71	69				
Rest of the world	1,643	1,903	2,256	2,481				
Total world prod.	1,661	1,924	2,298	2,520				
SADC's share of world prod. (%)	2.8	3.1	3.1	2.7				

Source: FAOSTAT

Over the past 14 years, SADC's production of capsicum has been negligible, fluctuating far below 5% of total global production (see table 3). In 2004, SADC's primary producers were the DRC, Zimbabwe and South Africa. SADC has the climatic conditions, abundant labour and fertile land to grow capsicum. The region's current limited production therefore presents an opportunity for farmers to grow a higher value agricultural product to supplement their income derived from growing staple crops.

Figure 3: SADC production of capsicum (tons)



Source: McMillian (2006)

5. Consumption patterns

The consumption of capsicum tends to be concentrated within a few countries (see table 5). In 2004, the top 10 consumers of capsicum absorbed 74% of the market and the top two consumers' share of the global market was 43.2%. The consumption of capsicum is more evenly distributed between the top 10 countries than its production. The market composition of the top 10 consumers and producers is remarkably similar. Both lists have nine countries in common. The notable differences are Malaysia and Myanmar which only appear on the top 10 consumer and producer lists, respectively. Although the US appears on both lists, it is the 10th-largest producer but fourth-largest consumer.

In 2004, the world's largest consumer of capsicum was India, which accounted for 37% of global consumption. But the country still produced more capsicum than it consumed over this period. The second largest consumer of capsicum in 2004 was Bangladesh, accounting for 6.2% of global consumption; it consumed more than it produced.

From 1994 to 2004, Bangladesh, Malaysia and US increased their consumption of capsicum at rates that exceeded their production (see table 4). Consumption increased, on an average annual fresh weight equivalent, from around 1.5kg per person from 1993 to 1995 to close to 3kg per person from 2003 to 2005. This is not surprising, given the US's growing appetite for highly seasoned food due to the influx of immigrants who favour hot spices and the movement towards using natural flavourings and colouring agents in foodstuffs instead of their artificial counterparts.

Table 4: Difference between countries' consumption and production ('000 tons)

	1990			2000			2004		
	Produce	Consume	Difference	Produce	Consume	Difference	Produce	Consume	Difference
India	719	659	60	970	868	102	1,100	917	183
Bangladesh	52	51	0	143	140	3	138	153	-15
US	61	84	-23		53	-53	55	136	-81
China	160	111	49	212	144	68	235	132	103
Ethiopia	-	-	-	115	109	6	116	110	6
Pakistan	101	93	7	175	176	-1	90	85	5
Viet Nam	64	57	7	77	73	3	79	76	3
Malaysia	2	16	-14	2	38	-36	2	73	-71
Mexico	43	43	-0	55	51	4	55	72	-17
Myanmar	33	16	17	49	38	11	70	73	-3
Thailand	21	22	-1	37	42	-5	38	59	-21
Hungary	69	59	10	40	32	8	70	61	9
Total world	1,661	1,577	84	2,298	2,247	50	2,520	2,466	54

Source: FAOSTAT

Malaysia is the only top 10 consumer of capsicum that does not appear on the list of top 10 producers. India and Pakistan's share of consumption declined from 1994 to 2004.

From 2000 to 2004, the US, Malaysia and Hungary dramatically increased consumption of capsicum. Other countries outside of the top 10 list that also experienced strong growth rates were Thailand, Sri Lanka, Nepal, Korea, Jamaica and South Africa. These countries represent potential markets for SADC farmers. The development of Mexico's chilli industry was supported by a strong regional market, namely the US. The fact that South Africa is a vibrant consumer bodes well for the development of a capsicum industry in SADC, as South Africa could serve as an anchor customer.

Table 5: Major consumers of capsicum ('000 tons)

	Years				Average annual growth (%)		Share of total (%)	
	1990	1995	2000	2004	90-99	00-04	1994	2004
India	659	714	868	917	4.0	1.37	41.3	37.2
Bangladesh	51	52	140	153	12.6	2.13	3.3	6.2
US	84	26	53	136	-5.0	26.62	1.3	5.5
China	111	132	144	132	4.1	-2.13	6.6	5.4
Ethiopia	-	100	109	110		0.26	5.3	4.5
Pakistan	93	147	176	85	3.7	-16.57	5.0	3.5
Viet Nam	57	71	73	76	2.8	0.72	3.8	3.1
Malaysia	16	8	38	73	10.0	17.85	0.8	3.0
Mexico	43	53	51	72	0.2	9.30	2.7	2.9
Hungary	59	32	32	61	-9.4	17.43	1.8	2.5
Rest of the world	403	496	563	650				
Total world consumption	1,577	1,830	2,247	2,466	4.14%	2.34%		
Top 10's share (%)	74.4%	72.9%	75.0%	73.6%				

Source: FAOSTAT

Over the past 14 years, SADC's share of global consumption of capsicum moved within a narrow band of 2.3% to 2.8%, making it a marginal consumer (see table 6). The DRC and South Africa are the region's primary consumers. Although the consumption of capsicum in the DRC is greater than South Africa's, it appears to have reached its plateau of 30,000 tons a year. South Africa's demand for capsicum is growing at an increasing rate, fuelled by the growth in convenience foods.

Table 6: SADC consumption of capsicum ('000 tons)

	Years				Average annual growth (%)		Share of total (%)	
	1990	1995	2000	2004	90-99	00-04	1994	2004
DRC	27	33	30	32	1.02	1.56	1.30	1.80
South Africa	7	6	6	11	-1.35	17.90	0.11	0.45
Tanzania	6	6	6	6	0.82	0.37	0.32	0.25
Zimbabwe	1	4	6	6	23.91	-0.98	0.26	0.24
Madagascar	3	3	3	3	0.00	-0.17	0.19	0.12
Malawi	1	1	1	1	16.31	15.13	0.03	0.05
Rest of the world	1,532	1,777	2,195	2,407				
Total world consumption	1,577	1,830	2,247	2,466				
SADC's share of total cons. (%)	2.8	2.9	2.3	2.4				

Source: FAOSTAT

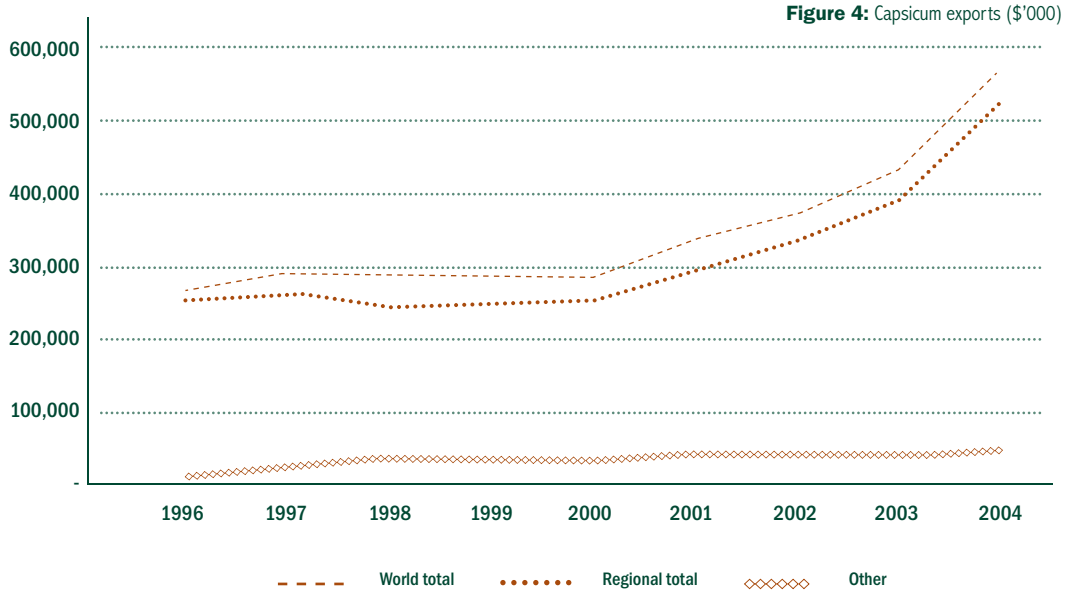
6. Regional trade

6.1. Regional exports

From 1996 to 2000, regional exports of capsicum were relatively flat, but exports started to show some growth from 2000. Based on the trend line in figure 4, it appears that the export market entered into a second growth phase during 2003 which should continue. Increased export activity is in line with expectations. The export market is dominated by East Asia, EU15, South Asia and South America. These regions managed to achieve double-digit growth from 2000 to 2004, testament to the buoyant global demand for capsicum.

From 1996 to 2004, the three largest regional exporter markets declined, although South America gained market share to become the strongest regional exporter. Given the similarity between South America and SADC's agri-processing sector, South America's success could provide useful lessons to SADC farmers.

Figure 4: Capsicum exports ($'000)



Source: United Nations Commodity Trade Statistics Database (UN Comtrade)

In 2004, the largest exporter of capsicum was East Asia, with a market share of 28% (see table 7 and figure 5), down from 34% in 1996. East Asia's top four importing countries are Malaysia, Korea, Japan and Indonesia. East Asia pursues a focused export strategy as its largest 25 importing countries comprise 97% of its total exports and intra-regional trade accounts for 21% of the region's exports. Other emerging import markets that fall within East Asia's top 25 countries are the US, Mexico, Singapore, Spain and Australia, as well as South Africa.

In 2004, the second largest exporter of capsicum was the EU15 with a market share of 17%. Similar to East Asia, the region's share of global exports declined from 1996 to 2004, by 8%. The region managed to sustain a 10% growth rate from 2000 to 2004, but it was significantly lower than South Asia, East Asia and North America's growth patterns. The EU15 dominates established markets in developed regions which have lower growth rates. The EU15's top four importing countries are Germany, the Netherlands, the UK and the US. Germany and the Netherlands are the EU's spice hubs. In 2004, Germany exported $129m worth of spices of which 32% were spice mixtures. In 2004, about 93% of the Netherlands' spice exports, valued at $114m, represented re-exports of which $33m were spice mixtures.

Other emerging import markets that fall within the EU15's top 25 countries are Poland, the Czech Republic, Austria, Sweden, Portugal, Hungry, Switzerland and Spain. Intra-regional trade accounts for 57% of the region's exports. The only member state that the region does not export to is Luxemburg. Given the region's propensity to engage in intra-regional trade, SADC farmers should direct exports toward Germany and the Netherlands as gateways into this market.

In 2004, the third largest exporter of capsicum was South Asia with a market share of 17%, lower than its 1996 market share of 21%. The region's export growth from 2000 to 2004 was strong, reaching 23% as Indian consumption increased. South Asia's top four importing countries are Malaysia, the US, Bangladesh and Sri Lanka. South Asia's largest 25 importing countries comprise 16% of its total capsicum exports and intra-regional trade accounts for 49% of the region's capsicum exports. Emerging import markets in South Asia's top 25 countries are Indonesia, Saudi Arabia, Australia, the Russian Federation, Spain and China. South Africa also appears on South Asia's top 25 importing nations.

South America managed to increase its share of the market from 1% in 1996 to 17% in 2004. South America's capsicum exports grew at an exponential rate of 68% from 1996 to 2004 because it managed to forge favourable trade ties with the world's largest consumer of capsicum, the US, as well as Europe's largest consumers, Spain and Germany. Other emerging import markets that fall within South America's top 25 countries are the Netherlands, Brazil and Venezuela. South America's largest 25 importing countries comprise 100% of its total capsicum exports and intra-regional trade accounts for 1% of the region's exports. South America uses its historic colonial ties to Spain and its cultural ties throughout the Americas to secure import markets, and it gains access to Europe by targeting its two largest re-export hubs.

From 1996 to 2004, SADC's share of global exports increased from 1% to 2%. SADC's capsicum industry entered into a growth phase dur-

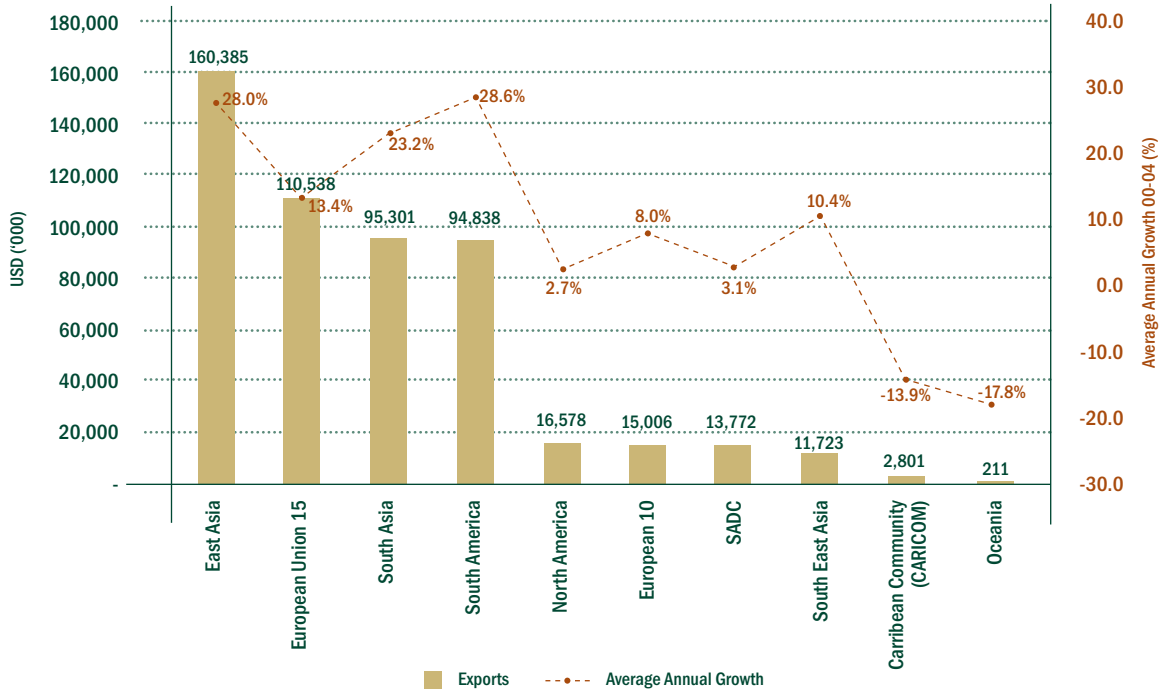
ing the 1990s but it tapered off in the 2000s. SADC's top four importing countries are Spain, South Africa, UK and the Russian Federation. Promising new markets include France, Germany, Austria, US, Mauritius, Mozambique, Malawi and Switzerland. SADC's largest 25 importing countries comprise 100% of its total capsicum exports and intra-regional trade accounts for 23% of the region's capsicum exports. South Africa's presence among SADC's top four import markets is positive, as it indicates that SADC has access to a large regional importer.

Table 7: Regional exports of capsicum (US$)

	Years			Average annual growth (%)		Share of total (%)	
	1996	2000	2004	96-04	00-04	1994	2004
East Asia	91,670,167	59,688,019	160,385,445	7.2	28.0	34.0	28.4
EU 15	75,213,173	66,919,264	110,538,135	4.9	13.4	27.9	19.6
South Asia	56,064,356	41,304,296	95,301,148	6.9	23.2	20.8	16.9
South America	1,591,008	34,723,170	94,838,215	66.7	28.6	0.6	16.8
North America	9,748,191	14,890,317	16,578,020	6.9	2.7	3.6	2.9
European 10	16,327,584	11,029,861	15,006,272	-1.0	8.0	6.1	2.7
SADC	1,720,552	12,191,125	13,771,948	29.7	3.1	0.6	2.4
South East Asia	2,910,486	7,879,557	11,723,449	19.0	10.4	1.1	2.1
Carribean Community (CARICOM)		5,103,571	2,801,118		-13.9	0.0	0.5
Oceania	334,167	460,801	210,671	-5.6	-17.8	0.1	0.0
Regional total	255,579,684	254,189,981	521,154,421	9.3	19.7	94.9	92.3
Other	13,648,522	34,392,638	43,424,771	15.6	6.0	5.1	7.7
World total	269,228,206	288,582,619	564,579,192	9.7	18.3	100.0	100.0

Source: UN Comtrade

Figure 5: Regions' capsicum exports for 2004 (value and growth)



Source: UN Comtrade

6.2. Regional imports

Regional imports of capsicum have steadily increased since 1996 and have performed particularly well since 2000. Trade patterns indicate that imports are concentrated in particular geographical areas. In 2004, the top two import regions, the EU15 and North America's share of global imports was 53.6% and the top four importing region's share of world trade was 76.6%.

In 2004, the largest regional importer of capsicum was the EU15, accounting for 28% of total regional imports (see table 8 and figure 6). This market managed to achieve growth of 10.2% from 2000 to 2004. The top four exporters of capsicum into the region are Peru, Spain, Brazil and China. From 2000 to 2004, Peru, Brazil and China grew their exports on an average annual basis by 93.6%, 24.4% and 13.85%, respectively. The EU15's top 25 importing countries comprise 96% of its total capsicum imports and intra-EU15 trade accounts for 35% of the region's imports. Other emerging exporters that fall within the EU15's top 25 importing countries are Thailand and Mexico, as well as South Africa.

The fact that the EU15 imports from geographically distant, developing countries bodes well for SADC farmers' ability to compete, as these countries face similar logistical constraints and large transpor-

tation costs as a proportion of a product's value. One disadvantage is that SADC farmers cannot exploit counter-seasonal differences in production. South Africa's position as a reasonably large exporter into the EU could be used by other SADC countries as a means to indirectly enter into the EU by supplying South Africa, which could then supply the EU15.

In 2004, the second largest regional importer of capsicum was North America, comprising 25% of total global imports. The top four exporters of capsicum into the region are China, India, Mexico and Peru. In 2004, North America's top 25 importing countries comprised 98% of its total imports and intra-regional trade accounted for 18% of the region's imports. Other emerging exporters that fall within North America's top 25 importing countries are Brazil, Columbia, Guatemala and Costa Rica. Compared to the EU15 region, geographical proximity plays a greater role in North America's trade partner selection. South Africa also appears on North America's list of top 25 importing nations.

South East Asia was the third largest regional importer of capsicum in 2004. Trade statistics reflect that South East Asia is a growing export market. Regional demand is driven by Malaysia's demand, which is the eighth largest consumer of capsicum. In 1996, the region's share of global imports was a negligible 0.6%; however, in 2004 the region comprised 11.7% of global imports to become the third largest regional importer of capsicum. Although the region's growth phase reached its peak in the late 1990s, the region's imports should continue to grow but at a slower rate. The top four exporters of capsicum into the region are China, India, Indonesia and Myanmar. In 2004, South East Asia's top 25 capsicum importing countries comprised all its capsicum imports and intra-regional trade accounted for 17% of the region's capsicum imports. Other emerging exporters that fall within South East Asia's top 25 importing countries are Malaysia, Thailand, Cambodia, Singapore, Vietnam, Korea and Germany. Singapore is a regional hub.

South Asia's share of global imports in 1996 was minuscule but by 2004 its share of global imports was 5%, largely driven by Bangladesh and Sri Lanka that consume more capsicum than they produce. The top four exporters of capsicum into the region are India, China, Pakistan and Zimbabwe. India is the region's dominant exporter, comprising 95% of the market. In 2004, South Asia intra-regional trade accounted for 97% of the region's capsicum imports. This is a fairly closed market and SADC farmers' ability to break into the market could be constrained.

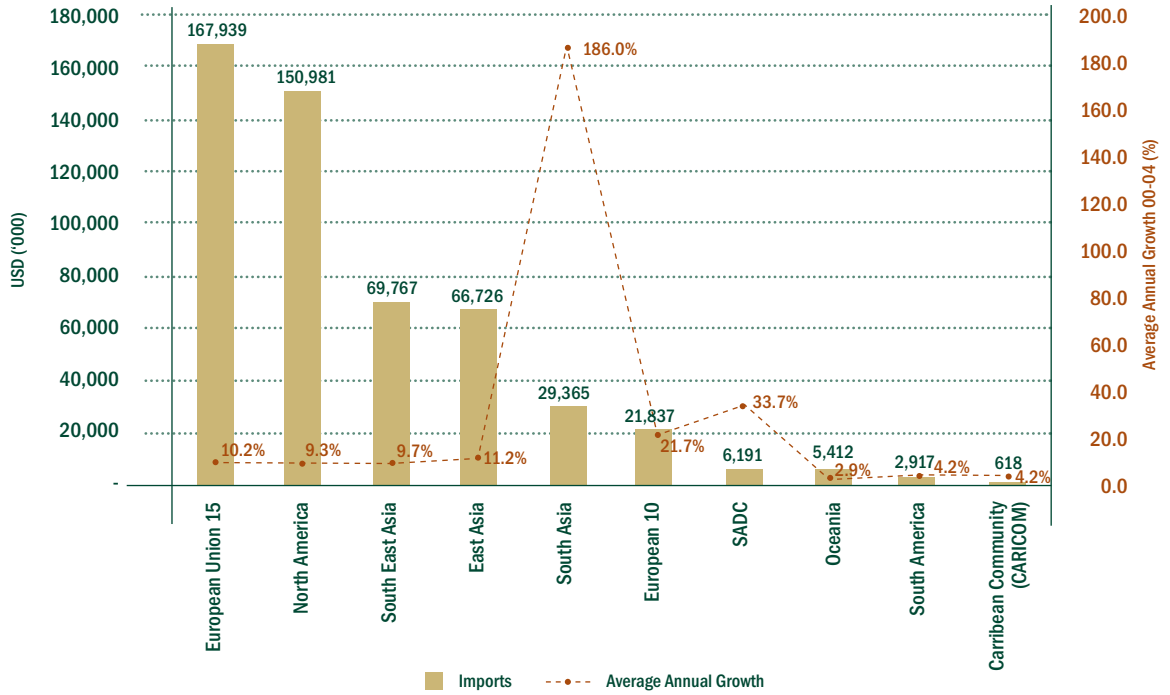
Trade statistics indicate that SADC has sufficient consumer demand to become a viable regional market hub for capsicum. SADC's demand for capsicum grew 34% from 2000 to 2004. Zimbabwe, Zambia and South Africa are the region's largest importers of capsicum. The top four exporters of capsicum to the region are India, Zimbabwe, Zambia and China. In 2004, SADC's intra-regional trade accounted for 52% of the region's capsicum imports. This indicates that intra-regional trade between SADC member states is sound and could be used as a base to build a strong regional market to build capacity for entry into international markets.

Table 8: Regional imports of capsicum (US$)

	Years			Average annual growth (%)		Share of total (%)	
	1996	2000	2004	96-04	00-04	1994	2004
EU 15	124,232,267	114,025,843	167,939,138	3.8	10.2	39.4	28.2
North America	85,931,654	105,654,565	150,981,090	7.3	9.3	27.2	25.4
South East Asia	1,833,754	48,158,689	69,766,823	57.6	9.7	0.6	11.7
East Asia	71,017,783	43,694,971	66,725,884	-0.8	11.2	22.5	11.2
South Asia	3,739	438,654	29,365,104	206.8	186.0	0.0	4.9
European 10	8,141,743	9,960,293	21,836,821	13.1	21.7	2.6	3.7
Sadc	900	1,936,918	6,191,464	201.8	33.7	0.0	1.0
Oceania	5,498,142	4,820,802	5,411,917	-0.2	2.9	1.7	0.9
South America	1,690,515	2,475,078	2,917,170	7.1	4.2	0.5	0.5
CARICON		524,592	617,545		4.2	0.0	0.1
Regional total	298,350,497	331,690,405	521,752,956	7.2	12.0	94.6	87.7
Other	17,170,370	35,114,351	73,439,388	19.9	20.3	5.4	12.3
World total	315,520,867	366,804,756	595,192,344	8.3	12.9	100.0	100.0

Source: UN Comtrade

Figure 6: Regions' capsicum imports for 2004 (value and growth)



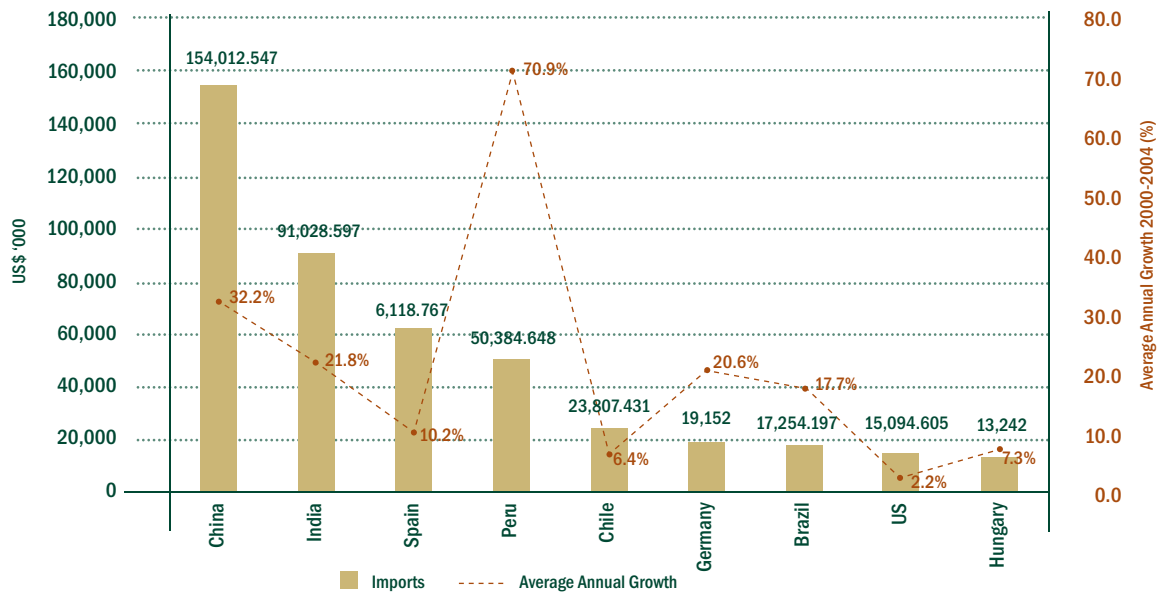
Source: UN Comtrade

7. Country trade

7.1. Countries' exports

In 2004, the top three exporting countries of capsicum were China, India and Spain, which managed to capture 27%, 16% and 11% of the market, respectively (see table 9 and figure 7). As a result, the top three exporters comprised 54% of global exports in 2004. Given these countries' strong growth rates from 2000 to 2004 of 32%, 22% and 10%, respectively, over the medium term one would expect that they will retain their market leadership position. Their growth rates are particularity impressive compared to other top 10 exporters, excluding Peru and Germany.

Figure 7: Top 10 exporters of capsicum in 2004 (value and growth)



Source: UN Comtrade

While the top half of the market is dominated by three strong exporters, the lower half of the market is more competitive and comprises a multitude of exporters. In general, the export market is concentrated as the top 10 exporters' market share was 81% in 2004. On average the respective top 10 countries' market share in 1996 compared to 2004 has remained relatively stable (see table 9). An interesting market development is the emergence of South American exporters. Peru, Chile and Brazil's market share was a fraction of a percent in 1996; however, by 2004 these countries' market share was 8%, 4% and 3%, respectively. Movements in market share from 1996 to 2004 indicate that South American gains were at India and Spain's expense.

Trade statistics illustrate that the demand for capsicum is growing at a steady pace. From 2000 to 2004, demand for capsicum saw an average annual growth rate of 18.3%. This indicates that SADC farmers should contemplate entering into the market in the short term to take advantage of the market's next medium-term growth spurt.

Based on trade statistics, the following countries are emerging exporters: Tunisia, the Netherlands, Malaysia, South Africa, India, Chile, Jamaica, China and Belgium.

Table 9: Top 10 exporters of capsicum (US$)

	Years			Average annual growth (%)		Share of total (%)	
	1996	2000	2004	96-04	00-04	1994	2004
China	74,729,077	50,473,831	154,012,547	9.5	32.2	27.8	27.3
India	56,064,356	41,304,296	91,028,597	6.2	21.8	20.8	16.1
Spain	48,389,144	41,471,316	61,178,767	3.0	10.2	18.0	10.8
Peru	-	5,903,209	50,384,648		70.9	0.0	8.9
Chile	-	18,581,532	23,807,431		6.4	0.0	4.2
Germany	14,214,993	9,057,931	19,152,000	3.8	20.6	5.3	3.4
Brazil	-	8,992,465	17,254,197		17.7	0.0	3.1
US	9,544,499	13,827,257	15,094,605	5.9	2.2	3.5	2.7
Hungary	15,524,000	10,000,000	13,242,000	-2.0	7.3	5.8	2.3
Mexico	8,586,145	17,510,498	12,728,254	5.0	-7.7	3.2	2.3
Total exports	269,228,206	288,582,619	564,579,192	9.7	18.3		
Top 10 exporters	227,052,214	217,122,335	457,883,046	9.2	20.5		
Other exporters	42,175,992	71,460,284	106,696,146	12.3	10.5		
Top 10 share of total (%)	84.3	75.2	81.1				
Others' share of total (%)	15.67	24.76	18.90				

Source: UN Comtrade

Table 10: Top 10 exporters' three largest markets in 2004 (US$)

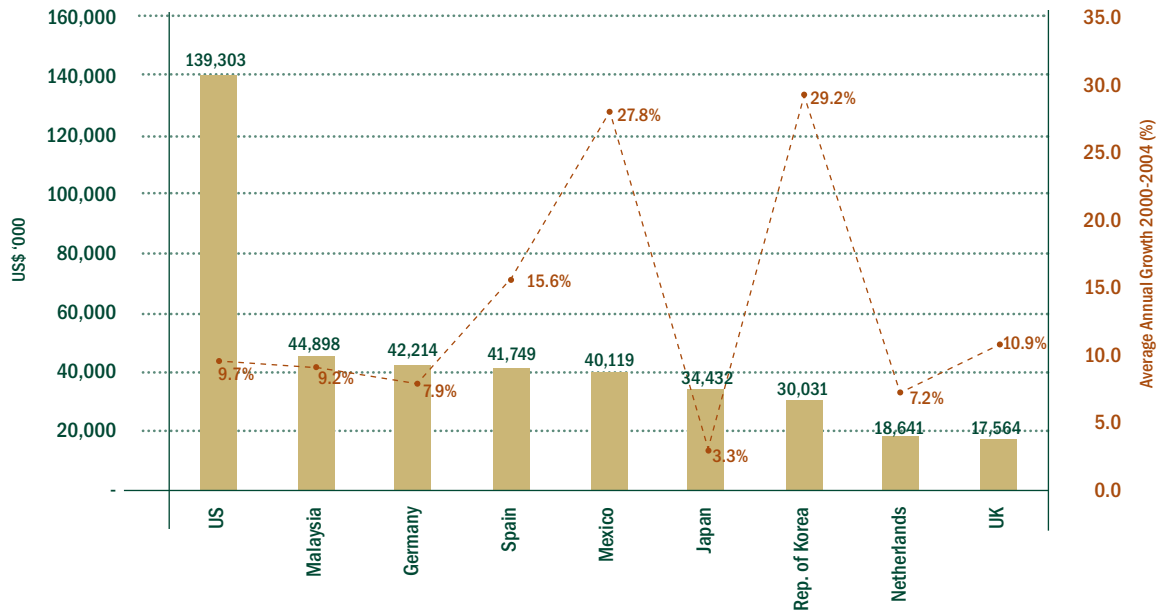
			Top importing countries		
Exporters	Total exports	Share of world exports (%)	First (%)	Second (%)	Third (%)
China	154,012,547	27.3	Malaysia: 25	Rep. of Korea: 22	Indonesia: 12
India	91,028,597	16.1	Malaysia: 23	US: 20	Bangladesh: 13
Spain	61,178,767	10.8	US: 14	Germany: 12	UK 9
Peru	50,384,648	8.9	Spain: 51	US: 33	Mexico: 11
Chile	23,807,431	4.2	US: 46	Mexico: 27	Japan: 14
Germany	19,152,000	3.4	The Netherlands: 18	Austria: 10	France: 10
Brazil	17,254,197	3.1	Germany: 65	US: 15	Spain: 15
US	15,094,605	2.7	Mexico: 43	Canada: 32	UK: 5
Hungary	13,242,000	2.3	Germany: 39	Austria: 15	The Netherlands: 14
Mexico	12,728,254	2.3	US: 95	Guatemala: 1	El Salvador: 0.5

Source: UN Comtrade

7.2. Countries' imports

In 2004 the top three importers of capsicum were the US, Malaysia and Germany, with a market share of 23%, 8% and 7% of the market, respectively (see figure 8 and table 12). The top three importers comprise 38% of the market, which implies that demand for capsicum is widely dispersed. This makes it easier for an emerging exporter to gain a foothold into the market. From 2000 to 2004 the US, Malaysian and German markets grew by 10%, 9% and 8%, respectively.

Figure 8: Top 10 importers of capsicum in 2004 (value and growth)



Source: UN Comtrade

The statistics mask an important feature, namely the strength of the US market's growth momentum and its ability to absorb imports. Given the value of the US market, which is colossal compared to the other top 10 import markets, its ability to attain steady growth is impressive. A successful exporter should design an import strategy that includes the US as a potential market.

The US's consumption of capsicum is increasing faster than its production capacity. The market's largest consumer of spices is the industrial and foods service sector, which comprise 60% of domestic usage, while the remainder is used by the retail sector. The retail sector is dominated by a few, large companies that grind/process spices and then package them under their own brand names or under a private label. The US' largest spice retailer, McCormick, has a 37% market

share. An emerging trend within the US spice industry is greater use of flavouring and seasonings to meet individual food company specifications. SADC's ability to export to this market hinges on its ability to form close relationships with spice traders.

The shortfall between demand and supply is met by imports (see table 11). The share of domestic consumption being met by imports increased from 37% in the two years to 1985 to 44% during 1993 to 2005. According to trade statistics from the US Department of Agriculture, the US imported capsicum from Mexico (31%), India (25%), China (22%), Peru (7%) and Chile (3%). Mexico has a price advantage into the US market through NAFTA, while close proximity to this market reduces transportation costs that erodes profit margins. However, SADC farmers have a counter-seasonal advantage which could be used to place their products in the US market, which should then be built upon to secure long-term supply contracts

Table 11: US's supply and demand of capsicum

	Supply					Utilisation	Season-avg. price	
Year	Production 1/	Import 2/	Total	Exports 2/	Domestic 3/	Per capita use 4/	Current dollars 1/	Constant dollars 5/
	-- Million pounds, fresh-weight --					Pounds	-- $/cwt --	
1985	578.7	361.5	940.2	7.7	932.5	3.91	7.03	10.09
1990	797.5	463.7	1,261.2	52.8	1,208.4	4.83	7.16	8.77
2000	653.9	910.4	1,564.3	109.4	1,454.9	5.15	29.80	29.80
2001	589.9	1,029.6	1,619.5	137.6	1,481.9	5.19	31.50	30.76
2002	624.4	1,177.1	1,801.5	127.2	1,674.3	5.81	30.20	29.01
2003	576.8	1,196.9	1,773.7	140.1	1,633.6	5.61	23.10	21.79
2004	651.1	1,276.5	1,927.6	129.7	1,797.9	6.12	23.80	22.00
2005 f	645.8	1,249.9	1,895.7	112.3	1,783.4	6.02	22.10	20.04
2006 f	625.0	1,377.0	2,002.0	129.0	1,873.0	6.26	--	--

-- = Not Available. F = ERS forecast. 1/ Source: ERS based on NASS, USDA data. 2/ Converted to a fresh-weight (wet) basis by ERS from data provided by the Bureau of the Census, USDC. Trade includes fresh, canned and dried/dehydrated products. Excludes paprika and pimientos. 3/ Domestic disappearance for all uses, including shrink and loss. 4/ Expressed on a fresh-weight equivalent basis. To convert to dry-weight, divide by 8. 4/ Constant dollar prices calculated using the GDP deflator, 2000=100.

Malaysia is the world's second largest importer of capsicum. Its growing demand for capsicum can be traced back to social and economic changes that have transformed the industrial organisation of the food retail sector and its products. Malaysia's main suppliers of capsicum are China, India, Indonesia, the US, Thailand and Mexico.

Germany is the world's third largest importer of capsicum. In Germany, the retail sector is the largest consumer of spices, absorbing 60% of these products, with supermarkets accounting for roughly 50% of retail sales. According to the Centre for the Promotion of Imports from Developing Countries, Germany imports about three-quarters of its spice requirements directly from the countries of origin. In 1997, 70%

of imports were sourced from outside the EU and 45% of total imports came from developing countries. Germany's main suppliers of capsicum are Brazil, China, Spain, Hungary, Turkey, the Netherlands and Mexico. The dominant food processors in Germany are Kraft Jacobs Suchard and CPC. SADC's export strategy should take into account the steps required to form relationships with key supermarket chains.

Looking at the composition of the top 10 importers from 1996 to 2004, it is clear that the market is in a process of change (see table 12). Developed countries such as Germany, Spain and Japan are losing market share to Malaysia and Mexico.

Based on the demand drivers outlined in section 3 and patterns in trade data, the most attractive markets for capsicum over the medium to long term will be emerging economies, such as China, India and Indonesia. As middle-income developing countries' economies become more affluent, their consumption of capsicum will increase. If productive capacity is unable to satisfy rising demand, imports will be required to cover the shortfall. This applies to India and China, the world's largest exporters of capsicum. This creates potential for SADC growers to supply these markets.

Based on trade statistics, the following countries are also emerging importers and could be potential SADC markets: Thailand, Hungary, South Africa, Slovakia, Switzerland, Russian Federation, Denmark, India, Estonia, Chile and Turkey.

Table 12: Top 10 importers of capsicum (US$)

	Years			Average annual growth (%)		Percentage of total (%)	
	1996	2000	2004	96-04	00-04	1996	2004
US	76,797,841	96,309,024	139,303,358	7.7	9.7	24.3	23.4
Malaysia		31,619,046	44,897,685		9.2	0.0	7.5
Germany	36,478,176	31,151,760	42,214,000	1.8	7.9	11.6	7.1
Spain	33,306,826	23,418,152	41,749,470	2.9	15.6	10.6	7.0
Mexico	3,906,685	15,051,341	40,119,316	33.8	27.8	1.2	6.7
Japan	34,696,701	30,246,298	34,432,072	-0.1	3.3	11.0	5.8
Rep. of korea	19,768,204	10,778,061	30,030,908	5.4	29.2	6.3	5.0
Netherlands	12,824,115	14,089,443	18,641,046	4.8	7.2	4.1	3.1
UK	11,320,243	11,623,459	17,563,654	5.6	10.9	3.6	3.0
Sri Lanka			16,724,142			0.0	2.8
Total imports	315,520,867	366,804,756	595,192,344	8.3	12.9		
Top 10 importers	229,098,791	264,286,584	425,675,651	8.1	12.7		
Other importers	86,422,076	102,518,172	169,516,693	8.8	13.4		
Top 10 share of total	72.6%	72.1%	71.5%				
Others' share of total	27.39%	27.95%	28.48%				

Source: UN Comtrade

Table 13: Top 10 importers' three largest suppliers, 2004 (US$)

			Top exporting countries		
Importers	**Total imports**	**Share of world imports (%)**	**First (%)**	**Second (%)**	**Third (%)**
US	139,303,358	23.4	China: 22	India: 18	Mexico: 17
Malaysia	44,897,685	7.5	China: 58	India: 39	Hong kong: 2
Germany	42,214,000	7.1	Brazil: 25	China: 19	Spain: 15
Spain	41,749,470	7.0	Peru: 62	Zimbabwe: 15	South Africa: 6
Mexico	40,119,316	6.7	US: 32	China: 28	Chile: 18
Japan	34,432,072	5.8	China: 59	Chile: 11	Rep. of Korea: 11
Rep. of Korea	30,030,908	5.0	China: 98	Uzbekistan: 1	Japan: 0.5
Netherlands	18,641,046	3.1	Spain: 17	Mexico: 12	Germany: 10
UK	17,563,654	3.0	India: 22	Spain: 20	US: 17
Sri Lanka	16,724,142	2.8	India: 99	Pakistan: 1	Afghanistan: 1

Source: UN Comtrade

8. SADC trade

8.1. Trade with the world

In 2004, South Africa was the largest importer of capsicum in the region, followed by Zimbabwe and Mauritius (see table 14). South Africa's demand for capsicum grew by 35% from 2000 to 2004 to reach $5m in 2004. This is a significant market with the potential to support a regional trading hub. Zimbabwe's demand for capsicum was erratic due to its economic conditions. Mauritius' demand for capsicum from 2000 to 2004 experienced steady growth.

Table 14: SADC imports from the World (US$)

	Year									Ave annual growth (%)
	1996	1997	1998	1999	2000	2001	2002	2003	2004	00-04
South Africa					1,583,526	725,598	1,735,210	4,410,271	5,279,345	35.13
Zimbabwe						3,382	1,811,389		451,260	
Mauritius		332,012	271,292	322,685	271,419	243,256	275,342	370,830	405,161	10.53
Malawi				1,333	1,165	19,086	3,402	84	46,340	151.14
Tanzania		317	2,478	6,070	779	149	3,072	2,659	3,863	49.23
Madagascar	900	1,608	1,412	1,021	2,071	192	345	1,307	2,827	8.09
Zambia		3,805	983	1,859	5,468	9,516	663	89,905	2,668	-16.42
Botswana					2,621	4,970	13,715	28,422		-100.00
Mozambique					8,588	70	903			-100.00
Namibia					18,265	3,975	1,314	265		-100.00
Swaziland					43,016	4,447	3,127			-100.00
Total SADC	900	337,742	276,165	332,968	1,936,918	1,014,641	3,848,482	4,903,743	6,191,464	33.71
SADC share of world (%)	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	

Source: UN Comtrade

South Africa and Mauritius' import partner is India. Although Zimbabwe imports its capsicum from regional producers, its ability to sustain a growing market for capsicum products is doubtful given its political and economic conditions. SADC's ability to build a regional spice hub is compromised by South Africa and Mauritius' decision to use India as their preferred capsicum supplier. One of the reasons for both countries' decision to choose India as a preferred supplier might be due to cost considerations: India's average export price is below SADC countries' export price. This implies that SADC producers' supply-side rigidities should be addressed to make them competitive. A price advantage cannot be used to support Mauritius' decision to import capsicum from China, as its average price is more expensive then South Africa's. This could represent an opportunity for Mauritius to switch trading partners in favour of a SADC supplier.

Table 15: SADC countries' largest importers in 2004

			Leading suppliers		
	Total imports (US$)	Share of SADC (%)	First (%)	Second (%)	Third (%)
South Africa	5,279,345	85.27	India: 34	Zimbabwe: 31	Zambia: 12
Zimbabwe	451,260	7.29	Mozambique: 38	South Africa: 34	Zambia: 25
Mauritius	405,161	6.54	India: 74	China: 20	Thailand: 3
Malawi	46,340	0.75	Zambia: 90	Mozambique: 6	South Africa: 4
Tanzania	3,863	0.06	UAE: 67	UK: 19	
Madagascar	2,827	0.05	Pakistan: 81		
Zambia	2,668	0.04	South Africa: 99		

Source: UN Comtrade

From 2000 to 2004, South Africa and Madagascar increased their exports consistently. Although Zimbabwe and Zambia's exports in 2004 managed to exceed $1m, their export performance is erratic. Developing country importers perceive SADC farmers to be erratic suppliers. This negative market perception counts against SADC producers when they tender for large retail contracts. To reduce negative market perceptions about SADC farmers, SADC's export industry should be built on key exporters that have proven their ability to be stable suppliers, such as South Africa and Madagascar.

Table 16: SADC countries' exports to the World (US$)

	Year									Average annual growth (%)
	1996	1997	1998	1999	2000	2001	2002	2003	2004	00-04
South Africa					2,879,134	8,354,842	7,112,938	9,640,284	6,425,854	22.23
Zimbabwe					8,622,615	97,741	12,581,340		5,424,925	-10.94
Zambia		906,602				114,684	1,124,142	811,086	1,180,850	
Malawi	1,673,476			778,544	591,558	662,456	1,499,915	365,967	574,521	-0.73
Madagascar	47,076	58,859	52,772	36,799	15,157	57,073	64,769	94,575	101,530	60.88
Tanzania		11,952	169,186	140,659		88,148	9,341	50,423	64,228	
Mauritius			24,785	11,877	75,220	3,549	194	3,527	40	-84.81
Mozambique										
Botswana								963		
Namibia					5,169	3,075		20,157		-100.00
Swaziland					2,272					-100.00
Total SADC	1,720,552	977,413	246,743	967,879	12,191,125	9,381,568	22,392,639	10,986,982	13,771,948	3.10
SADC's share of exports (%)	0.64	0.34	0.09	0.34	4.22	2.79	6.00	2.55	2.44	

Source: UN Comtrade

In 2004, South Africa and Zimbabwe were SADC's largest exporters with a 47% and 39% market share respectively, which means they absorbed 86% of SADC exports in 2004 (see table 17). A striking fea-

ture is the absence of substantial intra-SADC trade and SADC exporters' reliance on European markets. Another interesting observation is that SADC exporters have not made inroads into developing markets in the Asian Pacific Rim. Although these markets' demand concerning value and volume is lower than developed countries', their growth rate is higher. SADC exporters' decision to sideline less mature markets deprives them of an opportunity to secure a 'first-mover advantage'. Also, entering into an immature market is easier because supply channels are more flexible and it gives a supplier the opportunity to grow with the market in terms of expertise and product development.

Table 17: SADC's largest exporters in 2004

			Leading importers		
	Total exports (US$)	Share of SADC (%)	First (%)	Second (%)	Third (%)
South Africa	6,425,854	46.66	Spain: 39	UK: 13	Russian Federation: 10
Zimbabwe	5,424,925	39.39	Spain: 45	South Africa: 30	Senegal: 2
Zambia	1,180,850	8.57	South Africa: 77	Spain: 16	Malawi: 3
Malawi	574,521	4.17	Spain : 76	UK: 17	South Africa: 4
Madagascar	101,530	0.74	France: 99	Mauritius: 1	
Tanzania	64,228	0.47	UK: 100		
Mauritius	40	0.00			

Source: UN Comtrade

8.2. Intra-SADC trade

SADC trade among member states is small and erratic (see tables 18 - 20). South American countries' ability to successfully compete in global markets was founded on creating a vibrant regional market to build the critical mass necessary to enter into global markets. SADC should focus on building a regional trading hub to provide a gateway to international trade.

Table 18: Intra-SADC trade between member states in 2002 (US$)

		Importers									
		Angola	Lesotho	Malawi	Mauritius	Mozambique	Namibia	South Africa	Swaziland	Zambia	Zimbabwe
Exporters	Malawi							138,034			
	South Africa	302,838	24,373	769	900	565	67,662		3,062	2,490	20,445
	Zambia			14,113				2,152			958,483
	Zimbabwe							558,836			

Source: SADC Trade Database

Table 19: Intra-SADC trade between member states in 2003 (US$)

		Importers										
		Angola	Congo	Lesotho	Malawi	Mauritius	Mozambique	Namibia	South Africa	Swaziland	Zambia	Zimbabwe
Exporters	Angola							112				
	Malawi								150,720			
	Mozambique				15,152				27,581			
	Namibia								19,829			
	South Africa	9,111	1,684	8,735	209	6,461	3,107	36,374		21,353	4,197	13,293
	Zambia								676,335			
	Zimbabwe					254			1,495,766			

Source: SADC Trade Database

Table 20: Intra-SADC trade between member states in 2004 (US$)

		Importers									
		Angola	Congo	Malawi	Mauritius	Mozambique	South Africa	Swaziland	Tanzania	Zambia	Zimbabwe
Exporters	Lesotho					48,063					
	Malawi						421,440				
	South Africa	1,130	143	360	3,961	2,915		8,732	519	4,423	8,281
	Swaziland						9				
	Zambia			39,788		39,693	690,598				
	Zimbabwe						1,663,714				

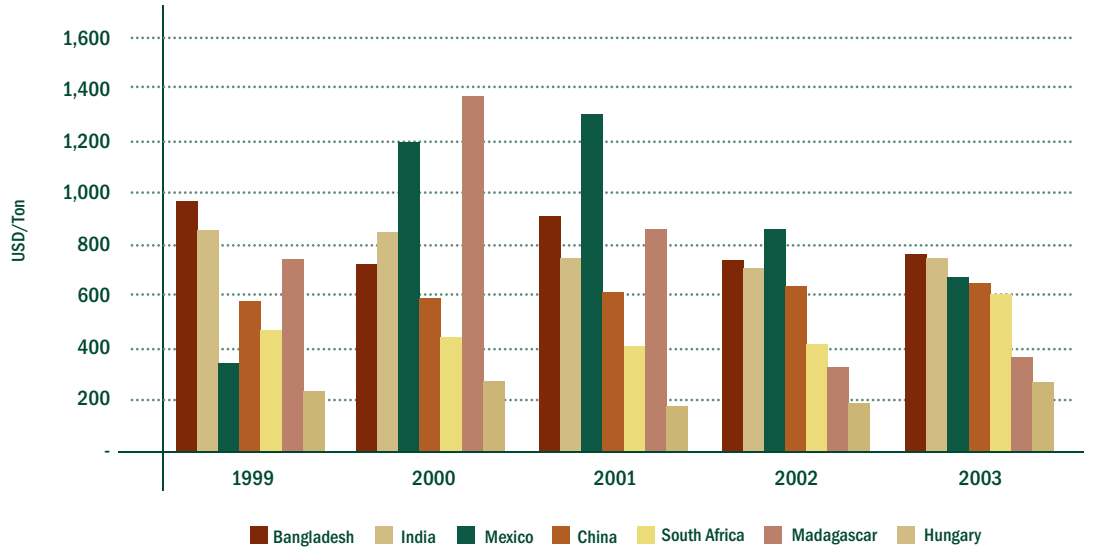
Source: SADC Trade Database

9. Prices

9.1. Producer prices

There is an interesting disparity between producer prices with respect to absolute values and price movements from 1999 to 2002. In 2003 this trend was broken and greater harmony in world trade prices was seen. Converging price trends could be a symptom of the globalisation of the capsicum supply chain and reduced competition. India and Mexico's producer prices were volatile. Mexico's price volatility is tied to high demand due to an increase in domestic consumption and increasing demand for its product from NAFTA countries. China's producer prices have increased at a steady rate, while India's producer prices have declined.

Figure 9: Producer prices from 1999-2003 (US$/ton)

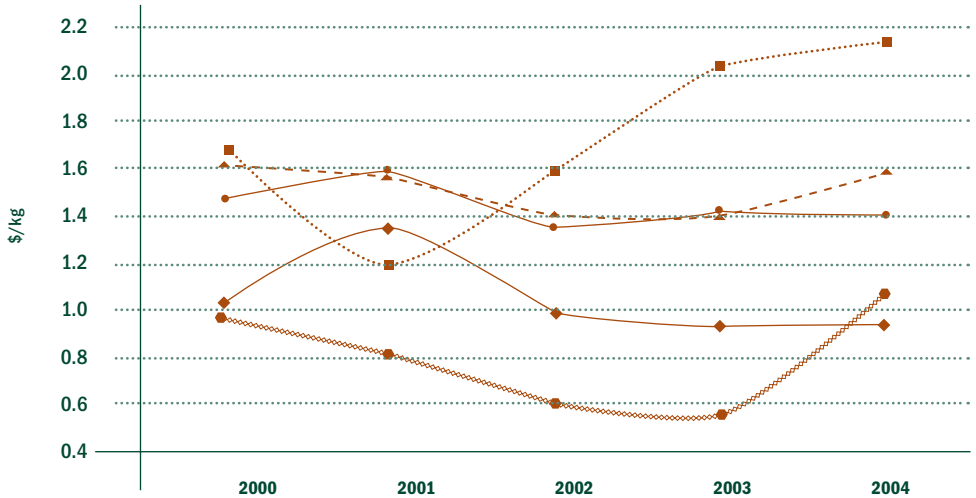


Source: FAOSTAT

9.2. Average import prices

From 2000 to 2002, the global average import price for capsicum fell, then regained lost ground to 2004. The important issue is not the absolute price of capsicum but its relative price and price stability compared to other spices. Capsicum is the second-most valuable spice and prices remain relatively stable (see figure 10). It appears that other spices, mixtures and capsicum's import price entered into a growth phase in 2003.

Figure 10: Unit prices of world spice imports from 2000 to 2004



	2000	2001	2002	2003	2004
Other Spices, mixtures	1.69	1.21	1.59	2.02	2.15
Capsicum	1.61	1.56	1.40	1.41	1.59
Cinnamon	1.48	1.58	1.36	1.42	1.40
Spice seeds	1.03	1.36	1.00	0.94	0.94
Ginger	0.97	0.82	0.61	0.57	1.07

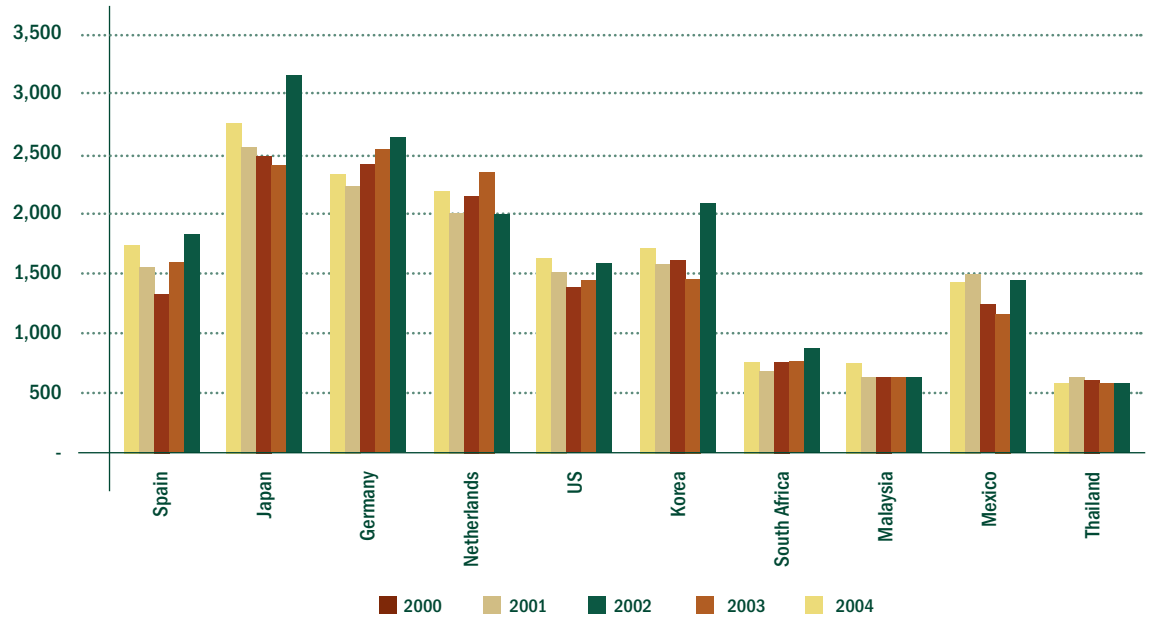
Source: ITO, 2006:6

From 2000 to 2004, Japan and Germany's average import price rose dramatically, while in Malaysia and the Netherlands the average import price fell. The Netherlands' import price is fairly erratic.

South Africa's average import price is fairly low and thus SADC farmers may find it more profitable to pursue other markets. This has implications for the region's ability to build a trading hub.

Although average import prices have fallen, producers have become more efficient and the differential between producer prices and average import prices has remained fairly constant.

Figure 11: Average import prices from 2000 to 2004 (US$/ton)



Source: FAOSTAT

9.3. Average export prices

Export prices tend to be volatile due to swings in product availability because of unforeseen climatic conditions, stocks, production cycles and the economic health of exporting countries. From 2000 to 2003 the variability between countries' average export price with respect to value and movement was significant (see figure 12). There is a need for specific country analysis that takes into account the inter-relationship between product and market dimensions.

Germany and the Netherlands' export prices are significantly higher than other countries' prices represented in the sample. Both these countries import unprocessed capsicum and re-export spice mixtures to other European countries. India and China tend to export capsicum to other Asian Pacific Rim countries. Given these product and market nuances, making general price comparisons can be misleading.

Figure 12: Average export prices from 2000 to 2004 (US$/ton)

Source: FAOSTAT

10. Market access

Countries use tariff barriers and non-tariff barriers, which usually take the form of strict sanitary and phytosanitary measures or adherence to stringent, certification measures as such as 1SO 9000 certification, to protect domestic farmers from imported goods. Tariffs increase the price of imported goods compared to domestic goods, giving domestic producers a relative price advantage. Non-tariff barriers' potential to hinder exporters' ability to sell their products into foreign markets is greater than tariff barriers. Non-tariff barriers increase a producer's costs throughout the supply chain due to the complexity of the processes that he/she must adhere to and the bureaucratic cost of ensuring that procedures are documented. Non-tariff barriers are particularly onerous for farmers in developing regions, such as SADC. However, the pooling of resources among SADC farmers could reduce this burden.

A product's value tends to increase as it is processed, therefore a profitable scenario would be to import dried capsicum, process it into a sauce or spice mixture and then re-export a branded product. As a general rule, countries tend to place higher tariffs and impose more stringent non-tariff barriers on processed goods to restrict these goods entering their markets.

10.1. Tariffs

10.1.1. European Union

Based on the EU's Generalised System of Tariff Preferences, applicable tariff levels are based on the country of origin and the type of product. In 2001 the 'Everything but Arms' (EBA) policy was incorporated into the Generalised System of Tariff Preferences. This policy gives developing countries duty-free access without quantitative restrictions into the EU, barring arms and ammunitions. This can be used by SADC to its advantage to place products in a market if they keep prices competitive.

According to the International Trade Organisation (ITO), special arrangements under the EBA policy will not be rebuked or subject to periodic renewal. For more information on GSP, EBA and general tariffs refer to:

- http://europa.eu.int/comm/trade/issues/global/gsp/index_en.htm
- http://europa.eu.int/comm/trade/issues/global/gsp/eba/index_en.htm
- http://www.europa.eu.int/comm/taxation_customs/dds/en/tarhome.htm

Generally, in the EU, the more processed a product, the higher its tariff. Imports of food ingredients from developing countries have import duty reductions under the GSP scheme: Regulation EC 2820/98. If exporters from developing countries can provide a 'Form A' certificate issued by the appropriate authorities in their home country, they will benefit from GSP treatment.

Table 21: Tariff rates facing SADC's exports into the EU

Code	Description	GSP (%)
90420	Fruits of the genus capsicum or of the genus pimenta, dried, crushed or ground	
902010	Sweet Pepper	9.6
902030	Other	0.0
90942090	Crushed or ground	5.5

10.1.2. US

US tariffs are not high and most SADC states are beneficiaries of the African Growth and Opportunity Act (AGOA) which allows some of their goods into the US at zero duties and without quotas. Countries classified under AGOA have a comparative advantage compared to countries that do not have a preferential trade agreement with the US; however, with respect to capsicum only 0904.20.40 Anaheim Peppers and Ancho Peppers are subject to AGOA preferences. All other types of capsicum from AGOA countries are subject to most-favoured nation (MFN) duties.

Table 22: Tariffs facing SADC exports into the US

Code	Description	GSP (%)
904	**Pepper of the genus piper, capsicum pimenta** **Pepper of the genus piper:**	
0904.11.00	Neither crushed nor ground Black White	0 0 0
0904.12.00	Crushed or ground	0
	Of the genus capsicum (including cayenne pepper, paprika and red pepper):	
0904.20.20	Paprika	3c/kg
0904.20.40	Anaheim and ancho pepper Other	5c/kg
0904.20.60	Not ground Bell peppers Jalapeno peppers Other	2.5c/kg
	Ground:	
0904.20.73	Mixtures of mashed or macerated hot red peppers	0
0904.20.76	Other	5c/kg
0904.20.80	Of the genus pimenta (including allspice)	0

Source: McMillan (2006)

10.2. Non-tariff barriers

Non-tariff barriers are more of a concern for importers than tariff barriers. The reason for this is two fold. First, trade in spices is not subject to a common contract with standard terms and quality parameters. This provides room for constantly changing quality measures that impede developing countries' ability to export their product. Second, consumers' greater awareness of health standards and the consolidation of the retail sector have caused bureaucrats to make food safety legislation standards stricter requiring 'due diligence' along the supply chain. Supermarkets exert high levels of control along the supply chain in terms of SPS and quality assurance, which has led to the concentration of production. This has increased the demand all food ingredients to be traceable and product assurances from parties.

An exporter must have ISO 9000 or Hazard Analysis and Critical Control Point management systems in place; refer to http://vm.cfsan.fda.gov/~ird/haccp.html.,and be a member of the European Spice Association or the American Spice Association, as this is a positive indication of one's professionalism and trustworthiness. The above conditions are not mandatory but if an exporter does not satisfy the above conditions his/her ability to enter into foreign markets is curtailed.

10.2.1. European Union

The European Spice Association (ESA) has an ESA Contract which indicates minimum quality standards for imported spices, methods of arbitration and enforcement procedures. For an overview of ESA's specifications, refer to http://www.indianspices.com/html/s1490qua.htm. The ESA contract sets base requirements and is not an exhaustive list. Spice trader's quality requirements in major northern European markets such as Germany, The Netherlands, UK and France; tend to be stricter.

The following non-tariff barriers are important to know.

- Directive 93/43/EEC describes general food hygiene and "emphasises that it should always be possible to trace the origin of the food product". According to Directive 93/43/EEC producers that process, treat, pack, transport, distribute or trade foodstuffs within the EU must adhere to the Hazard Analysis Critical Control Point (HACCP) system.
- According to Regulation (EC) 852/2004, from the 1 January, 2006, the same food standards and requirements are applicable to food produced within or imported into the EU as for food produced within the EU. HACCP principles are obligatory for developing country exporters dealing with EU member states. This will make it more difficult for SADC farmers to export their products as their processes will have to be certified.
- Regulation EC 178/2002, referred to as the General Food Law, lays down the general requirements and principles of the EU's

food legislation, refer to http://www.europa.eu.int/comm/food/index_en.html. Although substantial effort has been made to harmonise member states' national food laws, differences exist and exporters should be aware of individual state's laws. Generally, exporters must supply food distributors with information that they "know and document from whom they have bought their food (ingredients), to whom they supply their products and label their products so that they can establish traceability in case of a food safety problem".

- Exporters must clearly label their products if they have been treated by irradiation or ionisation. Genetically modified spices can only be imported into EU provided they have the authority's approval and must be labelled as genetically modified products. For more information on genetically modified products refer to Regulation 1830/2003 on traceability and labelling of genetically modified organisms.
- The EU has standards for the maximum level of toxins present in imported spices, such as aflatoxin and ochratoxin, and has strict controls to detect salmonella. The maximum levels for aflatoxin are listed in Regulation (EC) 472/2002, an amendment of Regulation (EC) 466/2001. Sampling methods for detecting aflatoxin in spices can be found in Commission Directive 2002/27/EC. EU wide maximum levels for capsicum are 5 µg/kg for aflatoxin B1 and 10 µg/kg for total aflatoxins.

For EU directives and regulations refer to http://europa.eu.int/eur-lex/en/search/index.html. Food safety regulations for the EU can be accessed at http://europa.eu.int/comm/food/index_en.htm.Pesticide residue legislation information for the EU can be found at europa.eu.int/comm/food/plant/protection/pesticides/index_en.htm.

10.2.2. US

Before goods are released from port in the US, an ASTA contract must be accompanied by a certificate of analysis issued from an approved ASTA laboratory. If the product is not free of pests and disease, then it is either dumped or fumigated, which increases marketing costs. A product's traceability is important since the passing of the US Bio-Terrorism Act. If a product is imported into the US in a packaged form, the packing house must be certified by a US agency.

11. Marketing activities

11.1. Distribution channels

Figure 13 illustrates the parties and process involved in a generic transaction. A farmer sells his/her product to an importer through an agent. The agent acts on the exporter's behalf in return for a commission of, on average, 0.5% to 2%. An importer sells the product through a broker to a grinder or processor. The processor cleans, grinds, mixes and packages the spice and then sells it to a food processor or packages it for the retail market. In developed markets there is movement toward simplifying this chain through direct buying – a processor buys directly from a producer or producer association in the source country. This has resulted in agents, brokers and traders being sidelined and activities being concentrated among key participants.

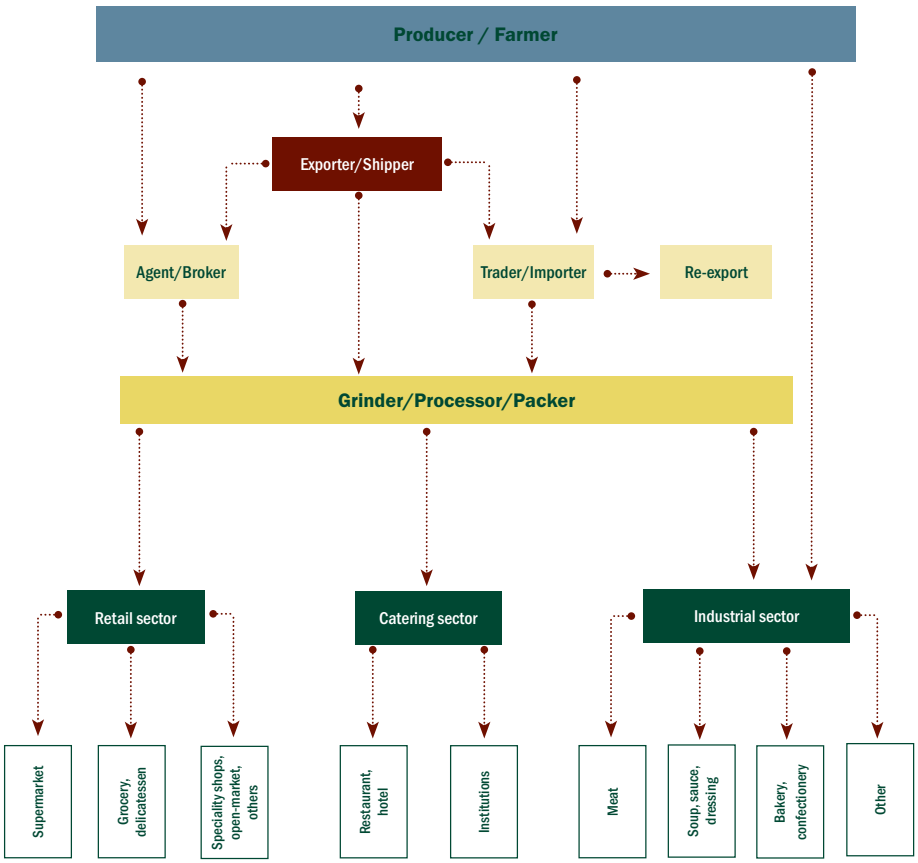
Another factor that has shaped food distribution channels is the consolidation of the food retail sector. The food sector is dominated by multinational companies that have added a regional dimension to their global brand. This brand is then rolled out throughout a region, replacing traditional food outlets. The proliferation of supermarkets is rapidly occurring in middle-income developing economies, especially in Asia and Eastern Europe. The sheer size of these supermarket chains and their investment in infrastructure allow them to engage directly with medium- and large-sized producers and exporters in developing countries and grinders and manufacturers in consuming markets. As a result, food markets have become internationalised, resulting in the global sourcing of ingredients, making food manufacturers increasingly dependent on global food ingredient suppliers capable of delivering uniform products and technical services in all markets.

Consolidation of the retail food sector has affected the capsicum supply chain. This is especially pertinent to developed countries, where the spice processing industry is dominated by a few large multinationals. Their size and access to infrastructure allows them to engage in strategies to reduce their operational risk, such as entering into alliances with producers and exporters in developing countries to secure a consistent source of supply. Competition among farmers to become a preferential supplier to a large supermarket chain has increased as those who fail to secure a contract become marginal suppliers.

The nature of competition has changed as countries and companies place a premium on scale, packaging and quality control. A trend among food manufacturers is to buy food ingredients that are placed further up the value chain and entering into more strategic outsourcing partnerships with suppliers of ingredients with customised ingredient application systems. Supermarkets are not only the sellers but also the 'assemblers' of finished products.

This affects the manner in which potential exporters should market their products to these companies. One's ability to compete is based on one's ability to consistently deliver uniform, high-quality produce. The food industry is not solely interested in purchasing an unrefined ingredient but buying knowledge, detailed product specifications, application suggestions and support in research and development. The basis of competition has shifted from price cutting behaviour to the manner in which the product is produced, stages of production and reliable delivery. The ability to compete is based on knowledge-intensive activities, such as cultivar development, supply chain management and adherence to safety standards. These skills are not abundant in SADC and thus alliances should be formed to share knowledge.

Figure 13: Capsicum distribution channels



Source: CBI (2006)

11.2. Packaging

Unprocessed capsicum is imported in gunny sacks or paper bags. Thick, air tight paper containers are used to distribute capsicum to the industrial sector. Both the retail and catering sectors' packing requirements are determined by customer preferences.

The EU has a host of regulations that cover the manner in which foodstuffs should be packaged. For general information on minimum regulated standards about packaging and packaging materials, refer to Directive 94/62/EC. The maximum sum of concentrations of lead, cadmium, mercury and chromium allowed in packaging is 100 ppm. If an exporter sells his/her product to be used by the industrial sector for food ingredients, the food label must include, in English or the language of the importing country, the product name, batch code, lot identification, name and address of the manufacturer and exporter, net weight and recommended storage conditions. In accordance with Directive 2003/89/EC, food industries in the EU are obliged to explicitly declare on the label of their product the presence of allergenic substances.

12. Way forward

This Trade Information Brief argues that capsicum can be classified as a high-value agricultural product. These products provide SADC with the potential to export processed agricultural products, which is more profitable than exporting commodities. Markets for higher value agricultural products are more lucrative than commodity products with respect to product margins and the rate at which demand for these products is increasing. However, these markets are competitive and supply chains are complicated (see table 23). If SADC farmers wish to be viable contenders for these highly contested markets, they must re-examine their supply-side capabilities.

Table 23: Comparing the supply chain of stable and high-value agricultural products

	Modern sub-sectors	
	Traditional sector	**Modern sector**
Production	Large number of producers of varying sizes, with significant presence of smallholders	Fewer number of large-scale farms (high input systems e.g, IPM varieties, irrigation etc.), some operating out grower schemes, with 3rd party audited GAP systems, and full traceability
Packhouses	Producers use non-audited packhouse systems, producing product for a range of customers using manual systems	Fully audited (BRC or HACCP certified) packhouses, often with automated grading and packaging systems
Transport	May have refrigerated transport	Refrigerated transport from packhouse to market or export point
Traders	Local traders often collect from a large number of rural farmers, and then sort for exporter's demands. No traceability	No intermediary traders in the chain
Processors	Minimal semi-processed products, usually confined to trimming and simple packaging	Processing plants to produce ready-to-eat and ready-to-cook, frozen or chilled fruits and vegetables. Often prepared in to slices and vacuum-packed, Implementation of HACCP and audited by 3rd party
Exporter	Deal with range of players, often directly with farmers and traders.	Export agents are used if the processing plant does not export directly.
Transport to export market	Transport by sea or air – but sometimes problems with guaranteeing air freight space	Transport by sea or air, Air-freight managed either through own company or with firm contract with air companies.
Importer	Importer suppling wholesale, catering and some retail outlets.	Dedicated category manager will procure for whole supermarket chain, manges producers to ensure quality assurance, compliance with its requirements, responsible for technology development and information flows. May also seek new product lines.
Wholesalers	Wholesale markets play an important role in the marketing chain in some importing countries.	Bypasses wholesale markets.
Retailers	Local retailers and supermarkets	Supermarket chains with high demands in relation to GAP, due diligence and traceability. Often with own inhouse codes of practice and/or EUREPGAP, due regard also given to environmental and social welfare of all players in the supply chain.
Consumers	Local and international consumers. Imports	Overseas consumers. USA, EU and Japan are main export market are becoming more important (e.g. Middle East).

Source: Davis (2006)

12.1. Financial support systems

Returns on high-value agricultural products are better than commodity products. However, on a per hectare basis, they are more costly to grow as they require more inputs, which tend to be expensive, and large labour inputs for harvest and planting activities. Compared to traditional crops, prices and yields are more variable. Both these conditions affect a farmer's ability to manage his/her cash flow. To encourage farmers to grow capsicum, micro-finance markets should enable small farmers to access reasonably priced working capital by providing institutional support to micro-finance institutions to finance producer groups' initial operating costs.

Financing small farmers does not only imply micro-financing; other sources and means of finance should be explored. SADC could use its large commercial farming entities throughout the value chain, such as suppliers, processors and traders, as an important source of funding for smallholder producers in rural areas. Financing agreements could take the form of interlocking arrangements, such as contract farming and out-grower schemes. Under contract farming agreements, either the processor or marketer provides a farmer with inputs, on credit that is linked to a product purchase agreement. Initial repayment for the inputs is by means of produce supplied by the farmer at a predetermined price, with the rest sold as specified in the contract. Under out-grower schemes, the lender exercises greater control over a farmer's operations. Farmers provide land and labour and receive inputs, extension services and an assured market. SADC farmers should consider these options. SADC farmers' major constraint is knowledge and inputs required to satisfy developing importers' strict quality control processes. These agreements provide SADC farmers with the means to satisfy these conditions and to benefit from learning by doing.

12.2. Technical support systems

Importers are hesitant about accepting spices processed and packed in LDCs because of quality concerns and possible adulteration, and LDC exporters' inability to meet international food safety and quality assurance (ISO 9000) standards. Small farmers find it difficult to produce and deliver produce that satisfy supermarket standards due to their limited access to technology, capital and skills throughout the supply chain. SADC farmers should build capacity by pooling their resources, exchanging technical knowledge and sharing access to good quality cultivars and management systems.

12.3. Marketing support systems

Access to real-time price and supplier information instead of market analysis is very useful, as well as the use of modern technology, such as cell phones, to distribute this information to allow producers to take advantage of real-time price volatility.

12.4. Institutional support systems

According to Davis, Weinberger & Lumpkin, on average, the ratio of transaction costs to final product costs is high. This ratio tends to be larger for small farmers as their access to technology, information, distribution and marketing channels throughout the supply chain is limited. This disadvantage can be mitigated through institutional co-ordination of parties throughout the value chain by vertically integrating supply chain actors through forming strategic alliances and entering into contracts. In Thailand, small farmers have been integrated into retail food supply chains. This integration was started by the introduction of a distribution centre for the TOPS supermarket chain. Successful integration is dependent on the quality of the vendors who link the farmers to supermarkets.

The implication for SADC is that a regional governing body has a role to play in creating synergies between sector players and co-ordinating and supporting information gathering and sharing between parities. Although it was mentioned that scale economies are not vital, this reasoning was investigating supply-side variables; when this logic is applied to one's ability to engage with large suppliers it is incorrect. Achieving scale through vertical and horizontal linkages opens up the possibility of supplying large processors, retailers and end-users directly, helping to gain a better understanding of customers' purchasing criteria and opening up new sales channels. Government support is important to develop independent producer associations that can be linked to potential exporters.

12.5. Short-term export strategies

The first step would be to engage in sequenced programmes, which cover the areas discussed in this section to improve SADC farmers' supply-side capacity. SADC's large, commercial entities must be integrated throughout the capsicum supply chain and then nodes for small farmer associations to feed into the supply-chain can be created through contract arrangements. This industrial organisation allows smaller farmers to form strategic alliances with established companies to tap into these companies' marketing and distribution networks. In Asian countries, small farmers have formed producer associations to pool their resources to create a more competitive cluster that gives them critical mass to interact with large domestic, commercial producers and foreign importers.

The second step would be for SADC farmers to supply large processors and packers with whole, dried, high-quality capsicum. A common response to this suggestion is that small farmers do not have the supply-side capabilities to fulfil large contracts, and are priced out of the market compared to relatively larger Asian or South American farmers. These arguments do not hold for the production of capsicum. Collins argues that even though small farmers can produce at a lower cost, there are significant post-harvest transaction costs that benefit from scale economies. When production and post-harvest costs are taken into account, the relative position of both types of farming methods are the same. Large farmers' post-harvest cost advantage at least partially offset their higher production cost.

The next stage for SADC farmers would be to supply bulk, high-quality products to large industrial importers which prefer to buy products directly from the source, using more than one supplier. If SADC farmers could secure a sourcing contract from a large supermarket, the supply-side capabilities associated with exporting processed products would not have to be borne solely by SADC farmers.

SADC farmers' ability to export processed and packaged products that are labelled at their origin is more difficult than exporting commodity products. The main difficulties facing SADC farmers are not technical but market related. End-users require a wide range of products that may not be available from a single supplying country. The large spice processors play the role of consolidating spices produced in a wide range of countries. Further, the large spice processors earn higher margins as a result of the strength of their brands and can offer just-in-time supply of small quantities, as they have established distribution and warehousing services in the import markets. These advantages all but eliminate the possible gains from lower cost of operation and transporting ground spices in the country of origin.

A long-term strategy that SADC's farmers could use is to broaden their focus from simply trading capsicum in its raw or processed form and to attract processors that are willing to invest in SADC's export markets. Potential partners could either be large multinationals, processors or traders from developed and developing countries that are interested in forming alliances and joint ventures with processors in SADC.

Another strategy for SADC's farmers to consider is supplying segments of the market, such as exotic spices to the food service industry, with ground spices in intermediate wholesale packs.

13. Conclusion

The demand for capsicum has steadily increased from 2000 to 2004. This is driven by demographic, social and economic changes. Urbanisation and rising per capita income reflected in the growing middle class have created greater demand for convenience foods and more reliance on the catering industry. Economic, social and demographic trends indicate that the market for capsicum will continue to grow over the medium to long term. This growth will be fuelled, predominately, by the industrial and retail food industry. Potentially the most lucrative market for capsicum is in its processed form.

For the industrial food sector, capsicum is processed into oleoresins and used as a natural alternative to artificial additives and flavourings. In the retail sector, capsicum is sold processed as a spice mixture or a cook-in-sauce. The demand for capsicum as a raw product is increasing but the range of value-added products that require capsicum is growing faster. This shortfall presents SADC farmers with an opportunity to export value-added products.

Emerging markets for capsicum products are located largely in Asia because of a preference for heavily spiced foods. In Thailand, supermarkets' share of the Thai food market grew from 32% in 1998 to 50% in 2003. China's agrifood system has undergone rapid changes – food retail sales in 2004 totalled $383bn, of which $94bn was through 'modern' distribution channels. Over the medium to long term, developing countries' demand for higher value agricultural products, such as capsicum should overtake developed countries' consumption of these products. SADC should diversity its export strategy to harness this trend.

Exporting higher value agricultural products is a more lucrative business than exporting staple crops; however, it is a more competitive and complex business. The supply-chain is subject to strict quality food safety standards, and contracts to produce these products are controlled by a few dominant multinational corporations. The standards for participation in high-value agricultural markets will continue to increase. These factors will cause supply chains to become more intricate and change rapidly in response to supply-demand conditions and regulation. Capsicum's supply chain, from cultivar selection to marketing the product, will require greater vertical integration between parties. SADC producers find it difficult to satisfy importers' health, safety and quality assurance standards. Traceability, phytosanitary, infrastructure and productivity constraints hinder SADC's farmers' ability to participate in international markets.

SADC's competitive advantage is its land, labour and climate. The supply-side rigidities that hinder SADC's farmers' ability to compete can be addressed. SADC's large commercial entities must be integrated

throughout the capsicum supply chain. Nodes for small farmer associations to feed into the supply chain can be created through contract arrangements. This form of industrial organisation also allows smaller farmers to form strategic alliances with established companies which enable them to tap into these companies' marketing and distribution networks. This strategy was successful in Asia and could well work for SADC.

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