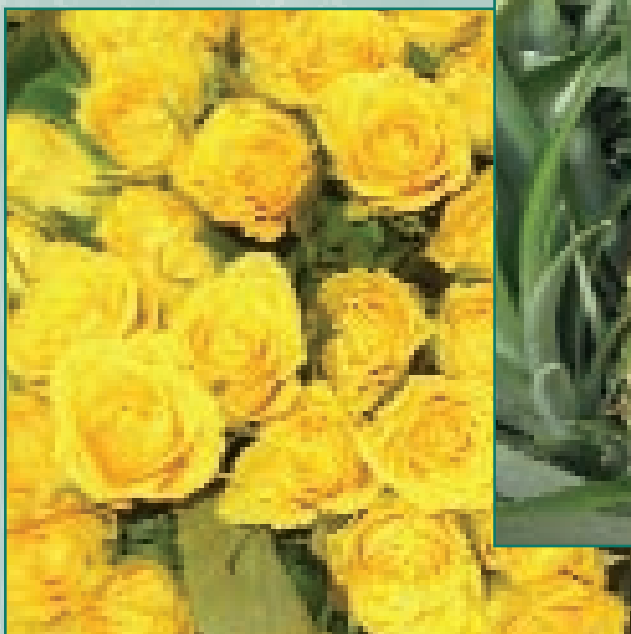


The European Horticulture Market

Opportunities for Sub-Saharan African Exporters

Edited by Patrick Labaste



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Foreword

It is generally recognized that trade is essential for growth and that growth is critical for poverty reduction. From this perspective, the continuous decline of Africa in global trade has been a major source of concern for governments and for the development community. Over the last three decades, Africa's share of the world trade has declined by nearly 60 percent: exports from sub-Saharan Africa accounted for 3.1 percent of world exports in 1955, but by 1990 this share had fallen to 1.2 percent, translating in annual trade losses of \$65 billion in current terms. Part of this can be explained by the fact that most African countries remained heavily dependent on export revenues from a limited number of traditional, low value per weight, bulky agricultural commodities, such as coffee, cocoa, or cotton, whose terms of trade have, over the past three decades, been continuously declining.

International trade in high-value agricultural products is growing at 7 percent annually, compared with only 2 percent for staple crops. The World Bank rural development strategy notes that high-value products like fruit and vegetables provide an opportunity for farmers in developing countries to compete for a share of lucrative export markets.¹ In actual facts, some remarkable successes have been achieved by countries in Africa that have managed to diversify their export base into non-traditional agricultural products with market growth opportunities and higher value per weight, such as cut flowers and plant cuttings, fresh fruits and vegetables, as well as processed products such as canned pineapple and pre-cut and pre-packed vegetables. Countries like Kenya, South Africa, Côte d'Ivoire, Uganda, or Zimbabwe have experienced over time a sustained growth and expansion in their export earnings from non-traditional agricultural products and have in some cases even emerged as market leaders for some of these products, like pineapple, French beans, baby corn, cut flowers, papaya, and mangoes.

As most developing countries are moving towards more ambitious poverty reduction strategies, growth remains a top priority and the development of agricultural exports has been recognized as an area of priority assistance for the Bank. This priority is all the more relevant in Africa where 70 percent of the population lives in rural areas and where economies are largely dependent on agricultural production, as well as on marketing and exports of agricultural products.

The Bank, like other development institutions has, over the years, supported policy interventions, funded projects and provided technical assistance to support agricultural export growth and diversification. Yet, this was often done on a piece-meal basis. Following the period of adjustment of the 1970s and 1980s, and subsequent retrenchment of the state from productive activities, the theory was that development of commercial agriculture would be led by private sector initiative. Unfortunately, results have not always been up to expectations in this domain. This had led the Bank to revisit its strategies and policies to enhance trade and exports of agricultural products on the African continent. What lessons can be learned from the projects that have been implemented in the 1990s to promote

1. *Reaching the Rural Poor: Strategy and Business Plan, The World Bank, 2003.*

agricultural trade and exports? How can ODA be more effective in promoting growth of high value products in the agricultural sector? How can the Bank support more proactively these activities?

To answer these questions, the Environmentally and Socially Sustainable Development Department of the World Bank's Africa Region (ESSD-Africa) launched in 2003 a comprehensive study on "Agricultural Trade Facilitation and Non-Traditional Agricultural Export Development in Sub-Saharan Africa." The objective of the study was to review past experiences in this field, analyze markets opportunities and supply-side constraints, provide recommendations and best practices to assist client countries design and implement effective strategies to meet the challenge of increasing exports of higher value agricultural commodities, and eventually scale up interventions in this field.

Among non-traditional agricultural exports, horticultural products²—fresh fruits, vegetables, and flowers—deserve special attention. Horticulture aims at the production and marketing of flowers, fruits and vegetables. The products have a relatively high value per unit and/or high perishable character, are produced and processed under intensive use of land, labor, knowledge, financial means and other inputs. They are often—but not exclusively—produced for export markets. Substantial development of horticulture has already taken place in several countries of the region. Because of their characteristics as mainly perishable products, and in view of the comparative advantage of many African countries in producing them, they offer substantial prospects for further export growth in SSA due to the relative proximity of the large and growing consumer markets of Europe and the Middle-East, as well as the potential increase in demand on the sub-regional and domestic markets.

This report is the result of a study and research work entrusted to V.E.K, a Dutch consulting firm specialized in horticulture business development. It provides an in-depth analysis of the current structure and dynamics of the European market for flowers and fresh horticulture products, with a view at helping client countries, industry stakeholders and development partners get a better understanding of these markets, and assess the prospects and opportunities they offer for SSA exporters. It should be useful for SSA countries engaged in designing and implementing strategies to expand their exports of high-value, non-traditional agricultural products, with the ultimate objective of increasing incomes for African farmers and creating employment opportunities, thus reducing poverty in rural areas.

John McIntire

Sector Director, ESSD Africa

Africa Region

The World Bank

2. Horticulture encompasses what is also referred to among professionals as High Value Fresh Products (HVFP), or Fresh Horticultural and Floricultural Products (FHFP).

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The report was written by a team of experts from V.E.K. comprising Ronaldt Thoen (project manager and senior consultant), Laurens Vlaar (senior consultant), Jacco Kaarsemaker (junior consultant), and reviewed by Etienne d’Otreppe (VEK-USA). The task was supervised by a World Bank team led by Patrick Labaste (AFTS4), with the assistance of Ismael Ouedraougo (AFTS4), Olivier Durand (AFTS4), Eleni Gabre-Madhin (AFTS3), and Morgane Danielou (AFTS3). The final review and editing of the document was done by Benjamin Billard (AFTS4).

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The opinions expressed in this report are those of the authors and do not necessarily represent the views of the World Bank.

Acronyms and Abbreviations

ACP/LDC	Africa Caribbean Pacific/Least Developed Countries
AIPH	International Association of Horticultural Producers
BNPP	Bank-Netherlands Partnership Program
BRC	British Retail Consortium
BMVEL	Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft (German Ministry for Consumer Protection, Food and Agriculture)
CO	Carbon monoxide
CO ₂	Carbon dioxide
DIY	Do-It-Yourself
EBA	Everything But Arms
EFSA	European Food Safety Authority
EC	European Commission
ECOWAS	Economic Community of West African States
EU	European Union
EFSIS	European Food Safety Inspection Service
EUREP-GAP	European Retailers Good Agricultural Practice
FAO	Food and Agriculture Organization
FCFA	CFA Franc
FDI	Foreign Direct Investments
GFSI	Global Food Safety Initiative
GMO	Genetically Modified Organisms
GSP	General System of Preferences
Ha	Hectare; 10,000 m ²
HACCP	Hazard Analysis of Critical Control Points
FHFP	Fresh Horticultural and Floricultural Products
ICT	Information and Communication Technology
ISO	International Standards Organization
KCP	Kenya Capital Partners
LEI	Landbouw Economisch Instituut
MPS	Milieu Project Sierteelt
NTR	Non Trade Barriers
R&D	Research and Development
SSA	Sub-Saharan Africa
TARIC	The integrated customs tariff of the European community
UK	United Kingdom
URAA	Uruguay Round Agricultural Agreement
USA	United States of America
USAID	US Agency for International Development
VBN	Dutch United Flower Auctions (Verenigde Bloemenveilingen Nederland)
WTO	World Trade Organization
ZMP	Zentral und Markt Preisen (EUROSTAT BASED FIGURES)

Executive Summary

The EU Market for FHFP

World trade of fruits and vegetables was estimated at around US\$60 billion in 2002. The EU market is one of the world's largest markets for Fresh Horticultural and Floricultural Products (FHFP). This market has been growing steadily in quantity and quality for the past two decades. Although imports are only a relatively small portion of this market (vegetable imports account for 2 percent or 1 million tons of the 50 million ton market, and fruit imports account for 24 percent or 7.5 million tons of the 31.5 million ton market), they represent a significant trade opportunity for a number of developing countries, and more especially for African countries. Among the continent's producers, sub-Saharan countries still represent a small share of the imports (except in the fruit sector with major exporters like South Africa and Côte d'Ivoire).

The main characteristics of FHFP are:

- i. they are destined for fresh consumption;
- ii. they have a relatively high perishable character; and
- iii. their value to volume ratio is relatively high.

In a horticultural product spectrum, FHFP exist next to specialties, storage commodities and fresh commodities. FHFP are not limited to direct consumption. On the contrary, a large part of the international FHFP business consists of products such as cut flowers, pot plants, flower bulbs and nursery stock. In addition, some of these products are intermediary goods, such as young plantlets for cut flower production. FHFP are generally considered an interesting crop diversification in developing countries. They provide export opportunities to large consumption markets such as the EU.

EU consumption of fruits and vegetables tends to stabilize in terms of volume. This is due to market saturation in relation to necessary food intake. However, consumption in value terms is still growing. The increase in value is due to increased demand for value-added products (pre-packed, ready-to-cook), and year-round consumption of typically seasonal products (off-season).

EU consumption of ornamentals is still growing. Although major mature markets, such as Germany, are stagnating due to saturation; per capita consumption of most other European countries is increasing due to the development from immature markets into more mature markets.

Imports of horticultural products in the EU are growing faster than EU production. The share of imported vegetables compared with the total EU consumption is marginal but growing. Tomatoes from Morocco dominate the share of Africa in the EU's vegetable imports. They represent more than 50 percent of total imports. SSA still plays a very limited role. The share of imported fruits is much larger, due to the importance of commodities such as bananas, citrus, and off-season apples and pears. South Africa is the largest African fruit exporter to the EU. SSA represents around 50 percent of African fruit

exports to the EU. The share of imported ornamentals from SSA is high and is expected to grow further.

The recent expansion of the EU from 15 to 25 member states will initially create additional competition in the horticultural commodity markets—for example, for tomatoes, peppers, and onions—but, in the medium to long term, the market for FHFP will substantially increase. The direct competition between SSA and new EU member states from Central and Eastern Europe will be limited because of the prevailing climate and existing production infrastructure. However, growth in this large market will depend on the economic growth of these new EU member states.

There are substantial opportunities for SSA producers in the export of perishable and high-value products. Competition in many horticultural commodities and non-perishable specialties is intercontinental and dominated by a limited number of large multinationals. High value can be realized either by the product itself or by adding value through preparation, packaging, etc. It should be noted that future opportunities for off-season FHFP (for example, tomatoes and sweet peppers) will be subject to a combination of:

- i. the returns on investment in advanced technology in North-West Europe; and
- ii. the results of public acceptance of semi-industrially produced horticultural products. This applies to the enormous growth of semi-industrialized horticultural production plants in northwestern Europe and especially to the use of additional lighting equipment.

EU Horticulture Supply Chain Dynamics

Until recently, the EU was a traditional market comprising a broad basis, a medium segment and a narrow top segment. It was based on a finely meshed distribution network. However, due to external and internal developments, the EU market changed dramatically. These dramatic changes were fueled by the spectacular growth of the market share of (inter)national supermarket chains, the large number of food scandals and public concern regarding horticultural exploitation of fossil energy, chemicals, fertilizers, and labor force (the public concern over the use of fossil energy, chemicals, fertilizers, and labor force in the horticulture production).

These developments resulted in a considerable concentration of the retail industry. Based on this concentrated power, supermarket chains are now the “legislative power” with respect to food products. Their standards, procedures and demands overrule formal national or EU legislation and regulations. This new power resulted in a substantial shake-out of middlemen, wholesalers and producers. This new power also provided opportunities for those having the capacity to respond to supermarket chains in their quest for reliable sources, chain standardization, lowest trade margin, highest retail margin, maximum reliability and flexibility and supply chain management.

The EU supply chain dynamics have resulted in a situation where product liability and distribution risks are pushed upstream into the chain. This requires a critical scale-up for

all relevant links in the distribution chain such as distributors and producers. This critical new situation requires not only the development of the physical infrastructure but also:

- i. developing globally competitive production and distribution systems;
- ii. developing effective management information systems; and
- iii. taking over—or hedging—commercial risks and food safety risks.

These factors are not distinctive advantages but essential prerequisites that are checked in advance and audited by authorized organizations on a regular basis.

Developments in the vegetable and fruit sector are ahead of those in the ornamental sector. Concern over food safety issues is obviously the most important reason for that situation. However, the expected growth of supermarket chains in flower distribution will speed up the rationalization process in the production and distribution of flowers. Good examples can be found in the Kenyan flower industry where a small number of supply chain-based flower farms tend to be very successful at the expense of traditionally managed flower farms.

These seemingly threatening developments also provide opportunities. Traditional and reactive chain players are gradually disappearing, while innovative and proactive players can find enormous challenges and rewards. This is currently the case in the EU production and distribution sector. At the same time, the output of an average production facility has doubled. In this context, SSA countries may find good opportunities in the EU market, provided that an effective and efficient strategy is developed.

Implications for SSA Producers and Exporters

The two golden rules for successful FHFP development are to:

1. ensure consistency in supply; and
2. provide recorded and demonstrated traceability of products.

The importance of spot markets—traditionally the core markets for horticulture—is dramatically decreasing in favor of the standing order markets. A limited number of specialized food and flower providers and an even smaller number of retail outlets control this standing order market.

Access to the standing order markets is based on a license to produce and a license to deliver. These licenses are formalized in bilateral and multilateral procedures. Such examples of multilateral procedures designed by major retailers and distributors in the EU are EUREPGAP, BRC, etc. These multilateral buyers focus on food safety and corporate sustainable responsibility. Bilateral procedures are often included in framework contracts between retailers and producers/distributors and accompanied by detailed requirements with respect to private labels, packaging, pricing and production and delivery schedules. These bilateral procedures are focused on efficiency and effectiveness.

Traditional SSA smallholders will face increasing difficulties to comply with the current EU market requirements on an individual basis. The same goes for small producers in

the EU. In order to comply with these multilateral and bilateral procedures, FHFP development in SSA should be based on supply chain management structures that can:

- i. guarantee complete tracking and tracing from supermarket shelf to production units;
- ii. manage and take over product liability; and
- iii. compete on a global scale.

In practice, SSA producers and exporters should follow the steps taken by their successful EU and African colleagues in developing international supply chain partnerships that are based either on Euro-Afro joint ventures, or new-generation cooperatives.

Developing Producer Strategies

The basic principle to follow when designing producer strategies for FHFP development in SSA is to transfer traditional farming concepts (typically based on land ownership, green thumbs and rural cooperatives) into modern horticultural concepts based on financial resources, managerial skills, and entrepreneurial capacity.

In the recent history of production of high value products, horticultural producers adopted various strategies, either to survive or to develop. These strategies were focused on the following key aspects:

- i. organizational innovation;
- ii. production innovation; and
- iii. product innovation.

Innovations in organization initially led to the development of growers' cooperatives. Growers' cooperatives were active in sourcing inputs and selling outputs. These cooperatives have gradually transformed into corporate structures. Production innovations initially focused on efficiency and effectiveness in order to increase yields and lower costs. Nowadays, production innovations focus on developing sustainable production techniques. The primary objective of product innovations was to introduce new products and improve the existing product range in terms of quality, yield, taste, etc. Nowadays, product innovations focus on adding value in terms of packaging and ready-to-prepare/eat products. These innovation cycles used to be gradual in nature until the late 1990s. The innovations that are now taking place are more revolutionary and are typical system innovations.

The basic considerations underpinning the horticultural system innovation are that:

- i. international horticulture disposes of a minimum set of tools (either basic or advanced, either available by nature/location or by investment) and new technical innovations provide only marginal advantages;
- ii. supply chains are necessary to cut out unnecessary activities/organizations;
- iii. traditional farmers and cooperatives are being phased out and mainly entrepreneurs/corporate farms are surviving on the international market; and
- iv. the opportunities for horticultural entrepreneurs are geographically boundless but limited to four major system modes. These four general system modes are a combination of either export orientation or domestic market orientation and focus on advanced production factors or on basic production factors.

Five basic production factors are required for high value horticulture production. They are:

- i. non-restrictive policies in favor of horticultural development;
- ii. suitable and controllable climate conditions such as day and night temperature, humidity, solar radiation and rainfall;
- iii. availability of labor and horticultural growing skills;
- iv. basic local general infrastructure, i.e. access to road/train/sea/air transport, telecommunications, power and water; and
- v. basic local horticultural infrastructure, i.e. access to horticultural inputs and services.

Advanced production factors are:

- i. access to logistic infrastructure linking production locations to international consumer markets,
- ii. availability of production and distribution facilities to control temperature, solar radiation, humidity and irrigation,
- iii. transparent and guaranteed management information systems,
- iv. support from facilitating service industry (i.e. finance, input and equipment supply), and
- v. entrepreneurial management and horticultural specialists.

Until recently, the availability of a set of basic production factors was sufficient to develop horticultural exports. This is the case in SSA where most successful exporters (Kenya, Côte d'Ivoire) launched their horticultural exports relying on basic production factors. The EU market dynamics that were described above have in fact forced them to adapt and develop more advanced production factors. Those who were successful at developing advanced production factors are still successful; the others who were unsuccessful at doing so are either confronted with problems or already out of business. The same development happened with European producers.

It would not be realistic for newcomers in the horticulture export business to rely on a strategy that is only based on basic production factors. As a result of the EU market dynamics, the entry level has substantially increased. A minimum set of advanced production factors—on top of the basic production factors—is required nowadays to enter the EU market.

Matching market orientation (export vs. domestic markets) and production orientation (use of basic production factors vs. use of advanced production factors) allows the mapping of the respective position of producing countries. This can be summarized by a typology with four production system models:

- i. global professionals,
- ii. local professionals,
- iii. successful newcomers, and
- iv. horticultural potential.

Designing Horticulture Development Strategies

Strategies to develop fresh horticulture and floriculture should aim at moving from horticultural potential to successful newcomers and finally to global professionals. This involves a four-step approach.

Step 1 is to identify horticultural producer groups and determine the horticultural potential. The assessment of the potential of horticulture should start by identifying the existing actors and categorizing them.³

Step 2 is to develop a basic approach for segmented horticultural potential. The strategy for smallholders should be based on caution. The smallholder sector should be monitored in order to identify, select and support horticultural and entrepreneurial talented smallholders. An uncontrolled expansion of horticultural production should not be encouraged. A small targeted group of talented smallholders and small entrepreneurs should be identified and assisted in obtaining access to funding, technical assistance and supply chain partners. This small group should be actively encouraged to develop business plans and feasibility studies. Educated urban entrepreneurs are a good basis for the start-up of horticultural activities. They know how to access key people, organizations, information and funds and generally have the equity capital needed to launch substantial projects. This group should however be approached with care since it often does not have sufficient managerial and horticultural skills. An essential recommendation is to seek foreign investors and foreign supply chain partners. Besides access to capital and markets, these foreign partners also provide access to essential know-how and horticultural inputs and consumables.

Step 3 focuses on best production factors. The traditional development process that includes an emerging phase, a nascent phase, an immature phase and a mature phase, does not apply under present circumstances to the development of horticulture. Horticultural development has a discontinuous character, a minimum level of entry, especially in the initial phase. This implies that a minimum set of basic production factors should be adequately available. Consequently, horticulture should not be considered as a typical rural activity. Horticulture cannot be considered as a typical rural activity and thus requires a clear identification of the optimal product-region combination.

Step 4 focuses on advanced production factors. Because of the discontinuous character of horticultural development, the minimum set of basic production factors should be completed with strategic advanced production factors. These added strategic production factors apply to:

- i. controllable and transparent distribution through organizational engineering, optimizing crop management and developing a post-harvest infrastructure;
- ii. entrepreneurial management and horticultural expertise;

3. The common categories are as follows:

- a. the large basis of smallholders, predominantly focused on self-sufficiency;
- b. cooperatives, either farming together with a group of smallholders on an obtained piece of land for a joint account or farming with the same crop and the same objectives;
- c. a small group which crops over 3 or 4 ha, a large part of which is sold on the domestic market;
- d. a small group which crops over 3 or 4 ha, a large part of which is sold on the export market;
- e. a small group of growers with more than 3-4 ha (supported by advanced or less advanced technical production infrastructure) that predominantly focuses on exports;
- f. a small group of foreign investors and producers specialized in high value fresh product exports and starting material.

- iii. logistical infrastructure; and
- iv. supporting financial infrastructure.

Final Recommendations and Priority Areas for Action

Actions should be planned on the basis of the following three key considerations:

- i. The international horticultural market is a growing market but also an out-
ing market. A number of professional preferred suppliers have already positioned
themselves in this market. The wide sourcing base needed to structurally secure a
consistent supply creates opportunities. Market penetration is only possible by
being better or cheaper. Preferably better and cheaper;
- ii. A large proportion of the horticulture industry in SSA is still at the infancy stage
and is based on smallholders. Supporting infrastructure is hardly developed, and
should be given priority in public investment programs; and
- iii. Horticultural development can hardly be based on a traditional development con-
tinuum (emerging, nascent, immature, mature), but on a minimum set of basic and
advanced production factors.

Based on these considerations, the following priority actions should be envisaged by gov-
ernments and stakeholders of SSA countries willing to develop their horticulture sectors:

1. *Converting Horticulture from Farmership to Entrepreneurship.* Every organization
active in agricultural diversification and horticultural development should bear in
mind that the dynamics in the EU market require professionalism. Technical assis-
tance programs—such as those funded by the World Bank and other donors—
should therefore be focused on identifying and training entrepreneurship rather
than on developing extension services and rural cooperatives.
2. *Prioritizing Region-Crop Combinations.* Horticulture is a typical suburban agricul-
tural activity rather than a rural activity. In addition, horticulture is more successful
in moderate climate zones than in tropical areas. This statement does not only apply
to SSA. Introducing horticulture or enhancing existing horticulture should be based
on the region-crop combinations offering the highest potential of success. Support-
ing initiatives of the World Bank in the field of horticulture should be pragmatically
based on these region-crop combinations.
3. *Advocating for a Pragmatic Application of Research and Funds.* The international hor-
ticultural sector is a semi-industrial sector based on relatively high-tech production
facilities and supply chain management. In many SSA countries, R&D initiatives
seem to aim at “reinventing the wheel.” In this respect, horticultural research and
funding in SSA should be focused on opening up international networks and devel-
oping regional logistics hubs.
4. *Up-Scaling Production and Distribution Facilities.* Successful horticultural devel-
opment requires a minimum level of essential conditions/advantages but also a
pragmatic approach. This means that the activities of the World Bank should be
based on regional master plans that generate a minimum level of supporting
infrastructure.

5. *Developing a Horticultural Business Incubator.* Horticulture is a capital-intensive agricultural industry not only on the production side but especially on the distribution side. The discontinuous development of horticulture keeps out potentially talented newcomers and beginners. An Horticultural Business Incubator could be created within the World Bank Group. This incubator could provide equity to these talented newcomers and beginners, and the opportunity of an initial critical scale. Such an Incubator would not be a panacea but an effective instrument to cope with the discontinuity problem.
6. *Managing large-Scale Projects.* The consequence of most of the previously described steps is the need of a minimum level of essential requirements including the availability of qualified management.
7. *Encouraging and Supporting Euro-African Joint ventures and New Generation Cooperatives.* Finally, horticultural development should be based on a two-pronged approach:
 - i. promoting and supporting Euro-African joint ventures based on pan-continental supply chain management; and
 - ii. promoting and supporting a new generation of cooperatives—with strong European market connections—in order to give smallholders a role in horticultural development.

This new generation of cooperatives should have a critical minimum size in order to be able to take commercial risks and product liability risks. Currently, the EC strongly encourages and supports these new cooperatives in the EU member states. These cooperatives are also an important issue in the pre-accession programs in candidate member states.

Introduction

The EU market is one of world's largest markets for horticultural products. In 2003, the EU represented a 51 million tons market for fresh vegetables and a 39 million ton market for fruits. One of the characteristics of this market is its self-supplying nature, with a yearly import of only 1 million tons of vegetables and 7.5 million ton of fruits. Sub-Saharan African (SSA) countries are key exporting partners to this market. The World Bank and development partners have supported a number of projects in the 1990s with the objective of increasing exports of high-value, non-traditional agricultural products. Some of these projects yielded remarkable results (rubber, pineapple, cut flowers, papaya, mango). The interest of a growing number of SSA countries to invest in horticulture is based on the expectations of high export earnings, the development of an agribusiness industry, and the significant impact that horticulture can have on poverty reduction, in particular because of the opportunity for diversification of smallholders' production systems. Because the EU market is the primary export destination for most SSA countries, the following questions are asked by the producing countries in the region:

- What is the current context, current and projected size of the EU market in the sector of fresh horticultural and floricultural products?
- Does the market still provide significant opportunities for the development of the export sector in SSA countries?
- How should SSA countries with a comparative advantage in horticulture invest in the sector in order to achieve their development objectives?
- Can small producers be fully included in this type of development and, if so, what are the key conditions to be met?

This report analyzes the possibilities for SSA countries to develop a strategy for horticultural diversification based on current market developments in the EU. It intends to provide practical observations, strategies, recommendations and actions to assist the client countries of the World Bank in assessing their potential in the FHFP export sector, especially in terms of assessing how the sector can contribute to broader economic development and poverty alleviation. The findings and recommendations should be of particular relevance to countries with existing trade relations with EU importers. They will help them to be aware of the future evolution of the sector. It should also provide important information to newcomers who support an agricultural diversification strategy and show a comparative advantage in growing horticultural products. Finally, the report provides important recommendations to guide on-going and future multi-sectoral (rural, private, trade) Bank operations.

The report is the product of a desk review conducted by an international consulting firm specialized in horticulture. The research was mainly carried out through a review of the literature, access to European statistics databases, and interviews with the industry. It is based on the long-standing expertise of the consulting firm in the sector. The report aims at drawing out the concrete implications for the agricultural context in Africa, focusing to a great extent on smallholder production system. It concludes with a set of recommendations and an action plan that should provide important practical inputs for operational purposes. The study is not expected to replicate existing market reviews and statistical data analysis, but rather to carry out a strategic and operational analysis to help client countries in SSA conceive and implement operational export development strategies for horticultural products. It is expected to provide a framework on which in-depth country strategies and concrete export development plans can be further elaborated.

The report, first, presents the main trends in the vegetable, fruit and floriculture sectors in the EU market. Secondly, it analyzes the supply chain dynamics in each sub-sector. Thirdly, key recommendations and strategies focusing on smallholder development are suggested. Finally, it presents an action plan for targeting the FHFP sector and smallholder production.

Background

The EU market is one of world's largest markets for FHFP. This market is growing both in quantity and in quality. Entering the EU market with one or several niche products and a minimum of logistical infrastructure was fairly easy until some years ago. This made it an attractive export market for many SSA countries. Also, the EU market used to be substantially segmented and differentiated when compared with other large FHFP markets such as the USA and the Far East.

However, due to various developments, such as the harmonization of the EU, the introduction of the Euro, and the growing market share of international retail chains, the EU market is now increasingly showing specific "European characteristics." The interaction between a pan-European market and a number of other regional markets makes it an attractive but also complex market. One of these characteristics is the constraining requirements for market access, which have become much stricter, especially after a number of food scandals in Europe. The responsibility for the risk is being increasingly moved upstream in the supply chain; from the consumer to the retailer then to the distributor and finally to the producer. The burden of proof lies with the producer who is responsible for

all risks and needs to demonstrate that all possible risks have been identified, analyzed, controlled and reduced.

With regards to horticultural products, supplying the EU market now requires “a license to deliver” based on professionalism in production, logistics and risk management. The evolution of the FHFP market has major consequences for SSA producers. The purpose of this study is thus to:

- define the European market in both qualitative and quantitative terms (consumption, distribution, suppliers);
- identify current and future developments which are relevant to the export of high value crops (constraints and prospects);
- determine and analyze the current positioning of SSA suppliers in the EU market;
- develop strategies for SSA producers to maintain and expand their market share;
- define operational action plans for SSA producers to support export strategies for high value crops;
- develop recommendations for stakeholders.

The Fresh Horticultural and Floricultural Products (FHFP) Sector

High Value Fresh Produce are generally considered a strategic product range for diversifying traditional agriculture in developing countries. During the last two decades, a number of SSA countries have diversified into horticulture. Kenya is the most striking example, earning more foreign currency from the export of horticultural produce than from the tourism sector.

Definition of FHFP

Horticulture can be defined as “the science and art of growing fruits, vegetables, flowers and ornamentals.”⁴ We would like however to suggest a more general definition of horticulture as “the production and marketing of crops/products (vegetables, fruits, ornamentals) with a relatively high value per unit, a high perishability, produced under intensive use of land, labor, knowledge, financial means and other inputs, and mainly produced for a selected export market”.

The most important characteristics in the definition of FHFP definition are:

- i. they are destined for fresh consumption;
- ii. they have a relatively high perishability; and
- iii. they have a relatively high value-volume ratio.

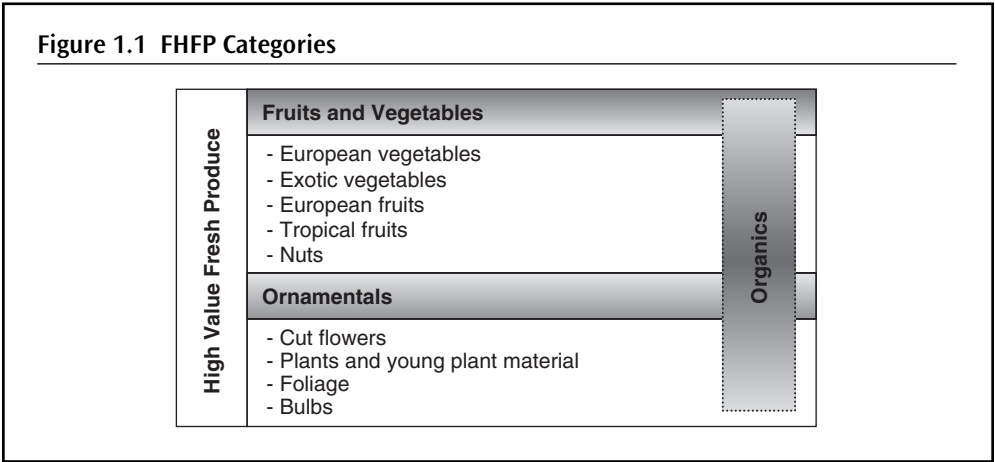
Within a horticultural product spectrum, FHFP exist next to specialties, storage commodities and fresh commodities.

4. Jaffee, Steve, *Marketing Africa's High-Value Foods: Comparative Experiences of an Emergent Private Sector*, The World Bank, 1995.

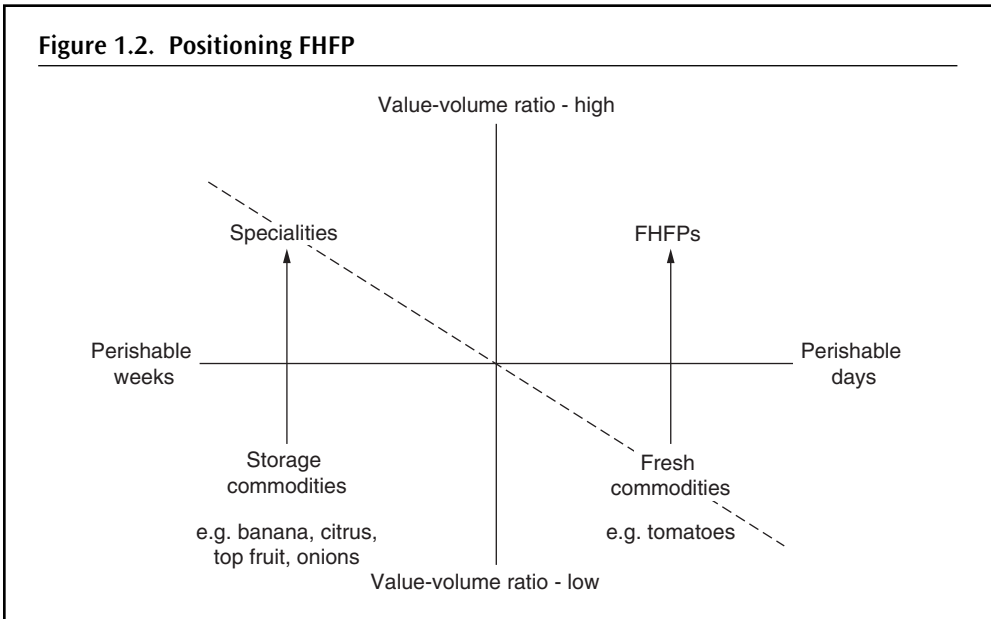
In order to define the range of products studied in this report, we suggest an outline of the main factors that contribute to distinguish the horticulture and FHFP sector from the agricultural one:

1. FHFP does not entirely focus on products for food consumption, since a large part of the international FHFP sector produces products such as cut flowers, pot plants, flower bulbs, ornamental plants and nursery stock. Moreover, not all products produced by the horticultural and floricultural sector are destined for final consumption (for example, young plants for cut flower production).
2. Horticulture focuses on perishables for fresh consumption or use. In general, horticultural products are high value products with a high potential of added value compared with crops from the traditional agricultural sector.
3. Due to its perishable and high value nature, the horticultural sector is a very capital-intensive sector at both the production level and the post-harvest level.
4. Horticulture is a market-oriented sub-sector, increasingly controlled by large internationally operating retail chains. The range of horticultural products is varied, especially when it comes to ornamentals and fruits.
5. Horticulture is a private-led sub-sector with little direct government influence. In addition, entrepreneurial skills are paramount in horticulture while farmers' skills dominate in other agricultural sectors.
6. In addition to the above, the need for good access to (inter)national transport, electricity, and communication, contribute to define horticulture as an atypical rural area activity.

In this study, we divided the FHFP product range into two major groups, on the one hand, fruits and vegetables; and, on the other hand, ornamentals. Both groups comprise a variety of products (see Figure 1.1). Organics are not a separate product group, but a quality classification and a segment present in all product groups. This study will not focus on the organics market because numerous reports have covered the issue (FAO, 2001).



Source: Authors.



Source: Authors.

The definition of FHFP is based on:

- the Mode of consumption (FHFP are meant for fresh consumption);
- the Perishable nature (FHFP are typical perishable products);
- the Value-volume ratio (FHFP have a high value-volume ratio).

In the figure above, some basic horticultural products are positioned.

The focus is on the products above the dotted line. This chart implies that marketing FHFP is based on integrated concepts. FHFP marketing starts by defining the final retail outlet (for example, supermarket chain). All the decisions then made (variety, production and distribution infrastructure) are subject to that initial choice. Consequently, the FHFP sector is very sensitive to access to information, to management systems, as well as being capital-intensive. As a result of the structure and dynamics of the market, premiums can hardly be obtained. They are replaced by penalties for those who do not comply with the rules of the market.

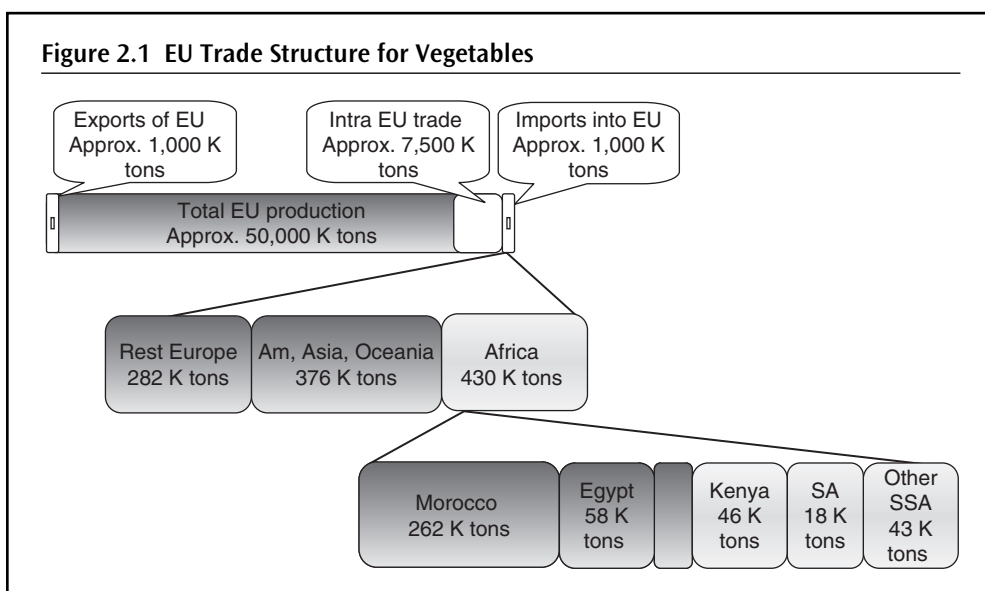
Upward mobility in the diagram (commodities moving into FHFP) can be realized by adding value. This issue is discussed in the following chapters.

The EU Market, Structure and Trends

Vegetables

Market Structure

The overall trade structure of the EU trade and market for fresh vegetables is shown below (expressed in tons).



Source: Authors.

Table 2.1 Production of Fresh Vegetables in the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001	2002 (p)
Italy	12,538	12,484	13,107	13,239	14,692	15,289	16,181	14,700	13,713
Spain	10,452	10,582	11,134	11,624	11,907	12,137	11,816	11,957	11,988
France	5,600	5,865	6,131	6,043	6,299	6,370	6,105	6,125	6,162
Greece	3,780	4,152	4,168	4,108	4,111	4,047	4,191	4,026	4,018
Netherlands	3,881	3,642	3,579	3,574	3,327	3,928	3,807	3,734	3,893
Germany	2,246	2,234	2,774	2,596	2,710	2,914	3,014	2,873	2,794
UK	3,670	2,914	3,050	2,853	2,855	2,923	2,834	2,552	2,663
Portugal	1,800	1,326	1,433	1,269	1,614	1,575	1,510	1,519	1,512
Bel./Lux.	1,389	1,442	1,294	1,361	1,395	1,536	1,343	1,358	1,504
Austria	265	304	399	461	424	553	501	526	556
Ireland	226	309	271	256	257	249	266	272	269
Sweden	195	217	233	241	246	249	248	233	239
Finland	186	238	230	258	209	245	243	235	239
Denmark	228	194	223	223	223	200	213	209	209
TOTAL	46,456	45,903	48,026	48,106	50,269	52,215	52,272	50,319	49,759

(p) = provisional.

Source: ZMP—Marktbilanz Gemüse 2003 based on Eurostat.

Production

The total production of fresh vegetables (“harvested” production) in the 15 EU countries is approximately 50 million tons. The EU production is rather stable. It increased by only 1.3 percent between 1992 and 2002. Italy and Spain dominate the EU production of fresh vegetables with over half of the total EU production (see Table 2.1). In Northern EU countries, production is lower, due to the climatic conditions. Production in the Netherlands is however relatively high as a result of high-tech greenhouse technology.

EU production is mainly distributed on the domestic market. Only some 8.5 million tons (less than 17 percent) are exported. Of all exports, only 12 percent are exported outside the EU. Leading export destinations are the USA, Eastern European countries, Japan and Canada.

Total imports of EU countries are approximately 8.5 million tons, of which 7.5 million tons are intra-EU trade. During 1996–2002, total imports of fresh vegetables in the EU-15 countries increased annually by 2.3 percent while, in the same period, the share of imports from outside the EU increased annually by 8.3 percent (see Table 2.2). The total value of EU imports is approximately €7.5 billions. The total value of EU imports from outside the EU is approximately €1 billion.

Consumption

The total EU market has over 375 million inhabitants. National traditions and preferences create substantial differences in the consumption patterns for fresh vegetables among the EU countries.

Table 2.2 Imports of Fresh Vegetables of EU Countries (Thousands of Tons)

Year	1992	1994	1996	1997	1998	1999	2000	2001	2002 (p)	Increase '96-'02
Intra-EU	5,656	5,863	6,951	7,066	7,302	7,322	7,487	7,963	7,662	1.7 %
Extra-EU	614	649	732	668	883	900	873	992	1,095	7.7 %
TOTAL	6,270	6,512	7,683	7,734	8,185	8,222	8,360	8,955	8,757	2.3 %
Extra-EU	9.8 %	10.0 %	9.5 %	8.6 %	10.8 %	10.9 %	10.4 %	11.1 %	12.5 %	

(p) = provisional.

Notes:

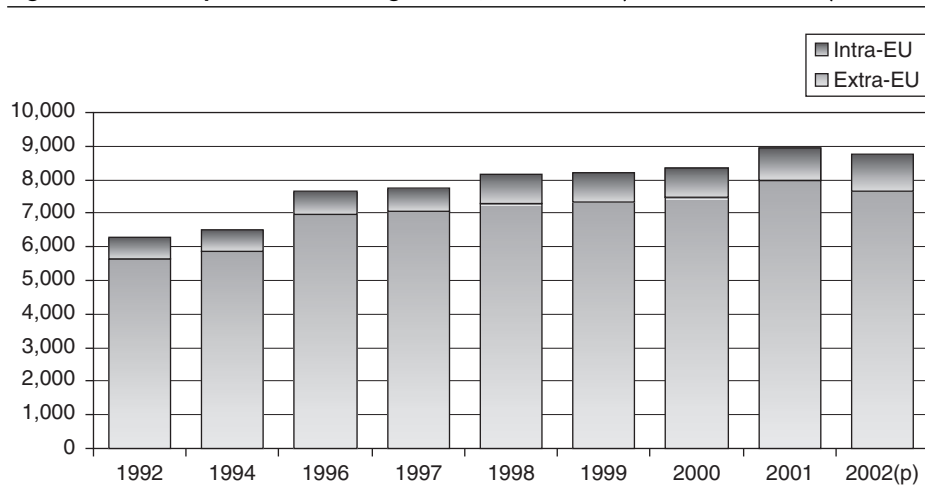
a. Data for 1992 and 1994: 12 EU members.

b. Data for 1996 to 2002: 15 EU members.

Source: ZMP—Marktbilanz Gemüse 2003, based on Eurostat.

Besides retail consumption, self-supply is approximately 10 kg/capita.

Germany is the largest market in Europe with over 82 million inhabitants. The total vegetable consumption is 7.765 million tons. Per capita consumption is 94.7 kg, of which 84.2 kg was marketed. Ten years ago, total per capita consumption was 12 kg lower. The main vegetables are tomatoes and cabbages (white cabbage, red cabbage, Chinese cabbage, kohlrabi, curly kale, green cabbage, conical cabbage).

Figure 2.2. EU Imports of Fresh Vegetables, 1992–2002 (Thousands of Tons)

(p) = provisional.

Source: Authors.

Imports from non-EU countries have been increasing by 7.7% annually but are still a small part of total EU imports of fresh vegetables. The 1 million tons of imported fresh vegetables from non-EU countries is only 4% of EU domestic production.

Table 2.3 Retail Consumption of Fresh Vegetables in Germany (kg/capita)

Produce	92/93	93/94	96/97	97/98	98/99	99/00	00/01	01/02 (p)
Tomatoes	16.0	15.2	16.9	17.3	17.1	17.9	19.1	19.1
Various cabbages	8.1	8.0	9.7	8.5	8.3	9.2	8.4	7.5
Carrots, red beet	4.6	5.0	5.7	5.4	6.2	6.2	6.6	6.5
Onions	5.8	6.0	6.5	5.4	6.3	6.0	6.5	6.5
Cucumbers	6.3	6.4	6.4	6.3	6.2	6.0	6.0	6.0
Salads	2.6	2.9	2.9	3.0	3.1	3.3	3.1	2.8
Mushrooms	2.5	2.2	2.4	1.9	2.0	2.1	2.2	2.4
Beans	2.1	2.3	2.2	2.1	2.0	2.1	2.0	2.3
Cauliflower	3.8	2.7	2.9	2.9	2.6	2.6	2.4	2.0
Peas	1.1	1.1	1.2	1.1	1.1	1.2	1.2	1.5
Asparagus	1.2	1.3	1.4	1.3	1.3	1.4	1.4	1.4
Leek	1.0	1.1	1.1	1.2	1.2	1.2	1.1	1.0
Spinach	0.6	0.8	1.1	1.1	0.8	0.7	0.8	0.9
Celery	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.6
Brussels sprouts	0.7	0.4	0.5	0.5	0.4	0.5	0.5	0.4
Other vegetables.	15.1	17.0	18.1	19.4	19.9	20.1	21.7	23.3
TOTAL	72.1	73.0	79.7	78.0	79.2	81.2	83.7	84.2

(p) = provisional

Source: BMVEL.

Vegetable consumption in the UK is lower. The vegetable market is approximately 4.1 million tons for a total population of 60 million. Per capita consumption is 68.3 kg. The most popular vegetables are carrots, representing 15 percent of the total vegetable consumption, followed by tomatoes, onions and lettuce. Approximately 1.5 million tons of fresh vegetables are imported to the UK. The main suppliers are Spain (40 percent) and the Netherlands (25 percent).

Imports

The most traded commodity in the EU (intra-EU trade) is tomatoes, followed by onions and carrots. With regard to imports from outside the EU, onions and tomatoes are ranked at the top, followed by beans, paprika and mushrooms.

According to Table 2.5, Africa is the largest supplier of extra-EU imports. The non-EU European countries come in second while imports from Asia (beans and Asian vegetables) are strongly increasing.

Morocco is by far the largest African supplier to the EU with 220,000 tons. In Europe, Morocco is seen as the cheap alternative to Spanish production, just as Mexico is to California in the Americas. Morocco will probably continue its export growth of fresh vegetables to Europe. The comparative advantage of Morocco is that the production can be trucked to Europe.

Table 2.4 Product Mix of EU Imports 2001

Total EU Imports			Extra-EU Imports		
Produce	Tons	Percentage	Produce	Tons	Percentage
Tomato	2,040,506	22.8 %	Onion	285,805	27.4 %
Onion	1,110,247	12.4 %	Tomato	206,863	19.9 %
Carrot	822,910	9.2 %	Beans	98,237	9.4 %
Cucumber	693,632	7.7 %	Paprika	82,534	7.9 %
Paprika	651,245	7.3 %	Mushrooms	67,478	6.5 %
Salad (head)	384,731	4.3 %	Garlic	43,039	4.1 %
Cauliflower	349,765	3.9 %	Pepper	26,280	2.5 %
Other Salad	336,519	3.8 %	Cucumber	15,154	1.5 %
Mushrooms	246,536	2.8 %	Zucchini	17,167	1.6 %
Beans	228,758	2.6 %	Carrot	15,454	1.5 %
Zucchini	214,675	2.4 %	Asparagus	14,517	1.4 %
Kohlrabi	224,019	2.5 %	Sweet Corn	13,964	1.3 %
Others	1,650,701	18.4 %	Others	154,834	14.9 %
TOTAL	8,954,244	100.0 %	TOTAL	1,041,326	100.0 %

Source: ZMP—Marktbilanz Gemüse 2003, Eurostat.

Table 2.5 Imports of Fresh Vegetables into the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001	2002 (p)	Increase '96-'02
Rest of Europe	190.7	190.2	212.9	157.0	209.5	205.3	238.3	282.1	281.5	6.6 %
Americas	82.0	62.3	91.5	65.5	119.7	98.1	80.3	101.0	112.4	3.8 %
North Africa	162.6	191.1	190.6	201.1	248.8	268.8	227.8	286.9	323.4	11.6 %
Sub-Saharan Africa	40.6	47.0	61.2	66.2	77.7	94.1	91.2	96.5	107.5	12.6 %
Asia	45.0	45.0	69.0	75.4	86.8	80.4	84.8	98.3	97.3	6.9 %
Oceania	89.6	111.6	105.0	96.9	139.2	151.3	143.2	125.9	167.2	9.9 %
Others countries	3.2	2.0	2.1	5.6	1.7	2.1	7.2	1.0	5.8	30.4 %
TOTAL IMPORTS	613.7	649.2	732.2	667.6	883.4	900.0	872.8	991.7	1,095.1	8.3 %

(p) = provisional

Notes

a. Data for 1992 and 1994: 12 EU members

b. Data for 1996 to 2002: 15 EU members

Source: ZMP – Marktbilanz Gemüse 2003, Eurostat.

Table 2.6A Imports of Fresh Vegetables from North Africa to the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001	2002 (p)	Share (in 2001)
Morocco	149,539	168,216	162,088	172,527	209,725	238,805	192,532	243,845	262,480	85.0 %
Egypt	11,932	20,715	27,424	26,565	36,783	28,162	32,330	40,446	58,217	14.1 %
Tunisia	1,173	2,179	1,121	1,975	2,299	1,833	2,950	2,609	2,748	0.9 %
North Africa	162,644	191,110	190,633	201,067	248,807	268,800	227,812	286,900	323,445	100.0 %

(p) = provisional

Notes

(1) Data for 1992 and 1994: 12 EU members

(2) Data for 1996 to 2002: 15 EU members

Source: ZMP – Marktbilanz Gemüse 2003, Eurostat.

In SSA, Kenya is the largest supplier to the EU with over 45,000 tons in 2000. In 2001, exports dropped due to production problems with beans. Senegal, Zimbabwe, Ghana and Zambia are steadily increasing their exports. They now account for approximately 7,000 tons each.

Other SSA countries, such as Ethiopia, Uganda, Burkina Faso, Cameroon, the Gambia, Togo, Tanzania, Côte d'Ivoire, Mali and Nigeria export in small quantities to Europe.

Opportunities for SSA

The EU import of fresh vegetables is growing faster than its production. Africa and Europe are the largest exporters although Asia is the quickest grower. The African product range is still characterized by the strong domination of tomatoes and onions. The current position of Africa is merely the result of the export volumes of Morocco and, to a lesser extent, Kenya. Morocco's position is largely due to its geographic position, EU investments in Moroccan tomato production and successful EU negotiations with respect to trading the fishing quota for the tomato quota. The Kenyan position is the result of a synergy in logistics between flowers and fresh vegetables, the presence of a number of large Euro-Afro farms, the quick adoption of market requirements such as pre-packed vegetables and process quality standards such as ISO and EUREP-GAP, and its suitable mild climate.

The traditional (successful) focus on off-season and low production costs is overtaken by market developments and production technology in the EU (year-round production through technology).

From a general market perspective, opportunities for SSA lie in the growing demand for high quality pre-packed vegetables. This is due to the large amount of labor required for pre-packaging creating an added value that allows the relative high costs of transport.

Positions in commodities such as tomatoes and onions are already taken. In addition, it is expected that production of these horticultural commodities will shift eastwards to a number of Central and East European countries through the expansion of the EU. The year-round (off-season) production in northwestern Europe is also increasing, thanks to advanced production technology.

**Table 2.6B Imports of Fresh Vegetables from Northern Africa to the EU
(Thousands of Tons)**

Countries	1992	1994	1996	1997	1998	1999	2000	2001	2002 (p)	Share (in 2001)
Kenya	19,721	22,970	30,205	30,351	31,602	41,192	45,699	43,688	45,933	45.3 %
South Africa	4,190	4,350	3,916	3,472	11,180	13,141	3,858	10,281	18,279	10.7 %
Senegal	3,561	3,786	5,409	5,745	6,173	6,701	8,098	8,714	8,811	9.0 %
Zimbabwe	2,717	3,458	5,525	5,957	7,769	8,410	7,381	6,937	8,105	7.2 %
Ghana	262	1,497	3,058	3,568	4,542	5,183	6,255	6,786	6,766	7.0 %
Zambia	1,071	611	1,958	2,909	3,137	4,017	4,246	6,642	7,010	6.9 %
Ethiopia	1,446	2,216	2,845	3,190	2,309	3,302	3,533	3,173	1,934	3.3 %
Uganda	213	437	1,058	1,576	2,239	2,512	2,335	2,007	2,884	2.1 %
Madagascar	116	324	393	2,302	2,103	2,809	2,767	2,224	1,289	2.3 %
Burkina Faso	3,338	2,960	2,096	3,207	2,633	2,613	2,454	1,595	1,339	1.6 %
Cameroon	425	837	1,490	891	940	1,089	1,206	1,031	991	1.1 %
Gambia	1,433	1,181	1,418	1,400	1,373	1,585	981	865	1,047	0.9 %
Togo	304	313	247	315	344	360	501	671	782	0.7 %
Tanzania	545	648	331	98	6	3	392	649	973	0.7 %
Côte d'Ivoire	289	468	415	401	481	440	694	509	770	0.5 %
Mali	325	419	537	667	616	487	572	334	323	0.3 %
Nigeria	191	162	87	72	229	191	142	228	240	0.2 %
Mauritius	93	78	32	40	46	50	94	178	51	0.2 %
Niger	105	117	15	26	—	—	0	0	0	..
Rwanda	135	15	6	—	—	—	0	0	0	..
Burundi	169	154	138	23	—	2	10	0	0	..
TOTAL SSA	40,649	47,001	61,179	66,210	77,722	94,087	91,218	96,512	107,527	100.0 %

(p) = provisional

— Not available

.. Negligible

Notes

a. Data for 1992 and 1994: 12 EU members

b. Data for 1996 to 2002: 15 EU members

Source: ZMP—Marktbilanz Gemüse 2003, Eurostat.

The food safety issue is gaining importance. This means that the exports from SSA may be hampered if SSA exporters do not guarantee food safety. On the contrary, the exports of SSA countries may increase substantially if they manage to fully guarantee and demonstrate food safety.

The current product range supplied by Kenya and Asia provides high-growth potential. The opportunities for these vegetables should be based on:

- specific climate zones (focus on geographical regions);
- combination of perishables and short transport time by air;

- added value and pre-packing to allow relatively high transport costs;
- food safety.

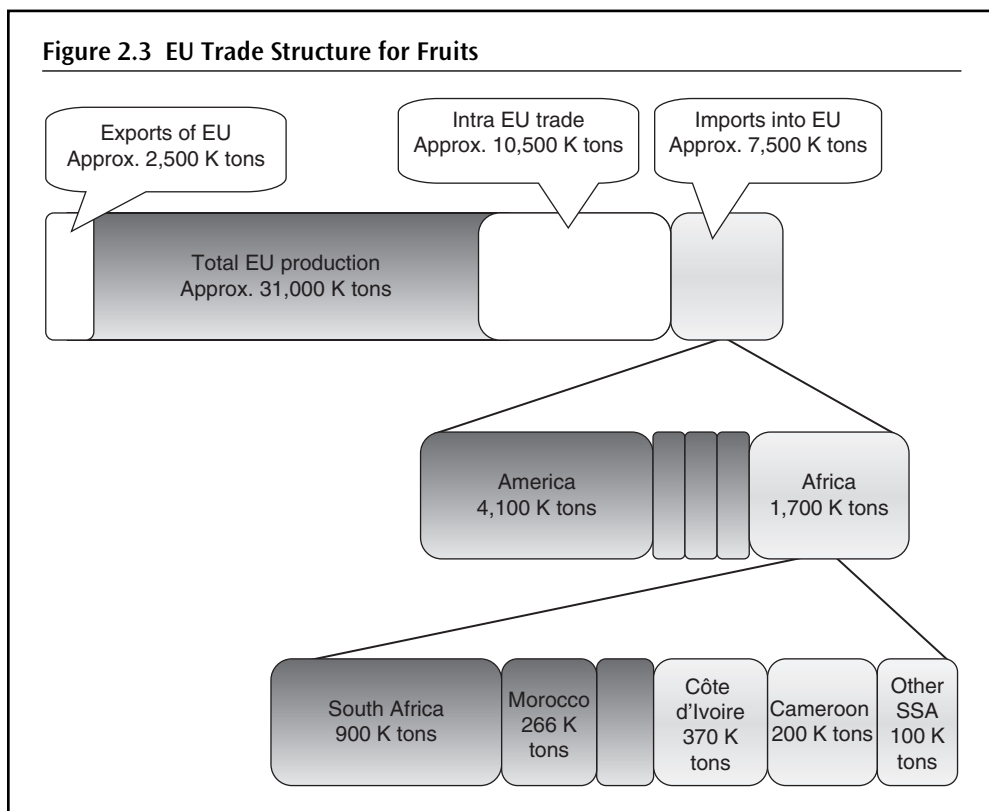
Fruits

Market Structure

The overall structure of the EU trade and market in fresh fruits is shown below (expressed in tons).

Production

The total table fruit production (“harvested” production) in the 15 EU countries is approximately 31.5 million tons. The highest levels of production took place in 1992 and 1999. Between 1992 and 2002, production was stable. The Southern countries of Italy and Spain dominate the EU production of fruits, accounting together for two-thirds of total EU fruit production (see Table 2.7). Production in Northern Europe is lower due to climatic reasons.



Source: Authors.

Table 2.7 Production of Table Fruits in the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001	2002 (e)
Italy	12,199	10,432	11,246	9,598	9,941	11,051	10,970	10,765	10,900
Spain	10,210	9,466	8,886	10,616	9,682	10,708	10,213	10,752	10,400
France	4,200	3,774	3,615	3,506	2,977	3,751	3,734	3,387	3,500
Greece	3,538	3,508	3,211	2,416	2,482	3,305	3,147	2,615	2,700
Germany	1,400	1,099	1,108	948	1,218	1,330	1,443	1,190	990
Portugal	887	820	841	1,002	735	930	869	837	960
Netherlands	789	779	672	659	694	759	744	590	580
Belgium/Lux.	657	728	505	543	618	765	747	472	500
UK	538	432	395	246	312	351	294	324	240
Austria	135	175	187	215	180	226	233	220	220
Denmark	75	67	56	51	48	52	53	53	50
Sweden	39	29	34	35	32	34	39	36	30
Finland	17	14	19	18	17	20	22	23	25
Ireland	17	19	20	17	15	20	22	21	22
TOTAL	34,701	31,342	30,795	29,870	28,951	33,302	32,530	31,285	31,117

(e) = estimate

Source: ZMP—Marktbilanz Obst 2002, Eurostat.

Apple is the main fruit commodity grown in the EU. Although production declined in 2001, it still amounted to 7.5 million tons. Pear production in 2001 was also significant with 2.1 million tons. Peach production amounted to 2.9 million tons, and citrus to 10.3 million tons. The main crops within the citrus category are oranges with 6.1 million tons, small citrus fruit with 2.5 million tons, and nectarines with 1.2 million tons.

The trade in fruits is superior to that of vegetables. Approximately 13 million tons of fruits (41 percent of total production) are exported. Among these exports, up to 20 percent are exported outside the EU, in particular to Eastern Europe, USA, and Japan.

Imports

EU countries import approximately 18 million tons, of which 10.3 million tons are intra-EU trade (including French overseas territories and departments). Between 1992 and 2001, total fresh vegetable imports of EU countries increased. In the same period, EU imports were stagnant. The total value of EU imports is approximately €13.0 billion, while the total value of EU imports from outside the EU is approximately €5.3 billion.

The main fruit products imported from outside the EU are bananas (42 percent), oranges (12 percent), apples (8.5 percent) and pineapples (4.8 percent).

The Americas (mainly Central and South America) are the largest suppliers (54.5 percent) of Extra-EU imports. Africa supplies 22.6 percent of Extra-EU imports. Volumes and market shares are stable.

Table 2.8 Production Mix of Fruit in the EU (Thousands of Tons)

Produce	1992	1994	1996	1997	1998	1999	2000	2001	2002 (e)
Apples	9,110	7,976	7,544	7,483	7,441	8,406	8,255	7,566	7,281
Oranges	6,460	5,689	5,604	6,057	5,120	6,144	5,845	5,863	6,000
Peaches	3,586	3,349	3,019	2,199	2,352	3,123	3,073	2,921	2,980
Small citrus	2,180	2,359	2,176	2,785	2,344	2,855	2,566	2,483	2,500
Pears	3,586	3,349	3,019	2,199	2,352	3,123	3,073	2,921	2,980
Table grapes	2,544	2,193	2,289	1,977	2,188	2,215	2,223	2,269	2,191
Lemons	1,702	1,339	1,524	1,745	1,518	1,549	1,600	1,578	1,536
Nectarines	1,113	1,078	1,045	771	878	1,190	1,201	1,200	1,278
Strawberries	693	768	749	776	835	925	905	848	811
Prunes	736	604	777	555	569	620	642	673	626
Apricots	638	619	560	457	411	633	552	505	578
Kiwi fruit	432	354	419	315	338	453	523	373	400
Cherries	510	456	452	347	323	460	496	395	410
Others	1,411	1,209	1,618	2,204	2,282	1,606	1,576	1,690	1,546
TOTAL	34,701	31,342	30,795	29,870	28,951	33,302	32,530	31,285	31,117

(e) = estimate

Source: ZMP—Marktbilanz Obst 2002, Eurostat.

South Africa is the largest African fruit supplier with 885,000 tons. The country exports a wide range of products such as citrus, tropical fruit, grapes and others.

In 2001, Cameroon replaced Côte d'Ivoire as the largest SSA supplier to the EU, when Côte d'Ivoire exports dropped by almost 50 percent as a result of drought and political instability. Cameroon's exports in 2001 accounted for 218,000 tons with banana as the main commodity.

Zimbabwe has the third position among SSA suppliers, with 45,000 tons of exports. Kenya is only ranked 11th of African exporters of fruits to the EU. Uganda is not even listed,

Table 2.9 Exports of Fruits from EU Countries (Thousands of Tons)

Year	1992	1994	1996	1997	1998	1999	2000	2001(p)
Intra-EU	7,595	9,978	10,714	10,981	11,512	11,446	11,628	9,569
Extra-EU	1,105	2,091	2,174	2,403	2,216	2,276	2,715	2,492
TOTAL	8,700	12,069	12,888	13,384	13,728	13,722	14,343	12,061
Extra-EU (%)	12.7%	17.3%	16.9%	18.0%	16.1%	16.6%	18.9%	20.7%

(p) = provisional.

Source: ZMP—Marktbilanz Obst 2002, based on Eurostat.

Table 2.10 Imports of Fruits of EU Countries (Thousands of Tons)

Year	1992	1994	1996	1997	1998	1999	2000	2001(p)
Intra-EU	8,128	9,313	10,929	10,437	10,897	11,053	11,418	10,295
Extra-EU	7,239	6,284	7,482	7,393	7,114	7,622	7,346	7,692
TOTAL	15,367	15,597	18,411	17,830	18,012	18,675	18,764	17,986
Extra-EU (%)	47.1%	40.3%	40.6%	41.5%	39.5%	40.8%	39.2%	42.8%

(p) = provisional

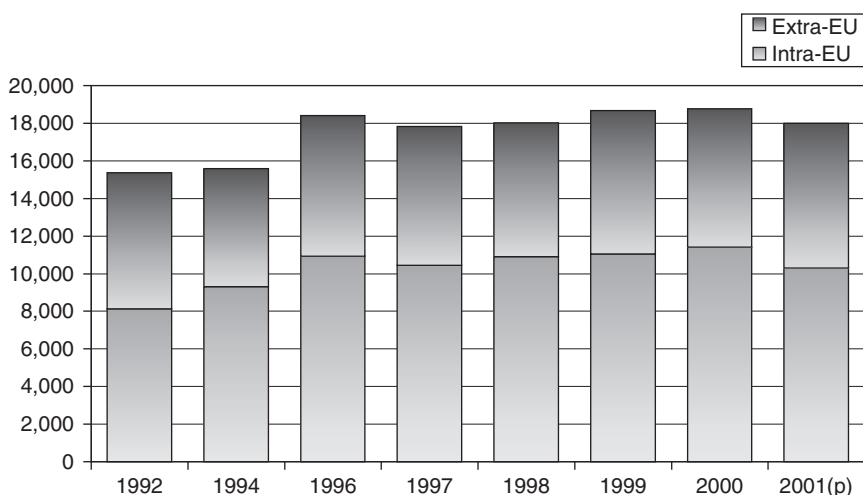
Source: ZMP—Marktbilanz Obst 2002, based on Eurostat.

but according to local sources, the country exports approximately 1,000 tons of fruits, mainly Matoke. Other small SSA suppliers are Ghana, Swaziland, Namibia, Guinea, Mali, Mozambique and Burkina Faso.

Opportunities for SSA

The conclusion of our analysis is that the vegetable sector presents more market opportunities for SSA producers than the fruit sector. This is due to the following factors:

- the growth rate of vegetable imports is higher than that of fruit imports;
- the fruit product range imported from outside the EU predominantly consists of “commodities” with a relatively low value per kg that demands highly efficient and effective production and distribution;

Figure 2.4 Fresh Fruits EU Imports, 1992–2001 (Thousands of Tons)

(p) = provisional

Source: Authors.

Table 2.11 Imports of Fresh Fruits into the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001(p)	Share
Total Africa	1,516	1,478	1,837	1,696	1,776	1,889	1,886	1,741	22.6 %
Total Americas	4,708	3,676	4,283	4,350	4,270	4,587	4,301	4,176	54.3 %
Total Asia	307	164	331	337	310	289	262	238	3.1 %
Total Oceania	257	193	315	283	259	306	311	324	4.2 %
Total Europe	394	375	647	671	464	510	344	393	5.1 %
Not specified	58	397	68	56	35	42	242	820	10.7 %
TOTAL IMPORTS	7,240	6,283	7,481	7,393	7,114	7,623	7,346	7,692	100.0 %

(p) = provisional.

Source: ZMP—Marktbilanz Obst 2002, based on Eurostat.

Table 2.12 Imports of Fresh Fruits of Africa to the EU (Thousands of Tons)

Countries	1992	1994	1996	1997	1998	1999	2000	2001(p)	Share
South Africa	643.5	570.6	693.6	665.2	866.7	850.1	828.3	884.4	50.8 %
Morocco	371.0	358.0	476.7	382.4	329.9	339.0	298.6	266.8	15.3 %
Cameroon	111.3	159.5	169.9	161.4	121.7	166.6	208.1	218.3	12.5 %
Côte d'Ivoire	281.2	275.5	339.2	333.1	306.2	381.4	369.9	184.1	10.6 %
Zimbabwe	7.0	8.3	18.1	30.3	30.4	31.3	36.3	45.2	2.6 %
Ghana	7.4	14.4	26.2	29.5	24.5	30.2	34.4	33.6	1.9 %
Swaziland	21.2	29.2	24.6	15.3	29.5	25.5	29.1	25.4	1.5 %
Egypt	26.8	9.6	13.5	12.9	12.3	12.9	16.7	23.8	1.4 %
Tunisia	21.9	21.4	21.4	15.9	24.5	21.3	25.1	21.5	1.2 %
Madagascar	5.6	7.8	11.2	7.7	10.4	12.5	18.8	16.6	1.0 %
Kenya	8.0	8.0	2.8	14.1	7.8	10.6	12.2	16.4	0.9 %
Namibia	1.5	4.0	2.7	1.4	1.2	1.4	1.8	2.0	0.1 %
Guinea	1.2	1.1	0.8	0.1	2.3	2.6	3.6	1.1	0.1 %
Mali	1.2	0.8	0.8	1.5	1.0	0.8	1.2	0.9	0.1 %
Mozambique	3.5	3.6	8.9	2.1	0.8	2.2	1.7	0.7	0.0 %
Burkina Faso	1.2	0.7	0.3	0.9	0.2	0.2	0.2	0.4	0.0 %
Cape Verde	1.9	0.1	0.0	..	..	..	..	..	..
Réunion	0.5	0.9	1.1	..	..	..	..	..	..
Somalia	0.2	4.7	25.5	22.6	7.0	..	..	..	..
TOTAL AFRICA	1,516.1	1,478.2	1,837.3	1,696.4	1,776.3	1,888.6	1,886.0	1,741.2	100.0 %

.. Negligible.

(p) = provisional.

Source: ZMP—Marktbilanz Gemüse 2002, based on Eurostat.

Table 2.13 Product Mix of Extra-EU Fruit Imports (Thousands of Dollars)

Produce	1995	1996	1997	1998	1999	2000	2001	Share
Bananas	3,742.2	3,838.7	3,174.6	3,060.6	3,222.5	3,325.2	3,230.7	42.0 %
Oranges	869.3	967.4	860.5	865.0	840.7	738.6	909.3	11.8 %
Apples	694.9	634.1	622.1	612.7	742.8	585.3	652.0	8.5 %
Pineapples	230.5	274.9	281.5	263.2	332.6	318.3	365.4	4.8 %
Grapefruit	435.9	437.7	440.5	428.4	414.4	383.5	340.5	4.4 %
Grapes	227.1	253.7	242.5	260.8	312.1	341.0	315.2	4.1 %
Small citrus (1)	250.1	330.5	289.6	273.1	288.2	273.3	292.4	3.8 %
Pears	268.6	245.2	265.9	274.1	297.4	261.0	256.2	3.3 %
Lemons	190.8	205.8	164.4	152.3	189.7	175.3	204.1	2.7 %
Kiwi	128.4	137.7	154.1	174.1	147.2	169.7	185.9	2.4 %
Other melons	103.5	106.3	111.5	139.4	168.3	165.9	171.0	2.2 %
Mangoes	63.5	65.9	75.9	84.5	116.3	119.4	134.9	1.8 %
Avocados	105.6	110.2	98.1	98.9	89.0	112.7	102.8	1.3 %
Plums	49.8	49.0	71.6	69.4	73.5	52.9	85.0	1.1 %
Cherries	44.6	60.5	66.9	62.8	73.6	57.2	73.7	1.0 %
Other apples	125.3	186.4	242.5	66.0	40.4	86.1	73.5	1.0 %
Watermelons	42.3	42.1	44.6	44.0	51.7	50.1	59.2	0.8 %
Strawberries	29.9	28.9	28.6	27.1	30.4	36.6	38.5	0.5 %
Other fruits	16.7	19.5	21.8	26.0	40.2	28.5	32.3	0.4 %
Lychees and others	14.0	13.2	10.5	13.0	18.8	22.6	21.6	0.3 %
Nectarines	12.4	15.1	16.0	13.4	17.4	15.3	21.5	0.3 %
Blackberries	14.2	13.9	11.8	14.5	20.0	23.9	21.1	0.3 %
Raspberries	19.9	21.8	25.8	25.2	21.9	20.4	19.0	0.2 %
Papayas	8.3	8.7	10.0	11.9	13.9	16.8	18.6	0.2 %
Other citrus	0.9	0.8	2.1	6.8	11.6	14.5	18.1	0.2 %
Apricots	5.3	6.8	6.9	9.6	7.1	9.6	12.0	0.2 %
Figs	4.2	5.1	9.4	4.8	6.4	6.9	6.8	0.1 %
Passion fruit. etc.	4.0	5.0	4.8	5.3	6.2	6.1	5.9	0.1 %
Quinces	4.9	3.9	3.8	3.3	5.2	4.1	5.7	0.1 %
Blueberries	2.9	3.3	3.6	3.1	2.1	3.2	4.4	0.1 %
Red berries	6.6	5.8	4.6	4.2	5.3	2.6	3.9	0.1 %
Gooseberries	3.9	4.3	3.2	5.0	4.3	2.7	3.6	..
Other Vaccinium fruits	1.5	3.5	3.7	3.8	2.0	1.2	2.6	..
Cowberry	2.3	2.6	2.4	3.1	2.1	2.1	2.1	..
Blackberry	2.2	1.0	1.2	2.2	2.4	1.3	1.0	..
TOTAL	7,726.5	8,109.3	7,377.0	7,111.6	7,617.7	7,172.9	7,690.5	100.0 %

.. Negligible.

Source: Eurostat.

- the competition in the fruit market is global since it can be transported by sea from far away countries because it is less perishable (low value/volume ratio). SSA suppliers have to compete with major players such as South Africa, Australia, the Americas and Asia;
- the fruit sector became global decades ago and is now controlled by a limited number of large, transnational companies.

Table 2.14 World's Exports of Floricultural Products (Thousands of Dollars)

Segment	1998		1999		2000		2001	
Cut flowers	4,084,363	49.0 %	3,769,443	47.6 %	3,661,868	47.9 %	3,640,139	49.7 %
Cut foliage	617,045	7.4 %	610,430	7.7 %	622,539	8.2 %	486,440	6.7 %
Plants	2,830,801	33.9 %	2,785,021	35.2 %	2,661,868	34.8 %	2,691,337	36.8 %
Bulbs	809,208	9.7 %	749,734	9.5 %	692,763	9.1 %	500,414	6.8 %
TOTAL	8,341,417	100.0 %	7,914,628	100.0 %	7,639,038	100.0 %	7,318,330	100.0 %

Source: Eurostat.

However, opportunities in the fruit sector can still be identified. Perishable fruit varieties (fast-moving products with a short shelf-life, 1–2 days) are particularly interesting for SSA producers since lead times⁵ create a comparative advantage over Australia, the Americas and Asia. New fruit varieties such as dwarf fruit for decorating purposes also present good opportunities because their high value/volume ratio allow air transport as primary export transport modality.

Finally, one key element to take into consideration when defining fields of opportunities is food safety. Food safety is both a threat and an opportunity depending on SSA exporters' ability to comply with the norms of the importers. If food safety cannot be guaranteed, export volumes will be affected. If the standards are met, exports may substantially increase.

Floriculture

Floriculture can be sub-divided into four groups, namely flowers, cut foliage, plants and bulbs. World exports of floriculture were worth \$7.3 billion in 2001. Over the last four years,

Table 2.15 World's Leading Export Countries of Cut Flowers (Thousands of Dollars)

Countries	1992	1998	1999	2000	2001	Share for 01
Netherlands	2,153,560	2,296,041	2,095,183	2,003,393	2,027,932	55.7 %
Colombia	395,644	600,014	546,210	566,986	562,466	15.5 %
Ecuador	25,330	201,883	210,409	215,414	206,561	5.7 %
Kenya	61,477	131,550	141,326	144,441	165,336	4.5 %
USA	14,359	20,569	14,762	13,738	114,436	3.1 %
Israel	146,120	175,196	115,884	102,292	114,415	3.1 %
Spain	52,665	95,977	85,450	77,407	78,582	2.2 %
Zimbabwe	28,743	61,925	58,810	63,797	65,520	1.8 %
Italy	111,277	80,158	67,921	58,235	54,885	1.5 %
Thailand	27,579	51,856	50,175	50,042	43,775	1.2 %
Others	266,950	369,194	383,313	390,009	206,231	5.7 %
TOTAL	3,283,704	4,084,363	3,769,443	3,685,754	3,640,139	100.0 %

Source: Pathfast Publishing.

5. Time between calling orders and actually replenishing supermarket shelves.

exports of floriculture products decreased in value from \$8.3 billion to \$7.3 billion, as a result of the lower prices per volume of floriculture products and the exchange rate variations between the Dollar and the Euro. A substantial part of floricultural exports is traded in Euros.

Cut Flowers

The Netherlands is the world's largest exporter of cut-flower with exports valued at approximately \$2 billion or almost 55 percent of the market. Colombia and Ecuador are second and third exporters in the world. The Netherlands supplies a wide range of flowers.

The most valuable varieties are roses (28 percent)—which clearly dominate the world market; carnations (13 percent), tulips (8 percent), lilies (7 percent) and gerbera (5 percent).

In comparison, Colombian exports are mainly flowers for bouquets (32 percent), roses (24 percent) and carnations (21 percent). Ecuador's exports are dominated by roses (64 percent).

Table 2.16 Africa's Leading Export Countries of Cut Flowers (Thousands of Dollars)

Countries	1992	1998	1999	2000	2001	Share for 01
Kenya	61,477	131,550	141,326	144,441	165,336	55.1 %
Zimbabwe	28,743	61,925	58,810	63,797	65,520	21.9 %
Zambia	2,379	14,146	16,969	16,155	16,404	5.5 %
South Africa	13,377	14,656	13,468	12,086	12,793	4.3 %
Uganda	—	6,226	6,615	10,049	11,429	3.8 %
Tanzania	1,076	6,361	7,800	6,752	9,142	3.0 %
Morocco	16,224	9,661	7,067	5,804	5,433	1.8 %
Mauritius	5,233	4,857	3,779	4,080	3,742	1.2 %
Côte d'Ivoire	2,064	2,112	2,182	2,533	3,509	1.2 %
Rwanda	—	—	—	—	2,650	0.9 %
Ethiopia	1,675	457	351	841	891	0.3 %
Cameroon	—	642	703	858	856	0.3 %
Malawi	674	3,147	1,110	558	651	0.2 %
Egypt	534	435	576	476	595	0.2 %
Tunisia	—	346	344	775	382	0.1 %
Burundi	—	—	—	—	217	0.1 %
Somalia	—	—	—	—	70	..
Ghana	—	—	—	—	69	..
Swaziland	—	—	—	—	65	..
Eritrea	—	—	—	—	51	..
Sudan	—	—	—	—	36	..
TOTAL	133,456	256,521	261,100	269,205	299,841	100.0 %

— Not available.

.. Negligible.

Source: Eurostat.

Table 2.17 World's Leading Export Countries of Cut Foliage (Thousands of Dollars)

Countries	1998	1999	2000	2001	Share for 01
USA	113,237	102,317	100,935	77,992	16.0 %
Netherlands	72,665	72,787	77,456	75,649	15.6 %
Costa Rica	74,252	76,981	77,571	64,869	13.3 %
Italy	71,249	65,519	59,372	49,591	10.2 %
Canada	56,449	54,849	36,163	34,619	7.1 %
Guatemala	21,777	25,809	30,751	25,722	5.3 %
Denmark	26,847	28,133	22,055	24,334	5.0 %
Israel	18,839	15,787	16,388	17,029	3.5 %
Germany	20,998	18,028	17,596	16,043	3.3 %
Mexico	20,021	19,606	21,227	11,867	2.4 %
Others	120,711	130,614	163,025	88,725	18.2 %
TOTAL	617,045	610,430	622,539	486,440	100.0 %

Source: Pathfast Publishing.

Table 2.18 Africa's Leading Export Countries of Cut Foliage (Thousands of Dollars)

Countries	1998	1999	2000	2001	Share for 01
South Africa	14,884	12,686	11,461	10,259	91.2%
Kenya	1,022	1,299	1,485	806	7.2%
Côte d'Ivoire	273	229	199	134	1.2%
Morocco	133	23	708	45	0.4%
Cameroon	268	311	318	—	..
Ethiopia	0	0	116	—	..
Malawi	2	109	86	—	..
Zimbabwe	385	84	67	—	..
Egypt	62	46	63	—	..
Mauritius	58	61	40	—	..
Zambia	0	0	6	—	..
Uganda	0	0	6	—	..
Tunisia	30	35	4	—	..
TOTAL	17,117	14,883	14,559	11,244	100.0 %

— Not available.

.. Negligible.

Source: Pathfast Publishing.

African countries represent 8 percent of the world exports of cut flowers valued at almost \$300 million. Kenya is the largest African exporter with 55 percent of the African market, followed by Zimbabwe (22 percent) and Zambia (6 percent). Roses are also the most important cut flower for SSA producers. They represent 71 percent of Kenya's production and a great share of the production in Zimbabwe and Zambia. Other popular flowers are carnations (7 percent), chrysanthemums (1 percent) and various summer flowers.

Cut Foliage

The United States is the world leader in exports of cut foliage with a market share of 16 percent. The Netherlands and Costa Rica are ranked second and third. Ferns are a particularly popular product, and are produced in quantity in the USA.

African countries are virtually absent in the cut foliage market. Only South Africa exports \$10 million worth of cut foliage per year.

Ornamental Plants

The Netherlands is the world's largest exporter of ornamental plants with a value of \$1.2 billion, representing a 45 percent market share. Denmark and Canada are second and third, followed by Belgium and Germany.

Total African exports of ornamental plants are limited to \$40 million, representing only 1.5 percent of the world market. Kenya exports half of all African ornamental plants, of which unrooted cuttings produced for European propagating companies represent the largest bulk of exports. South Africa, Uganda and Tanzania also are exporters of ornamental plants.

**Table 2.19 World's Leading Export Countries of Ornamental Plants
(Thousands of Dollars)**

Countries	1992	1998	1999	2000	2001	Share for 01
Netherlands	1,080,464	1,380,872	1,268,929	1,151,985	1,209,876	45.0%
Denmark	390,422	276,403	251,650	232,858	239,299	8.9%
Canada	46,120	159,548	184,184	228,612	232,283	8.6%
Belgium	212,763	221,354	222,395	211,396	229,654	8.5%
Germany	123,628	143,890	150,340	151,767	180,372	6.7%
Italy	64,964	144,757	160,466	149,231	170,315	6.3%
Spain	20,556	58,601	49,655	53,453	74,275	2.8%
France	34,528	77,455	79,261	70,131	57,609	2.1%
Costa Rica	36,580	50,340	55,830	55,707	35,373	1.3%
USA	76,133	129,589	89,887	94,449	35,218	1.3%
Others	169,655	187,992	272,424	262,279	227,063	8.4%
TOTAL	2,255,813	2,830,801	2,785,021	2,661,868	2,691,337	100.0%

Source: Pathfast Publishing.

**Table 2.20. African Leading Export Countries of Ornamental Plants
(Thousands of Dollars)**

Countries	1992	1998	1999	2000	2001	Share for 01
Kenya	4,150	7,496	13,753	18,189	20,527	51.4 %
South Africa	2,140	5,214	5,316	5,947	5,411	13.5 %
Uganda	0	1,422	2,748	3,611	4,613	11.5 %
Tanzania	—	706	1,910	2,484	3,461	8.7 %
Egypt	—	1,243	1,602	2,287	2,551	6.4 %
Zimbabwe	—	382	1,198	1,031	907	2.3 %
Côte d'Ivoire	2,896	1,056	923	888	770	1.9 %
Morocco	508	957	1,218	861	750	1.9 %
Tunisia	—	628	598	530	545	1.4 %
Rwanda	526	—	—	—	349	0.9 %
Burundi	523	—	—	—	72	0.2 %
Cameroon	—	46	44	23	—	—
Mauritius	—	127	53	8	—	—
Zambia	—	0	28	1	—	—
TOTAL	10,743	19,277	29,391	35,860	39,956	100.0 %

— Not available.

Source: Pathfast Publishing.

Table 2.21 World's Leading Export Countries of Bulbs (Thousands of Dollars)

Countries	1998	1999	2000	2001	Share for 01
Netherlands	675,589	641,169	577,786	448,158	89.6 %
Poland	3,544	4,946	5,109	9,537	1.9 %
UK	8,757	9,762	9,161	6,347	1.3 %
Belgium	11,294	9,917	8,170	4,686	0.9 %
Chile	6,492	9,793	3,840	4,302	0.9 %
Israel	11,074	9,862	10,632	2,881	0.6 %
USA	16,118	10,645	11,749	2,555	0.5 %
Germany	7,807	6,302	6,100	2,541	0.5 %
Brazil	3,702	4,144	2,831	2,418	0.5 %
France	5,744	4,659	4,786	2,279	0.5 %
Others	59,087	38,535	52,599	14,710	2.9 %
TOTAL	809,208	749,734	692,763	500,414	100.0 %

Source: Pathfast Publishing.

Table 2.22 Imports of Flowers in EU Countries (Millions of Swiss Francs⁶)

Year	1960	1970	1975	1980	1985	1990	1995	1998
Intra-EU ⁺	141.0	614.3	1,191.1	1,599.1	2,006.3	3,177.1	3,043.8	3,473.8
Extra-EU ⁺	6.5	73.5	196.0	461.4	472.8	517.2	685.1	935.8
TOTAL	147.5	687.8	1,387.1	2,060.5	2,479.1	3,694.3	3,728.9	4,409.6
Extra-EU (%)	4.4%	10.7%	14.1%	22.4%	19.1%	14.0%	18.4%	21.2%

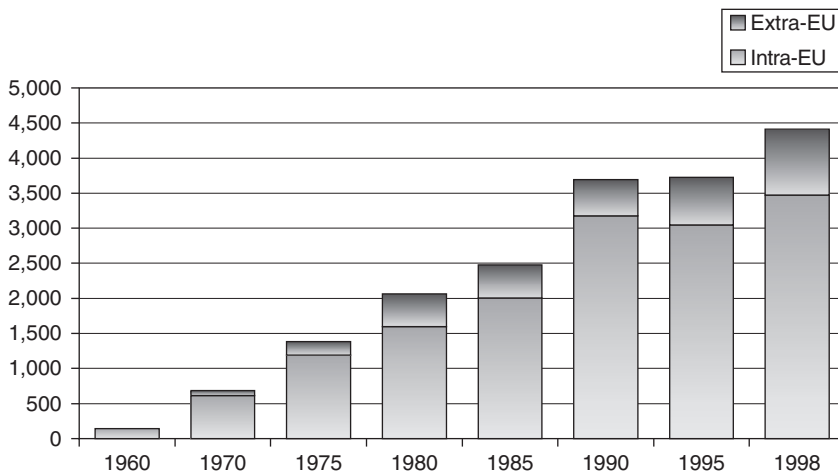
Source: AIPH.

Bulbs

Dutch producers dominate the bulb business, with almost 90 percent of the market. In Africa, only South Africa has a small bulb industry that exports \$2 million.

The EU Flower Trade

Because SSA's floricultural production is oriented towards the European market, a broader perspective of the EU floricultural market was deemed noteworthy. The EU flower trade

Figure 2.5 Flower EU Imports, 1960–1999 (Millions of Swiss Francs)

Source: Authors.

6. Due to the high exchange rate of the Swiss Franc against other European currencies, the 1990 trade figures in Swiss Francs are higher (the 1990 rate was 15% higher than in 1995). The 1998 value of 4.4 billion Swiss Francs is equal to €7.14 billion.

Table 2.23 Total EU Flower Imports per Country (Millions of Swiss Francs)

Countries	1960	1970	1975	1980	1985	1990	1995	1998	Share for 1998
Germany	80.1	479.3	980.5	1,208.9	1,126.6	1,428.6	1,308.2	1,494.9	33.9 %
UK	17.4	15.9	26.9	86.3	218.6	392.3	410.3	749.8	17.0 %
France	0.9	22.5	51.5	138.8	222.4	420.6	400.0	570.4	12.9 %
The Netherlands	0.4	4.3	38.7	94.6	121.7	219.1	360.1	579.6	13.1 %
Italy	1.2	13.0	19.2	31.3	89.8	135.3	135.0	192.8	4.4 %
Switzerland	16.2	52.5	82.5	116.7	152.2	193.1	196.4	208.6	4.7 %
Belgium/Lux.	6.0	9.5	25.1	63.3	61.8	94.1	108.7	151.0	3.4 %
Austria	2.5	18.2	35.7	77.0	88.3	107.8	103.2	132.3	3.0 %
Sweden	19.3	38.2	46.9	55.5	71.0	92.3	70.5	74.0	1.7 %
Denmark	0.3	0.5	3.4	15.2	37.4	45.5	57.0	71.5	1.6 %
Spain	0.0	0.0	0.1	0.0	1.0	33.4	34.8	49.3	1.1 %
Ireland	—	—	1.1	—	—	18.8	19.7	29.0	0.7 %
Norway	1.4	8.8	15.1	20.7	30.3	37.8	31.3	36.5	0.8 %
Greece	0.0	0.0	0.0	0.2	1.4	9.4	21.8	28.2	0.6 %
Finland	0.7	4.3	7.2	10.9	15.0	17.5	18.5	25.4	0.6 %
Portugal	—	—	—	—	—	0.8	5.3	16.3	0.4 %
TOTAL IMPORTS	146.4	667.0	1,333.9	1,919.4	2,237.5	3,246.4	3,280.8	4,409.6	100.0 %

— Not available.

Source: AIPH.

(including Switzerland and Norway) was analyzed until 1998 by the International Association of Horticultural Producers (AIPH). This information is available to the public through their reports, which provide a good historical perspective.

Germany is the largest European importer of flowers. Until 1985, Germany represented more than 50 percent of total EU imports. In subsequent years, the consumption (and imports) of flowers expanded in other European countries, especially the UK, France and the Netherlands. It is also important to note that a significant share of imported flowers are re-exported.

Germany also used to be the leading importer of flowers from Extra-EU countries. In the late 1980s and 1990s, Dutch auctions changed their flower import policy and the Netherlands became the first European flower hub. Today, over 55 percent of non-EU imports are channeled through the Netherlands. The UK is the second largest importer of non-EU flowers, with historic connections for carnations from Colombia and Kenya.

Up to 1998, Israel was the largest non-EU supplier, followed by Kenya and Colombia. Ecuador is a strong newcomer. Recently, Kenya took over Israel's leading position.

The 13.8 percent annual increase of EU's imports of flowers from SSA countries between 1996 and 2002. The annual growth is the fastest in Uganda (26 percent) and Zambia (21 percent).

Table 2.24 Extra-EU Flower Imports per Country (Millions of Swiss Francs)

Countries	1960	1970	1975	1980	1985	1990	1995	1998	Share for 1998
The Netherlands	0.1	2.2	27.2	80.8	103.0	154.5	286.7	487.4	52.1 %
UK	2.0	5.3	18.5	46.7	78.7	92.0	118.7	154.0	16.5 %
Germany	2.6	36.1	93.6	208.4	132.5	103.4	115.5	98.5	10.5 %
Italy	0.0	3.0	7.8	17.0	26.5	33.4	45.8	56.1	6.0 %
Switzerland	0.8	10.6	19.9	36.2	37.5	28.8	32.4	31.0	3.3 %
Spain	0.0	0.0	0.0	0.0	0.2	5.9	13.7	24.6	2.6 %
France	0.1	2.1	1.7	10.2	16.7	24.6	27.5	26.5	2.8 %
Belgium/Lux.	0.2	0.4	0.3	1.2	2.2	1.8	3.1	25.3	2.7 %
Norway	0.1	1.8	6.2	11.1	13.2	12.5	8.1	9.0	1.0 %
Sweden	0.4	7.9	12.2	18.5	27.8	25.8	18.5	7.4	0.8 %
Greece	0.0	0.0	0.0	0.2	1.1	1.9	2.4	3.9	0.4 %
Austria	0.1	3.8	7.1	22.7	24.6	23.0	2.7	3.0	0.3 %
Ireland	0.0	0.0	0.2	0.0	0.0	2.9	4.7	4.1	0.4 %
Finland	0.1	0.2	1.3	5.7	7.0	5.8	4.9	3.4	0.4 %
Denmark	0.0	0.1	0.0	2.7	1.8	0.9	0.5	0.4	..
Portugal	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.2	0.1 %
TOTAL Extra EU	6.5	73.5	196.0	461.4	472.8	517.4	685.6	935.8	100.0 %

.. Negligible.

Source: AIPH.

Most of the growth is taking place in the roses sector. In 1992, carnations were the most imported flowers at Dutch auctions (26 percent), followed by roses (18 percent). In 2002, roses represent 40 percent of imports, followed by Hypericum (6.5 percent) and Gypsophila (6.4 percent).

Opportunities for SSA

SSA's position with regard to fresh cut flowers, starting material for cut flowers, and pot plants (cuttings and young plants) is currently strong. *Starting Material* presents good opportunities because of its relatively high value/volume ratio and high levels of labor intensity, which now makes it impossible to produce it in Europe. Starting material is also a growing supply industry for the international horticultural production sector. Opportunities for *Ornamental Plants* are limited because of their unfavorable value/volume ratio. Moreover, ornamental plants are typical regional products. *Cut Foliage* offers higher opportunities than ornamental plants, but lower than cut flowers. The cut foliage industry operates at a global scale and is characterized by the presence of large farms with extensive production systems connected to efficient sea transport. The conclusion of the above analysis is that starting material is probably the sub-sector with the best market prospects.

Table 2.25 Non-EU Flower Imports per Supplier (Millions of Swiss Francs)

Countries	1986	1990	1995	1998	Share for 1998
Israel	183.9	186.4	178.2	238.7	25.5 %
Kenya	43.0	58.6	120.9	184.3	19.7 %
Colombia	70.1	112.3	148.8	168.8	18.0 %
Ecuador	—	3.7	36.7	95.5	10.2 %
Zimbabwe	—	16.4	59.7	85.5	9.1 %
Thailand	30.5	42.1	31.5	27.0	2.9 %
Turkey	—	16.2	15.5	21.3	2.3 %
Zambia	—	1.3	6.8	19.8	2.1 %
Morocco	6.9	17.5	17.5	13.6	1.5 %
South Africa	14.9	15.3	11.7	12.0	1.3 %
Tanzania	—	0.6	5.2	11.1	1.2 %
Uganda	—	—	3.3	10.7	1.1 %
India	—	—	1.9	8.6	0.9 %
Costa Rica	—	0.8	5.3	5.0	0.5 %
Peru	—	7.6	6.0	4.6	0.5 %
Malawi	—	—	3.2	4.4	0.5 %
New Zealand	1.0	2.6	3.7	4.0	0.4 %
Mauritius	—	4.5	2.7	3.2	0.3 %
Australia	1.9	2.3	2.7	3.0	0.3 %
Côte d'Ivoire	2.3	2.2	2.5	2.9	0.3 %
Singapore	5.3	4.4	3.5	1.7	0.2 %
Cameroon	—	—	—	0.9	0.1 %
USA	3.1	2.2	2.8	0.8	0.1 %
Malaysia	—	—	0.4	0.7	0.1 %
Ethiopia	—	4.0	0.6	0.6	0.1 %
Egypt	—	0.4	0.5	0.6	0.1 %
Guatemala	—	—	1.3	0.5	0.1 %
Surinam	—	—	0.3	0.5	0.1 %
Mexico	—	1.0	0.4	0.3	..
Brazil	2.7	4.4	3.2	0.3	..
Jamaica	0.3	—	0.3	0.2	..
Martinique	0.7	1.5	0.6	0.1	..
Swaziland	—	0.6	0.5	0.1	..
Others	20.0	8.4	6.8	4.7	0.5 %
TOTAL	386.6	517.3	685.0	936.0	100.0 %

— Not available.

.. Negligible.

Source: AIPH.

Table 2.26 EU Imports of non-EU Countries (Thousands of Euros)

Countries	1996	1997	1998	1999	2000	2001
Kenya	83,656	100,212	110,772	130,482	151,270	176,905
Israel	134,363	137,725	145,798	111,583	95,914	115,829
Colombia	94,088	104,388	102,494	93,542	101,726	101,469
Ecuador	27,064	38,573	54,854	62,925	76,267	79,954
Zimbabwe	39,757	46,134	50,377	51,811	64,337	67,934
Zambia	6,929	8,508	12,189	15,985	16,822	18,235
Thailand	18,418	18,972	16,559	16,120	18,217	16,329
Uganda	3,234	4,445	4,791	5,633	10,569	12,751
Tanzania	3,910	5,193	5,543	7,736	8,264	10,135
South Africa	8,170	8,880	8,221	8,637	7,849	9,899
Turkey	11,690	11,642	13,113	10,978	7,103	8,260
Morocco	9,177	8,096	6,695	5,228	5,482	6,248
India	6,000	7,541	6,950	4,518	4,723	6,029
Côte d'Ivoire	1,621	1,839	1,911	2,085	2,650	3,919
Costa Rica	3,493	3,700	3,081	3,323	3,523	3,833
Peru	3,133	4,549	2,779	2,255	3,015	2,636
Australia	2,702	2,442	2,838	2,734	2,224	2,455
New Zealand	1,808	1,707	2,099	1,621	1,320	1,696
Others	23,857	13,366	14,645	13,913	15,819	15,000
TOTAL IMPORTS	483,070	527,912	565,709	551,109	597,094	659,516

Source: Eurostat.⁷

Table 2.27 EU Imports of SSA Countries (Thousands of Euros)

Countries	1996	1997	1998	1999	2000	2001	2002	Annual increase
Kenya	83,656	100,212	110,772	130,482	151,270	176,905	197,280	15.4 %
Zimbabwe	39,757	46,134	50,377	51,811	64,337	67,934	64,578	8.8 %
Zambia	6,929	8,508	12,189	15,985	16,822	18,235	21,784	21.7 %
Uganda	3,234	4,445	4,791	5,633	10,569	12,751	13,297	29.2 %
Tanzania	3,910	5,193	5,543	7,736	8,264	10,135	8,234	15.0 %
South Africa	8,170	8,880	8,221	8,637	7,849	9,899	10,728	5.2 %
Côte d'Ivoire	1,621	1,839	1,911	2,085	2,650	3,919	4,167	18.0 %
TOTAL IMPORTS	147,277	175,211	193,804	222,369	261,761	299,778	320,068	13.9 %

Source: Eurostat.

7. Eurostat is a better source of data for more recent developments.

Table 2.28 Import Assortment at Dutch Auctions (Thousands of Euros)

Assortment	1992	1995	1998	2000	2001	2002
Roses	38,873	78,885	137,431	168,421	174,743	194,553
Hypericum	77	5,347	15,562	30,096	29,582	31,267
Gypsophila	16,578	14,542	26,204	30,677	30,892	30,989
Carnations	54,383	43,643	42,836	35,930	30,667	24,374
Solidago	5,365	6,613	19,491	21,197	19,763	18,285
Other cut-flowers	7,899	12,099	10,898	10,434	10,820	12,477
Zantedeschias	492	623	2,809	7,058	10,003	12,376
Other decoration materials	15,880	8,782	11,478	12,815	12,676	12,275
Chamelaucium	4,965	9,018	9,162	9,267	8,989	9,487
Limonium	21,687	15,468	10,996	10,256	9,493	8,772
Eryngium	294	1,387	3,891	7,479	7,272	7,188
Helianthus	137	2,575	7,630	7,297	6,841	7,155
Aster	4,921	6,116	6,755	6,372	6,294	5,889
Veronica	690	1,157	2,913	4,915	5,320	5,261
Ornithogalum	1,403	1,606	3,747	4,843	4,960	5,102
Gerbera	787	2,058	4,145	4,350	4,799	4,865
Ruscus	3,490	3,318	3,875	4,660	4,633	4,809
Leucadendron	350	1,549	3,559	3,908	4,166	4,503
Lilium	560	1,364	4,099	4,541	3,684	4,308
Trachelium	2,507	2,298	2,763	3,138	3,409	3,654
Eustoma	260	895	2,461	3,475	3,291	3,640
Asclepias	1,492	4,115	4,077	3,431	3,009	3,522
Ranunculus	344	367	714	1,465	2,586	3,351
Pittosporum	—	—	—	—	3,264	3,346
Protea	1,872	2,008	1,736	2,166	2,687	3,155
Anigozanthos	746	1,675	3,226	3,968	3,655	3,153
Alstroemeria	5,735	5,375	4,467	3,203	2,045	2,144
Others	19,014	28,708	41,482	48,096	52,106	53,937
TOTAL	210,801	261,591	388,407	453,458	461,649	483,837

— Not available.

Source: VBN.

The growing market share of supermarkets in flower and ornamental plant distribution systems is an important opportunity. Access to this market requires supply chain management, processing infrastructure (bouquets) and a critical product range. A substantial part of the growth of the SSA flower industry is based on the increasing share of EU supermarkets, especially in the UK.

Horticulture Supply Chain Dynamics

Fruits and Vegetables

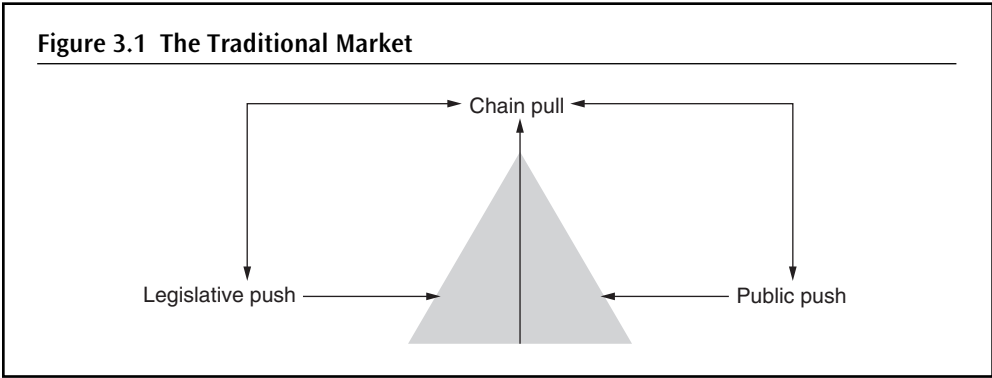
Trends

This section of the study is focused on the application of supply-chain analysis, and mainly supply-chain dynamics.⁸ A number of concepts are attached to this type of analysis. They will be explained in the course of the argument.

The European market for fruits and vegetables has recently been subject to major structural changes. The driving forces behind these changes can be characterized as “top-down” and “outside-inside” oriented. Top-down forces are initiated by consumers and retailers, and result in selective “pull factors.” Outside-inside forces are propelled by external factors, such as political (new legislation) and socio-economic causes. They result in selective “push factors.”

In supply-chain analysis, traditional markets are represented by a triangle with a broad base, a middle base, and a narrow top. This configuration still applies to many markets. However, the picture of markets for products with potential health, safety and environmental hazards has been modified by the above mentioned pull and push factors. Until recently, the consumption of fresh fruits and vegetables did not attract particular concern from public opinion in terms of health and safety. However, fresh fruits and vegetables also became potentially suspect following international food scandals in sectors such as beef, pork, processed food, and soft drinks; and the international controversy around genetically modified organisms. These different factors, the pull and push factors, started to

8. Supply-chain dynamics analyzes and quantifies the impact of the competing interactions within the supply chain.



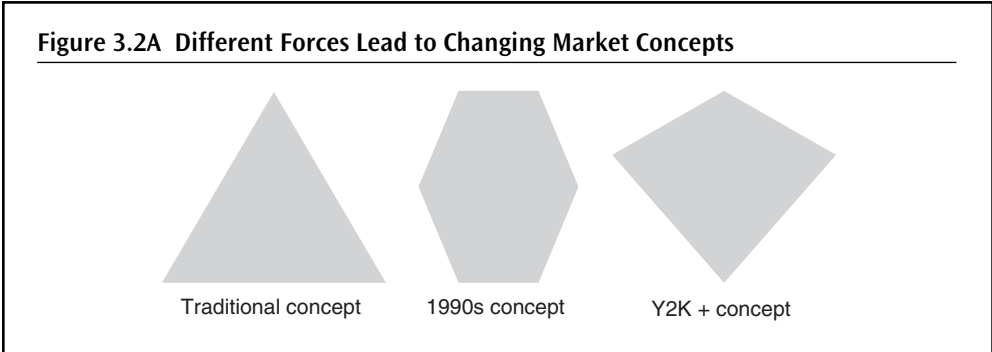
Source: Authors.

impact significantly the representation of the European horticultural market. The figure below represents the two stages of development of the horticultural market: Figure 3.1 represents the traditional market; Figures 3.2A and 3.2B the new market.

The 1990s Concept. The improved economic situation and economic growth in the 1980s and 1990s initially propelled the pull factors. The transformation of the market was a result of increased interests in:

- new products and new varieties;
- health and lifestyle;
- convenience;
- year-round supply instead of seasonal products.

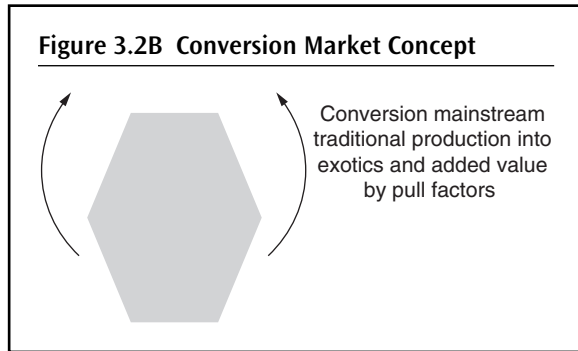
These driving forces led to product introductions, innovations and modifications. For example, the increasing market for exotic and off-season products, health-driven variety selection and pre-packed, pre-cut and ready-to-eat fruits and vegetables. This development was at the expense of traditional mainstream products in lower market segments. The increasing market share of retail chains became an important enabling factor because of its high numeric distribution.



Source: Authors.

This initial market transformation led to a new hierarchy of winners and losers. The winners were:

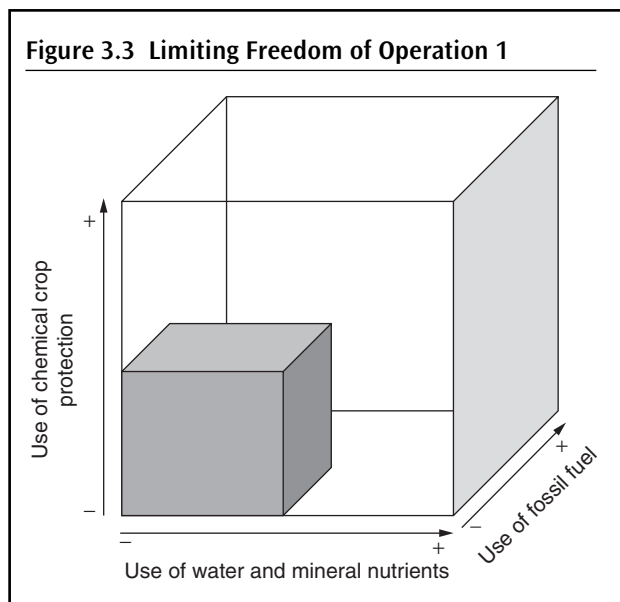
- off-season producers in the EU (Mediterranean countries);
- off-season producers outside the EU (North Africa and Southern hemisphere);
- producers of exotics (SSA, Latin America, South-East Asia);
- greenhouse producers in Northern Europe;
- some pro-active breeders and seed companies;
- food service industry and caterers;
- retail chains.



Source: Authors.

Obviously, in the 1990s, many public and private initiatives were taken to launch and expand high value production in SSA. The following actors have lost important market shares during these changes:

- European top-fruit and stone-fruit industry (apple, pear, plum, cherry);
- European outdoor vegetable industry (cabbage, carrot, bean, onion, etc.);
- small independent wholesalers and retail outlets (secondary and primary wholesalers, wholesale markets, greengrocers, market stalls).



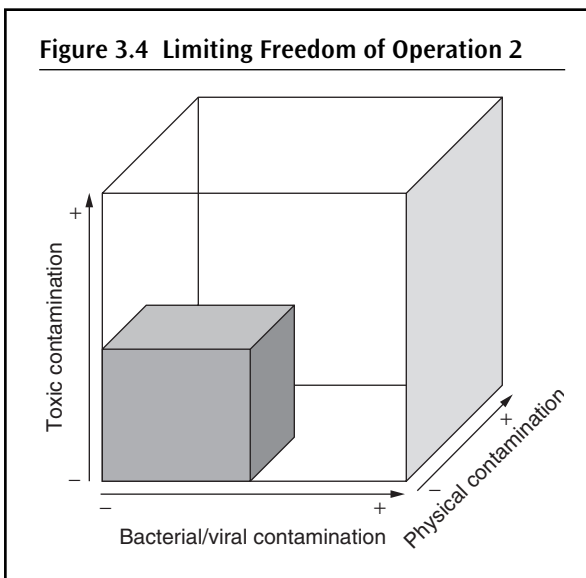
Source: Authors.

Y2K + Concept. At the turn of the millennium, other forces that had already affected heavy industry became apparent in other sectors of the economy. For the agricultural industry, the driving forces were propelled by two issues:

- sustainability;
- (food) safety.

As far as horticulture or high-value crops are concerned, sustainable issues include:

- use of fossil fuel for production (heating with natural gas for greenhouse) and distribution purposes (diesel and kerosene for trucks and planes; depletion of natural resources and CO2 emissions);
- use of fresh water nutrient minerals for irrigation and fertilizer purposes (depletion of natural resources and uncontrolled emissions to soil and water);
- use of crop protection chemicals (uncontrolled emission of toxic materials in soil, water, air and the food chain);
- human and social approaches to the labor factor.



Source: Authors.

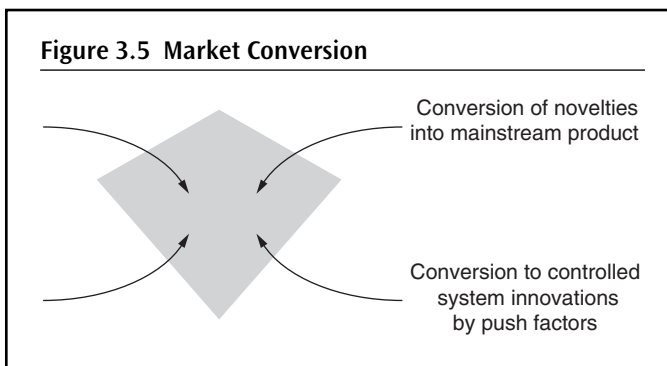
The public and legislative sustainable factors push the agro-sector to the edge and limit its freedom of operation.

With respect to (food) safety, the following items are relevant:

- reducing toxic contamination risks (chemicals);
- reducing disease contamination risks (bacteria, viruses);
- reducing physical contamination risks (foreign elements).

Food safety also limits the freedom of operation of the agro-sector and pushes the sector in a safe direction.

The response to pull factors focuses on product innovation, while the response to push factors focuses on system innovation. This process is currently being developed by the international retail industry. Consequently, the new forces that were at the conceptual stage in the 1990s have gradually become mainstream.



Source: Authors.

It is expected that this process will once again change the actors' organizational chart with its set of winners and losers. In this new configuration, the winners are individual producers and distributors, or integrated supply chains that are based on corporate structures and have invested heavily in sustainability and food safety. These winners will have obtained what we refer to as a "license to produce" or "license to deliver." The losers are traditional, production-oriented farmers, agricultural cooperatives and wholesalers, who have failed to obtain or have lost these licenses. The changes that occur among the participants of the chain will lead to higher barriers to entry.

Consumer level

In terms of volume, the EU market is stable and mature. Most regional markets only show marginal changes in the total consumption of fruits and vegetables. However, this stability does not prevent important market dynamics from occurring. One of the strongest dynamic drivers is consumers' behavior. Over 50 percent of European consumers indicate that their attitude and behavior towards food has changed. Consumer dynamics are based on the following elements:

- environment and food;
- health and food;
- time and food;
- moments and food;
- multiculturalism and food;
- transparency and food.

Environment and Food. The attitude towards environmental aspects has changed significantly in the past decade. Active environmental awareness peaked in the early 1990s, based on the arrival of environment-friendly products in niche markets, considered as unique selling points. These products lost their distinctive attribute later on, following broader cultural trends. In the late 1990s, environmental awareness became more entrenched in consumers' behavior and environment-friendly products started to be considered more as a prerequisite than a value-added. In parallel to this, the willingness to pay premium prices for environmental features substantially decreased, and proven environment-unfriendly products were ejected from the market.

From a consumer perspective, the interaction between environment and food can hardly be considered a market opportunity. It is rather a force that influences production techniques, which tend to influence production locations, market access and appropriate transport modalities.

Organic. There seems to be a general misunderstanding among newcomers as to the opportunities provided by the surge of the organic market. While it certainly represents an interesting growth market, organic sales account for less than 5 percent of the total market. It is also important to mention that organic production is of particular interest for a limited number of commodities. In horticulture, the following products have a good market: citrus, top fruit, tomatoes; and arable cropped vegetables, such as carrot, cabbage,

onion, etc. The organic market for specialties and exotics is very limited, because of the low volumes in which they are traded (they are not staple food, but are rather consumed on special occasions).

The claim of a product from SSA countries to be organic is not as solid as it may seem because the product has to be transported over long distances by road, sea and especially air. Since the organic denomination has, to a great extent, to do with lower impact on the environment, these modes of transportation go against such claim because of their impact on global climate change (CO₂ and CO emissions).

Finally, there is a substantial production penalty with organic production, which is only compensated by premium prices where organic production is embedded into a solid production and management infrastructure. This penalty can be a critical drain on premium prices in less favorable situations.

Organic agriculture as well as sustainable horticulture are gaining more interest from consumers. Retail chains have, therefore, translated the concept into product identification and triggered innovation in horticultural production and distribution infrastructure. Sustainable horticulture relates to a holistic perspective on production and distribution methods, which are designed to create a minimal impact on the environment and the people.

Health and Food. Although marketing trends have clearly indicated that health concerns have become an important factor influencing consumption patterns, this health awareness does not translate in market figures. Fruits and vegetables consumption, on the contrary, has decreased in a number of countries; despite scientific evidence that fruits and vegetables greatly reduce the risk of a number of diseases as well as promotion campaigns financed by national and European funds.

Two health-related issues could presumably influence the horticultural sector. First, the consumption of canned fruits and vegetables seems to be directed towards semi-processed, pre-cut and complete ready-to-eat meals. The effect of this development on volume is marginal. However, the effect on value is important due to the tremendous added value provided by the food service and catering industries. Secondly, food safety captured the public's attention in relation to potential toxic, bacterial and viral contamination, following the various food scandals. In practice, consumers rely on the safety procedures of retailers. Consumers also tend to feel that foreign products are more likely to be unsafe.

Time and Food. Changing lifestyles and demographics have had a strong influence on consumers' perception of time. The time factor is now part of the food industry. The new consumption patterns in Europe rely on the distinction between week and week-end activities. The preparation time for cooking varies according to work and leisure time, therefore fast-food/fast-cuisine is consumed during the week and slow-food at weekends. Fast-food/fast-cuisine does not necessarily result in unhealthy eating habits. In some instances, it means "outsourcing" time-consuming food preparation activities to the food service industry (restaurants, catering). While the total volume effect on the consumption of fruits and vegetables is marginal, the value effect is substantial due to the added value. Consumers increasingly opt for ready-to-eat meals rather than deep-frozen or canned fruits and vegetables. Ingredients to prepare the slow-food during leisure time may be more expensive and gourmet-like, creating an additional demand for high quality products, specialties and exotics.

Moments and Food. With respect to the moment and place of food consumption, one can note a trend of “snacking,” “grazing” (multiple consumption moments), and outdoor consumption. “Snacking” and “grazing” do not replace one or two of the traditional three meals a day. However, the food intake at traditional meals decreases. Outdoor consumption is expected to increase substantially in the next couple of years and follows the tendencies in the US market. This trend will cause a shift from traditional retail outlets (supermarkets) to non-traditional outlets (restaurants, gas stations, catering concepts). This development has virtually no impact on the volume of the horticultural market but increases the value terms.

Multiculturalism and Food. Trend analysts have asserted that the trend of ethnic food reached its peak. The reason for this is twofold. First, the ethnic population is increasingly eating domestic food, and secondly, the number of immigrants is decreasing as a result of a stricter policy. Some ethnic food (Chinese, Indian) have also been fully incorporated within the traditional food market.

Transparency and Food. The last trend is the increasing interest of consumers in the exact contents, origin and means of production of food. Obviously this trend is closely related to developments in environmental and health awareness. Supermarkets tend to tell “the story behind the product” through advertising and in-shop information material.

Conclusion. Trends at consumer level have an insignificant impact on the volume of consumption. Consumer trends generally reflect concerns with respect to the means of production and distribution, and skepticism about food from faraway origins. These factors have led to a shift from traditional food retailers to added-value-based, non-traditional retail channels.

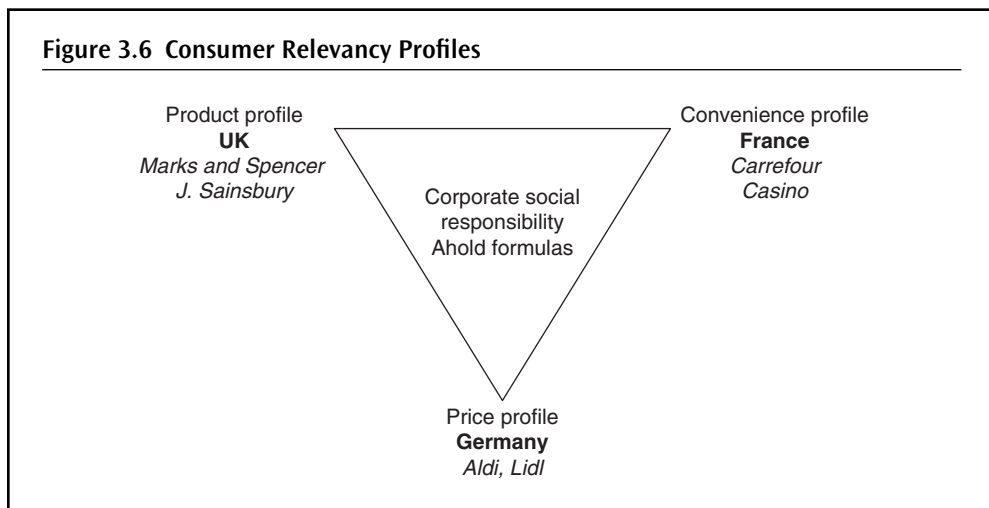
Retail Level

Structural changes took place during the last decade in the European retail industry for fruits and vegetables. Rationalization and internationalization led to major shifts in the market share of the different fruits and vegetables outlets. This section of the report focuses on an analytical presentation of the consequences, from a qualitative viewpoint, that these changes have caused in the fruit and vegetable chain. The qualitative data may be found in the annexes.

In principle, four major retail outlets for fruits and vegetables can be distinguished:

- supermarkets and hypermarkets;
- food service industry;
- specialized fruits and vegetables retailers;
- traditional outlets.

Supermarkets and Hypermarkets. The market share of supermarkets and hypermarkets in the fruit and vegetable sector grew substantially during the last decade. Fresh fruits and vegetables is the last fresh product category (after meat, bread, dairy) that was introduced into the product ranges of most supermarkets chains. The only perishable categories in which supermarkets do not have a dominant position are flowers and fish. Fruits and



Source: Authors.

vegetables are, nowadays, one of the most successful retail categories for supermarket chains. This success can be explained by the following factors:

- potentially high margins (ratio between farm-gate prices and retail prices may be up to a factor five) and high rates of turnover;
- fruits and vegetables provide a vehicle to market distinction (image, product liability) through assortment and quality policy;
- fresh fruits and vegetables can easily be upgraded into more value containing products by outsourcing added value activities to specialized companies (shippers, food service industry);
- fresh fruits and vegetables can easily be offered as private brands (the shop is the brand) which decreases the dependence on A-brand suppliers.

The above three characteristics of fruits and vegetables enable supermarket chains to profile themselves to three consumer relevancy profiles:

- price (high potential margin enables aggressive price policy);
- product (setting standards for food safety and reliability);
- convenience (anticipating changing lifestyles and demographics).

In the figure below, these consumer relevancy profiles are mapped and illustrated with representative retail chains and countries.

Through national and cross-border acquisitions and mergers, mass merchandisers try to:

- establish further consolidation;
- copy consumer relevance profiles to other countries;
- develop new intermediate profiles (experience profile such as Ahold).

It is clear that acquisitions and mergers make competition fiercer because the three consumer relevancy profiles continue to exist. However, the increased pressure from corporate and social responsibility of retail chains has led to the establishment of agreements that define non-competitive fields. Over 40 of the biggest supermarkets worldwide, united in the Global Food Safety Initiative, have agreed that food safety, for example, is a non-competitive field. This “gentlemen’s agreement” implies that members do not commercially exploit their efforts in the area of food safety and that, in Europe, all supermarket chains will implement EUREP-GAP standards. This dual orientation has contributed to the quick adoption of supply chain management practices based on “just in time” and “just in shape,” which, in practice, suggests the following innovations:

- direct sourcing;
- bring down the number of suppliers;
- outsourcing activities;
- standardizing information flows and procedures.

First, reducing the number of suppliers is the outcome of two parallel phenomena. First, retail chains have made the strategic choice to convert the traditional buyer-seller relationship into a partnership between the retail chains and their preferred suppliers, which is based on strict standards and detailed contracts.

Secondly, suppliers who will not have the capacity to scale up or the competence to comply with the new requirements will gradually disappear.

Thirdly, for efficiency purposes, retail chains focus on outsourcing all activities that are not related to their core business, i.e. retailing final consumer products. All intermediary activities, such as packing, preparation, and distribution are handed over to specialized companies.

Food Service Industry. Food service is a rapidly growing industry in the EU, following similar developments in the USA. The share of the food service industry in the European market is expected to double in the coming years and reach 30–40 percent in volume and approximately 50 percent in value. Growth is not realized by traditional food services (restaurants, fast food) but by specialized caterers (ready-to-cook/eat fresh products), fresh processors (cutting, slicing), and specialized wholesalers.

Despite this substantial growth, the market entry barrier is high due to the investments involved and the strict health and food safety regulations. The existing food service industry is expected to undergo a rationalization process in order to control labor costs and guarantee freshness, quality and food safety. This will result in:

- increasing use of fresh ingredients according to strict specifications at the expense of deep-frozen and canned fruits and vegetables;
- increasing purchasing and delivery frequencies;
- outsourcing specific activities to suppliers;
- consolidating and up-scaling in order to realize purchasing advantages;
- developing recognizable (franchise) formulas aimed at consumer segments.

The food service industry is rapidly developing into a professional industry with its own dynamics. It is a potential threat to retail chains. This is the reason why retail chains such as Ahold are adopting strategic positions in this sector.

Specialized Retailers. The position of specialized retailers continues to decrease in the EU, especially in Northern Europe. Initially, during the first expansion of supermarkets in the food and vegetable sector, large groups of traditional retailers diversified as specialized fruits and vegetables retailers. The formula was based on supplying high-quality products, broad assortments, and semi-processed and ready-to-cook or ready-to-eat meals. In some cases, even small, specialized chains expanded.

In the late 1990s, the role of specialized retailers came under pressure again for several reasons. First, the competition between supermarket chains resulted in three major formulas:

- discounters: small assortment, large volumes, low margins and retail prices;
- mainstream supermarkets;
- top-end supermarkets.

Most top-end supermarkets “copied” the formula of the small retailers and integrated it in the supermarket set-up. Because of purchasing power concerns, sophisticated logistics and a broad professional sourcing basis, these supermarkets managed to outsmart the specialized retailers at their core business: freshness, assortment and service. This is, for example, the case in the UK.

Second, due to changing lifestyles, women’s participation in the EU, and the convenience provided by one-stop shopping, customers tend to disfavor specialized retailers. The market share of traditional specialized retailers is expected to decrease more before finding its stabilization point.

In parallel to these changes, traditional specialized retailers will consolidate their efforts and develop smaller and larger chains, and diversify in local or regional food services in combination with delivery services.

Traditional Outlets. Traditional outlets like street markets or farmers’ markets focused on the lower part of the traditional market triangle. Market share of traditional outlets is decreasing because they cannot reach food safety and process control standards. Traditional outlets are connected to spot markets and, especially in times of oversupply, they supply cheap products of average quality that can be found on street markets and at farmers’ markets.

Wholesale Level

Due to the concentration of the retail industry, the number of clients and transactions has substantially decreased. Restructuring of the wholesale industry took place in the course of the 1990s and followed the steps detailed below:

Step 1. Quest for Sources. Fruits and vegetables were one of the last fresh categories adopted by retail chains. Initially, the chain power rested with the wholesaler who knew his way in the production sector. His only role was to supply bulk products to the distribution centers of the retail chains. The retail chains took care of all additional activities such as repackaging, planning, logistics, etc. In this period, business was booming for selected wholesalers.

Step 2. Quest for Chain Standardization. The same retail chains experienced difficulty in controlling these product flows when the market share of the retail chain increased and product flows increased as well. Many activities were outsourced to wholesalers. This development caused the first shake-up among wholesalers. Those who were unable to provide these extra services were no longer preferred suppliers. They subsequently either went bankrupt or fled into their traditional wholesale business. Some chain power remained with the wholesalers.

Step 3. Quest for Lowest Trade Margin. When retail chains started controlling a significant share of the fresh fruit and vegetable market, the power shifted from wholesalers to retail chains. This shift occurred in the mid-1990s and led to aggressive price wars among wholesalers, which eventually ended up with a substantial cut in margins (and eventually also a cut in producer prices) and a substantial shake-up of the wholesalers positioning. Due to the decreasing turnover of traditional retail outlets, there was pressure on the entire traditional wholesale sector, including wholesaler markets, auctions, etc. Wholesalers who did not manage to supply retail chains lost their emergency escape in the traditional retail sector as well and went bankrupt or merged.

Step 4. Quest for Reliability and Flexibility. Initially, the retail chains themselves were also the victims of the self-initiated price war among wholesalers. The financial damage resulted in ill-performing wholesalers. Since the retail chains position in the fresh fruit and vegetable sector continued to grow, logistics increased in complexity and the necessity to partner with reliable, flexible suppliers became clear. During the second half of the 1990s, the wholesale industry gradually recovered. The significant trend of merging resulted in a strong concentration of the sector, where the few new wholesalers enjoyed a stronger financial basis and a broader sourcing basis. At the same time, traditional wholesale platforms became obsolete.

The once famous Dutch auction system totally collapsed and urban wholesale markets became limited to regional functions. Wholesale markets still have a role in the supply-chain in Southern European countries. In Northern Europe, on the other hand, wholesale markets tend to be run on a private basis and focus on the food service and catering industry. One exception to this is the Rungis wholesale market (Paris, France), which still plays a significant role at national level. It should be said that the existence of Rungis is partly safeguarded by French legislation, which provides a protected and exclusive area of one hundred kilometers.

Step 5. Quest for Supply Chain Management; the Food Provider. The further concentration of the retail chains, the necessity to guarantee food safety and thus direct sourcing, requires further professionalism and internationalization of the wholesale industry. Wholesale companies are now in the process of transforming themselves into food providers responsible for all activities from farm to shelf. It is thought that there are in Western Europe only 10–15 of these food providers.

Producer Level

Structural changes are taking place at producer level, as a response to the following changes:

- decrease in the number of producers;
- enlargement of farm scale;

- Horizontal cooperation in new structures (growers associations);
- Vertical commitment and cooperation to one selected supply chain.

In the 1990s in the USA, the “New Generation Cooperatives” were introduced. These cooperatives focus on a special activity and/or a specially selected market segment. Cooperative members join forces to reach the same objective, mostly in terms of sales. The concept appeared subsequently in the Netherlands in the second half of the 1990s. These so-called “growers associations” are active in central sorting, packing and marketing of their crops. They are encouraged by European regulations to change from a production orientation to a market orientation through subsidies from the EC (Common Market Regulation).

Floriculture

Trends

Unlike the fresh fruit and vegetable chain, which is characterized by rationalization, food safety and dynamics, the ornamental chain is often associated with more abstract factors, such as emotions, luxury and traditions. The EU ornamental market certainly distinguishes itself from the fresh fruit and vegetable sector in terms of:

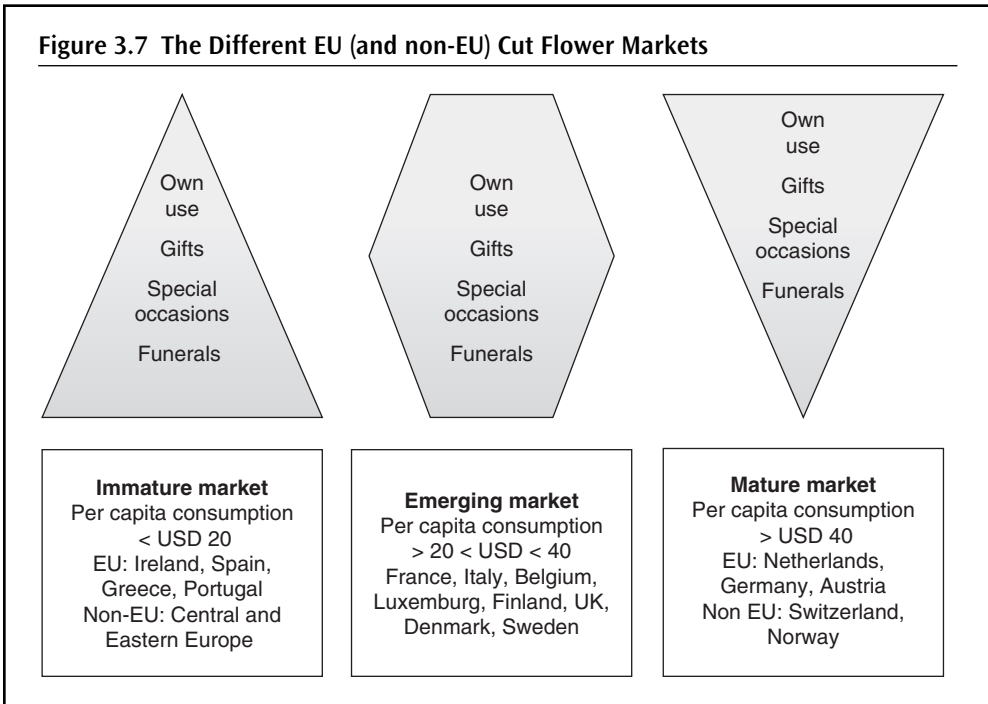
- its immense width of assortment;
- the small-scale retail distribution structure;
- the relatively high market share of non-EU origins.

It also distinguishes itself by the variety of its market products: funerals, special occasions (marriage, holidays, theme days), gifts, personal/home use (decoration). Each of these products or applications evolves according to different levels of market maturity and dynamics, as the figure below illustrates.

First, in the *immature markets*, cut flowers are predominantly used for funerals and special occasions such as wedding and theme days (name days, All Saints, Christian festivals). This market is supplied by a basic assortment of modest quality by local and regional growers/retailers. When no structural market change happens, these markets remain stable.

Secondly, in the *emerging markets*, the market grows through the expansion of the gift and own use segment. The absolute size of the funeral and special occasions segment remains constant, the relative size decreases. The current mature markets went through this development from the early 1970s to the mid-1980s, and resulted in a serious and prosperous expansion of the Dutch flower industry. This development was fuelled by economic growth and facilitated by cultural characteristics in the Dutch and German-speaking countries.

The second wave of transition from immature to emerging markets took place in the late 1980s and 1990s and resulted in a massive expansion of the European market with annual double-digit growth figures and high prices. In addition, the demand for a year-round supply grew in emerging markets and mature markets. This development triggered cut flower production in non-traditional production countries such as Israel, Africa and



Source: Authors.

Latin America. Within a period of five years, these newcomers managed to fully replenish the emerging markets and year-round demand. By that time, the market was supply-driven and volume-based and a “take it or leave it” mentality prevailed. This led to an unprofessional approach to both production and distribution.

Production growth realized by newcomers anticipated the assumption that, first, Central and Eastern Europe would quickly develop into an emerging market; and, secondly, that the emerging market would develop into a mature market without any consequences.

With respect to the Central and Eastern European markets, one can say that these markets certainly develop but not in a steady manner. The markets will find their equilibrium points in the long term.

Emerging markets continue to grow but not without consequences. Obviously, the market for own use or gifts has higher standards than the market for funerals and special occasions. Value for money (ratio price and vase-life) becomes more and more critical. Until recently, the origin of flowers was often unknown at retail level and no retailer would dare to guarantee a minimum vase-life. Due to the abundance of products and suppliers and a more critical attitude of consumers towards perceived values, the market became more demand-driven.

The flower market is also developing into a dual market structure with, on the one hand, a distribution channel controlled by mass retailers (supermarkets and DIY chains) and multiple retailers (chains of garden centers and florists); and, on the other hand, distribution channels controlled by independent florists. It is actually expected that the first

distribution channel, which specializes in “own use” consumption, will double its size in the coming years, developing the following characteristics:

- high turnover rates;
- standardized products (bouquets);
- moderate but guaranteed quality;
- fresh without keeping a stock;
- private label (reflecting store image).

The relative share of the second distribution channel controlled by independent florists will decrease. This channel will focus on the gift and occasional market and on the top-end own use market. This distribution channel will present the following characteristics:

- tailor-made service;
- complete assortment, never out of stock;
- added value by means of anticipating emotions, lifestyle, trends, etc.;
- indisputable quality and guaranteed vase-life (money back guarantee).

As in the fruit and vegetable sector, mass and multiple retailers are supplied by specialized service organizations, the flower providers. They are responsible for coordination of sourcing, control of logistics and product processing (bouquets). Due to the complexity and sensitivity (consistency; just in time and just in shape) of this market, flower providers typically directly source from preferred suppliers (either own production facilities or contracted partners) in various climate zones. A close network of specialized wholesalers supply European independent florists. Their specialization takes two forms:

- Geographical:
 - Southern Europe (exclusive assortment complementing local production);
 - Western Europe (complete assortment; details vary from country to country);
 - Central and Eastern Europe (basic assortment);
- Distribution outlets:
 - traditional wholesale markets (specializing in certain product groups);
 - direct to florist (complete range but on a small scale);
 - own cash and carry (complete range and large scale).

At present, most (non-European) suppliers-growers are not attuned to specific distribution channels and just supply to an apparently undifferentiated market. Casino strategies like this, combined with an unprofessional approach, lead to many victims among growers.

Consumer Level

At the consumer level, the market is multi-segmented and multi-dimensional. It is sensitive to trends and, as a result, is a dynamic and quite unpredictable market. Despite all

available consumer research (mainly conducted by the Dutch floricultural sector), decisions on flower choices and varieties remain intuitive and practical rather than strategic. An important trend is the evolution of cut flowers into semi-manufactured products, rather than final products. In the coming years, the market for flowers as bulk products (mono bunches) will decrease and almost the entire market growth will be realized by flowers as a semi-manufactured product. This trend affects the own use and gift market and is the result of a number of trends at consumer level such as changes in lifestyle, focus on interior design and individualization. Consumers now expect more than flowers. Flowers become ingredients for expression provided either by flower providers or florists. In this perspective, flower providers provide a broad range of general expressions and florists provide individual expressions.

Retail Level

Although the market is highly segmented at consumer level, distribution at retail level is based on two actors: the independent florist and the mass/multiple retailers.

Mass/Multiple Retailers. As explained above, the mass/multiple retailing market is undergoing an expansion phase. Integration of the flower sector will be the final acquisition in the fresh/perishable category. The reasons why supermarket chains were hesitant to enter this product category are:

- the delicate product characteristics;
- the incurred handling, distribution and sourcing activities;
- the absence of trained staff;
- the strong position of Dutch auctions (limited direct access to direct sources, fluctuating and insecure prices, quantities and qualities).

Three factors explain why supermarkets (will) eventually enter this product category: the potentially high margins and turnover rate; the role of the product as a vehicle to underline formula image (market distinction); and the opportunity to contribute to theme events.

In the last five years, some players in the flower supply industry analyzed the problems underlying the reluctance of supermarket chains to enter the flower category. The solutions developed were comprehensive concepts in which all activities were outsourced to suppliers based on a detailed annual delivery plan. In many cases, the fee for the suppliers is performance-based. The two main performance criteria are: (i) to meet the sales/margin targets per m² display space; and (ii) to meet the formula image in terms of consistency, quality, and accuracy. These new concepts can be adapted to different types of retail structures such as garden centers, but also complete new distribution channels such as gas stations, furniture chains and convenience stores.

Independent Retailers. As a result of the growing market share of mass/multiple retailers, the market for mainstream flower products will shrink for independent retailers. This applies to basic selling points such as street vendors and market stalls. For high-end specialized retailers, market growth can still be expected. This market growth will be realized by adding value and not by increasing the volume of sold flowers.

Wholesale Level

The developments at the flower wholesale level are basically the same as for the vegetable and fruit sector. The current traditional flower wholesaler will rapidly develop into a “flower provider” which is a specialized service organization and acts as an intermediary in the web of producers and retailers. Two types of flower providers will be visible: the supermarket and mass merchandizing-oriented flower providers; and the independent retail-oriented retailers.

Producer Level

The developments at producer’s level are similar to the vegetable sector although up-scaling tendencies will not be as noteworthy as in the vegetable sector. Obviously, food safety requirements are not relevant for flowers; therefore corporate social responsibility requirements will be applied.

License to Produce and License to Deliver

The relation between suppliers and buyers of fresh horticultural products is becoming more and more formalized. Until recently, these relations were based on general commercial law and basic quality regulations abiding by EU legislation. The public character of rules and regulations with respect to fresh horticultural products has now been overtaken by private initiatives. Through the dominant position of supermarkets and the vulnerable nature of the products, supermarket chains formulated their own rules and regulations. Initially started on a bilateral basis (individual chains versus suppliers), they are now applied on a multilateral basis (the European supermarket industry versus suppliers). These private protocols can be characterized as a “license to produce” and a “license to deliver.” When suppliers do not comply with them (either bilateral or multilateral), they are banned from the short-list of preferential suppliers. The protocols apply to any supplier regardless of his/her origin or that of the product. These private protocols (or “licenses”) are based on a combination of international and national regulations (for example, for pesticides), food safety standards, logistical requirements, and process documentation. In 2002, the European Food Authority was established. This EU body has institutionalized the private initiatives on food safety and is responsible for food safety in Europe.

The most important private multilateral protocols relevant to fruits, vegetables and flowers are:

- EUREP-GAP;
- BRC;
- Global Food Safety Initiative;
- MPS;
- Florimark Production.

EUREP-GAP

In 1999, a number of European retailers (Euro-Retailer-Produce working group) took the initiative to develop requirements for primary producers, EUREP-GAP. EUREP-GAP

applies to all agricultural sectors in order to guarantee chain control and food safety. The EUREP collectively decided that EUREP-GAP should not be a competitive factor, but an absolute license to deliver. Besides food safety, the code also applies to environment, nature and labor conditions. Further, the starting points of the code are based on national and international laws and regulations with which the primary producer has to comply. In addition, primary producers should demonstrate that they work on:

- maintaining consumer confidence in food quality and safety;
- minimizing environmental emissions and maximizing respect for nature;
- reduction of chemicals and fertilizers;
- improving efficiency of natural resources (fossil energy);
- responsible attitude to health, safety and labor.

EUREP-GAP has additional requirements in varieties and starting material, plot history and management, fertilizers and irrigation, crop protection, post-harvest activities and social aspects for employees. EUREP-GAP is in a leading position to become the global player in agricultural production standards and verification frameworks for fruits and vegetables. Meanwhile, the EUREP-GAP protocol is also being worked out for flowers and ornamentals.

BRC

In the food sector, strict rules apply to ensure food safety. In most EU countries, companies must comply with HACCP requirements and should demonstrate this. In the UK, a stricter and more comprehensive set of requirements has been developed: the BRC code. The British Retail Consortium (BRC) was commissioned by a number of large UK retailers to develop a technical inspection standard to be imposed on suppliers of food. The BRC code is an inspection list based on HACCP and ISO. At present, the code is becoming an EU standard; especially in Northern Europe. In the fruit and vegetable sector, the BRC code will be implemented as a hallmark for distribution, sorting and grading facilities. It contains, besides HACCP elements, clear control points in the area of site, buildings, facilities, process control, staff, and so forth.

Global Food Safety Initiative

The Global Food Safety Initiative (GFSI) was established in 2000 by a group of retailers. The Chairman of the group is the Dutch retailer, Ahold. The aim of GFSI is to set up and implement product-bound standards for food safety, involving all links to the food chain: suppliers, producers and distributors. GFSI has also developed an early warning system that alerts all parties involved in the food chain and governments to undesirable situations which can be remedied. It also aims at greater education of consumer and insists on more activities by local governments to expand the safety of the food chain. Producers and suppliers with a food safety standard can submit this for approval to GFSI. The working group of GFSI has acknowledged four food safety systems: British BRC, Dutch HACCP, British European Food Safety Inspection Service (EFSIS) and German International Food Standard. By doing this, the systems cover 65 percent of the global retail industry; this does not mean that retailers may not prefer HACCP or BRC.

MPS

The Milieu Project Sierteelt (MPS) is an environmental registration and classification system that aims to decrease the environmental impact of cut flower production. MPS is not only aimed at environmental care, but safety, well-being and conditions of employment also play a part. It is now the most widely accepted measure of environmental accountability in production and MPS has certified approximately 85 percent of flowers in Dutch auctions. At present, there are approximately 4,300 companies, 500 of whom (none them Dutch) are members of MPS.

Florimark Production

Florimark is a quality mark for those wholesalers of flowers and plants who aim to be leaders in the field of product quality. It is an acknowledged regulation that can be seen as a branch-specific elaboration of a quality management system and as a step towards ISO certification. At some specific points of importance for wholesalers of flowers and plants, the certification scheme is more detailed than ISO. In 2002, Florimark was extended with Florimark Production, a regulation for growers of flowers and pot plants. The certification scheme is closely linked to Florimark. Its objectives are to:

- stimulate a recognizable market position of ornamental producers that effectively manages product quality and post-harvest processes;
- stimulate the improvement of quality management by the producer;
- enhance the (quality) image of the ornamental sub-sector;
- contribute to quality management in the complete chain from production to sales.

These official regulations and measurements are not compulsory but are increasingly being included in the procurement terms of retail chains and food providers. EUREP-GAP is expected to be the European standard; it includes both required actions and encouraged actions.

The strategic consequence for SSA producers is that they should anticipate the EUREP-GAP standard. In practice, this requires:

- full trace ability of all products to the farm where they were grown;
- a professional administrative staff for comprehensive record keeping;
- risk assessment for new agricultural sites;
- additional facilities to separately store chemicals, fertilizers, packaging according to strict conditions;
- restricting the use of chemicals by using alternative substances or more advanced means of production;
- hygiene precautions during harvesting, packing and processing activities;
- minimum working standards for workers;
- announced and unannounced on-farm audits.

Obviously, EUREP-GAP sets the minimum requirements for farm infrastructure especially in the area of:

- management and organization;
- technical facilities;
- production plan.

The penalty for not complying with EUREP-GAP is:

- being excluded from growing mainstream standing order markets;
- depending on unstructured and decreasing spot markets.

Additional Bilateral Regulations

The additional bilateral regulations to obtain a license to produce or deliver are generally set by the distributors, the food providers and the flower providers. Besides EUREP-GAP, they require:

- consistency in volume, quality and timing;
- exclusion of storage risks and costs; products should be delivered at the right time to the right location (referred to as “just-in-time delivery”);
- fresh horticultural products considered as fast-moving consumer goods that are ready for the supermarket shelf without any additional activities besides the regular in-store handling activities (referred to as “just-in-shape delivery”).

The vast majority of the standing order market is planned in advance. Consistency is an undisputed prerequisite. Consistency in volume, quality and timing requires minimum production standards. This means:

- reducing external influences affecting the production process; in practice, farmers should take steps to protect their crops from wind, rain and other physical damage, if possible. Moreover, the supply of important inputs (water, nutrients, crop protection) should be secured by reliable suppliers and reliable equipment. Reducing external influences has consequences for the investment level of the farm.
- planning production and production activities. This has consequences for the quality of production management and staff.

Just-in-time delivery is the result of the perishable nature of high-value horticultural products and the market structure that requires fresh products and does not allow additional costs for structural storage. Just-in-time is also the result of the shifted market power that pushed back responsibility in the chain to producer’s level. Just-in-time delivery has consequences for:

- travel time between production facilities, international transportation and international markets. For many high value products, this is hours, certainly not days. Obviously, this limits the location possibilities;

- on-farm and off-farm distribution facilities;
- potential transport modalities. For most flowers and vegetables produced in SSA, sea transport is not an option so air transport is their only choice. For a certain fruit range, sea transport may be an option for coastal production facilities in Western Africa. It should be said that competition in the fruit sector is global in nature and is dominated by large players controlling sea logistics;
- means of communication and internal-external ICT infrastructure connecting production facilities to distributors (flower and food providers) and logistic operators.

Just-in-shape delivery is the result of the outsourcing tendency of retailers and food services and just-in-time delivery requirements. Activities are outsourced to food providers, flower providers, specialized service providers and producers. In practice, this means that producers are supported to supply either final ready-for-shelf products or high-grade inputs for downstream industries according to concrete and detailed specifications. Since this kind of activity tends to be labor-intensive, SSA producers are potential candidates. In addition, through realized added value, relative freight costs can be reduced. These just-in-shape requirements have consequences for:

- Additional technical facilities for post-harvest activities such as packing, grading, cutting, slicing and cooling facilities;
- Additional hygiene facilities during post-harvesting according to either EUREP-GAP or HACCP regulations;
- Access to adequate packing material.

European Food Authority. Regulation 178/2002 (28 January 2002) of the EC states the foundation of the European Food Authority and the basics of a European Food Act. The Food Authority is already active. The Food Act, which should be effective in 2005, is subject to interpretation. A very important issue in the Food Act is trace ability. So far it is not completely clear what the exact consequences are for EU and non-EU producers. However, the consequences for producers are far-reaching, especially as regards administrative procedures concerning food safety. A summary of the EU Food Act is included in Annex 2.

Barriers

The international trade or exchange of products and services basically involves three kinds of transactional flows: information, goods and capital. Although in any case, all three flows are important, there are some differences between specific trade flows, mainly depending on the type of goods or services and the characteristics of the exporting and importing country.

The ability to reduce transaction costs is based on controlling logistics (supply chain management) and a matter of so-called simultaneous “push-pull” forces. One should be able to control a shipment by pushing it out from the country of origin and pulling it into the country of destination. Good examples of highly efficient Euro-Afro combinations are: Sher Agencies, Home Grown, etc. The push is determined by a mixture of suitable primary production and transactional performance in the exporting country, while the pull is exercised by stakeholders in importing countries working closely together in a dedicated production chain.

The push is in many cases initiated and developed by European entrepreneurs who recognized the comparative advantages in production for specific product-production locations. Originating from the final importing countries, these foreign investors have developed almost the entire chain. So, public authorities in SSA countries involved in business development should create a fertile breeding ground for attracting Foreign Direct Investments (FDI) and also stimulate local entrepreneurship.

With respect to horticultural development one can distinguish three major barriers:

- protection (tariff and non-tariff);
- logistics;
- local politics and government.

Protection

The Uruguay round of 1986–1994 and the subsequent WTO agreements have brought some significant changes to global agricultural trade. The new rules under the Agricultural Agreement (URAA) and commitments apply to market access, domestic support and export subsidies. There is room for governments to support their rural economies. This should, however, be done through policies that cause less distortion to trade. The basic instruments for (improving) market access in agricultural products are tariff and also tariff quotas. Policy instruments such as domestic support, export subsidies and sanitary and phytosanitary measures are only allowed under specific conditions and when meeting certain criteria.

The EU is by far the largest export market for agricultural products from developing countries (EC 2001). Besides the size of the market, this is also due to EU trade preferences. These include the EU Generalized System of Preferences (GSP), the EU-ACP Agreements (former Lomé, currently Cotonou Agreement which entered into force on April, 1, 2003), the Everything but Arms Initiative, and other bilateral arrangements. The EC has also launched initiatives to give agricultural products from developing countries better access to the EU market by further enhancing the GSP system. The autonomous and non-reciprocal trade preferences granted under the GSP to all developing countries will be improved. The stability of the preferences will be increased. The tariffs for fresh fruits, vegetables and flowers are included in Annexes C through E. For flowers, the import duties are zero for ACP countries. For commodity fruit (such as apple, pear, plum, peach) originating from ACP countries, duties are imposed. For vegetables, duties are imposed for commodities such as onions and leeks, cabbages, lettuce, carrots but also for spinach and salads.

The list of Least Developed Countries in Africa covers most SSA countries. Imports of fresh vegetables, fruits and flowers from these least developed countries are subject to 0 tariff. SSA countries that are not on the list of least developed countries are: Botswana, Cameroon, Congo, Gabon, Ghana, Kenya, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe.

In addition, the EU has developed the initiative known as Everything but Arms, or EBA, an amendment to EU's GSP. The EBA came into force in March 2001. It provides for EU imports free of entry quotas and tariffs for all products, except for arms, from the world's 49 least developed countries (LDCs).

For three commodities, rice, sugar and bananas, a gradual de-tariffication is in place. However, LDCs already have relatively favorable access to the EU market as many of their exports are already free of (tariff) restrictions. So they will not be affected by EBA to such an extent. It seems that export diversification will be the key issue for these countries. In a recent WB paper (Brenton 2003), it is stated that more simple rules of origin, are likely to enhance the impact of EU trade preferences, both in terms of improving market access and in stimulating product diversification.

The impact of the EBA initiative for a particular country will depend on two factors (Stevens and Kennan 2001):

- the extent to which the EBA means an improvement in the current terms of access of a country to the EU market;
- the capacity of a country to increase its exports of the newly favored products.

The main limitations of the EBA initiative are its non-contractual character, implying some uncertainty. The use of a new, special safeguard clause that allows the EU to withdraw the preferences following massive increases in imports and thus negative implications for EU producers is also seen as a limitation. Within the EBA framework, it is possible for a LDC to import agricultural products (at lower prices) for domestic consumption in order to be able to export their own domestic production (at higher prices). When meeting certain criteria, it is also possible to import new commodities from certain countries and re-export products after processing.

However, for fresh, high value perishables such as fruits, vegetables and floricultural products, the above-mentioned aspects are of less importance because they mainly influence commodities and processed products. Very recently, the EU extended the obligation of phytosanitary inspection to nine families of cut flowers, including roses and some vegetables and fruits for import from non-EU countries. This means that in the Netherlands, more than 70 percent of the cut flower imports from non-EU countries are subject to these inspections. The Dutch phytopathological service (PD) has employed a new tariff and check structure under which the importer has to pay a tariff, regardless of whether the lot is actually checked. This will impose a substantial extra burden on the importer.

In a recent report by the Dutch Agricultural Economic Research Institute (LEI, see Achterbos, de Bruin, and van Tongeren 2003), an overview of the above European schemes of trade preferences to low- and middle-income countries is provided. The researchers also argued that the EBA amendment will have a limited effect on export potential and welfare in the LDCs since before EBA almost 100 percent of LDC export products were covered under alternative preference schemes but utilization was quite low. As the EBA has no deep effect on the simplification of rules of origin and accumulation of value added, the conclusion is that utilization is not likely to rise substantially.

The rules of origin are to determine whether a (part of a) product is manufactured in a beneficiary country or not. These rules are established to prevent third countries from using the beneficiary country as a transit in order to make use of the reduced import tariff. Manufactured goods are particularly affected by rules of origin. But also agricultural (processed) products face rules as well. The distinguished FHFP, fruits, vegetables and floricultural products are in general less influenced by origin of rules.

From the above characteristics, one can conclude, and there seems to be some consensus, that in the (near) future it will not be the presence or absence or level of tariffs that determines access to markets, but the ability to comply with “overall” trade standards. So, non-tariff barriers will be much more important. This will put substantial pressure on SSA countries to develop (internal) trade systems to satisfy international or European standards regarding (phyto) sanitary, environmental or social regulations.

Besides the growing importance of legal requirements regarding market access, such as social and environmental stewardship, there are also market-initiated programs which do influence the extent of market access. The most important programs have been discussed in the previous paragraphs. An additional factor could be the aspect of historically grown preferred supplier ship on the basis of first come, first served. When the new supplier has no or only a slight advantage over the existing supplier, he will not have much chance of replacing the existing one. This is, however, related to the character of demand and supply.

Logistics

In order to meet the public and private non-tariff barriers, a producer will have to incur certain efforts and thus costs, especially logistic costs.

Appropriate logistics play an important part in the overall export performance of a country. The characteristics of a logistic system are influenced by several factors, often interrelated. These factors can roughly be divided into two main categories: artificial and natural. The geographical distance between production and consumption centers can be seen as a “natural” trade barrier and increasing distances will to some extent increase transaction costs, thereby weakening the competitiveness of an exporting party.

Knowledge of the (quantitative) impact of transport cost on trade performance is relatively poor and literature is still rather scarce. However, based on some studies, the conclusion is that transport costs are often a very significant obstacle to trade. In one case, it was estimated that Uganda’s distance from the sea and the inadequate rail and road connections impose the equivalent of a tax of 80 percent on exports of clothing, textiles, and footwear to world markets (Milner, Morrissey, and Rudaheranwa 2000). The impact on perishables will be at least as high and probably even higher.

As the costs of the total logistic chain differ considerably between certain routes, even for the same product, it is obvious that this has a considerable impact on overall export performance.

As stated, there are large differences in transport costs of agricultural products. The general logistic chain will consist of at least two modalities. The logistic chain on land (so excluding international air and sea transport) can be divided into four phases (COLEACP 1998):

- transport from production/processing site to loading seaport or airport, including (conditioned) storage. This transport is in most cases done by road;
- loading onto boats and/or planes;
- unloading of boats and planes on arrival;
- transport on land (mainly by road) to the final consumer market.

For developing and maintaining a high quality logistic chain, all four phases have to be optimal and of high quality. Even if a poor quality product is transported and handled in a perfectly maintained cold chain, quality will not improve and the client still ends up with a poor quality product. On the other hand, a product of initially outstanding quality can end up deteriorating totally because of poor logistic handling somewhere along the chain.

As “natural” barriers (e.g. the fact that a country is landlocked) are in essence a fact, there are some policy options that can possibly reduce high “artificial” logistic freight cost. Examples are exploiting economies of scale (increasing cargo volumes), increasing efficiency in the shipping systems or increasing the unit value of commodities shipped. Logistic performance is determined by both the availability and the level of physical facilities and organizational aspects such as good housekeeping and awareness of the people working in the chain. Ignorance and lack of knowledge can lead to substantial delays and subsequently deterioration of the produce. Both aspects are often of questionable level in SSA countries or can be at least substantially improved. It is, however, obvious that improving facilities and raising knowledge levels will increase costs but the balance of this will be positive in the end.

Recently, a strategic evaluation of the agro-industrial industrial sector in a number of West African countries on behalf of the EC and ECOWAS was carried out by a consulting firm. A number of specific combinations of CFA and ECOWAS countries and sectors was addressed to identify the main development prospects and constraints.

West African Fruits and Vegetables Industry. For the fruit and vegetable industry, a number of general strengths and opportunities as well as weaknesses and threats were identified. A strong point is the favorable agricultural and ecological factors, offering the possibility of a large variety of products. Also the rising urban demand and dynamic trading at a regional level provides relatively safe training opportunities. Others strengths are growing market demand for out-of-season produce and favoring geographical aspect (coastal countries and relative proximity of the European market).

The threats are a mixture of constraints to primary production level and aspects such as difficult access to credits, inadequate cold chains, NTR as the European regulation on pesticide residue limits and lack of knowledge of such non-traditional markets as Maghreb and the Middle East.

West African Floricultural Industry. The floricultural industry clearly has less history than the fruit and vegetable industry. Two countries, Côte d’Ivoire (Côte d’Ivoire) and Togo were studied in more detail. Although there are interesting strengths and opportunities,

Table 3.1 Freight Rates West Africa

Product	f.o.b. Abidjan (CFA Franc/kg)	f.o.b. Abidjan (€/kg)
Pineapple flower	1,200–1,300	1.80–2.0
Heliconia	800–1,000	1.20–1.50
Ginger	1,000–1,100	1.50–1.70
Foliage sets and ornamental plants	1,000–1,400	1.50–2.10

Source: Authors.

Table 3.2 Cost Structure of the Fresh Pineapple Export of Togo

	Cost Price in CFA Franc/kg	Cost Price in €/kg	Percentage of Cost Price
Field side cost	85–135	0.13–0.21	12.3–12.4
Packaging	5–10	0.01–0.02	0.7–0.8
Packing	80–125	0.12–0.19	11.5–11.6
Transport to airport	5–40	0.06–0.72	0.7–3.7
f.o.b. cost	15–30	0.05–2.17	2.2–2.8
Air freight*	500–750	0.76–1.14	68.8–72.5
TOTAL	690–1,090	1.05–1.66	100

Fixed exchange rate 656 CFA-Franc to €1.00.

Source: Authors.

a severe drawback is the excessively high cost of freight (890 FCFA/kg or €1,36/kg out of Abidjan. The very high costs of packing materials due to the absence of local competition will also hamper a more successful operation.

The floricultural industry in Côte d'Ivoire started some 30 years ago solely through private sector initiatives. After a rapid expansion in the 1970s, development since that time has relatively stagnated. At this moment, tropical flowers and tropical flower sets and foliage are the main products with pineapple flower and heliconia as average representatives.

Overall logistic costs (transportation, conditioning and packaging costs and charges) are on average equal to more than half the final European retail market price.

It is stated that the packaging costs (costs of a 12 kg carton box are around 1,200–2,000 CFA Francs/unit (€1.80 to €3.00/unit) and even more air shipment costs and charges (around 900 CFA Francs or €1.40/kg for shipments over 1 ton) have a major impact on the competitiveness of local producers in export markets. In comparison with such neighboring countries as Cameroon and Togo, Côte d'Ivoire has disadvantages as regards air freight costs.

However, Togo also experiences some difficulties in the development of (ornamental) horticulture related to air freight. The export volume of fruits and vegetables is rather small and is done by air. The most important factor in the fresh pineapple total cost price is the air freight cost.

In 2002, air freight was the only means of transport for fresh pineapples. Transport by sea is much cheaper with an average cost of €0.23/kg but requires large quantities and related guarantees of sale on arrival at the European market.

Due to high air freight prices and also European legislation on pesticide residues (an example of an NTR with considerable impact), some companies have decided to suspend pineapple export temporarily and to switch to the local market or export different crops.

The disappearance of air freighters as Sabena and Africa Air and subsequently increased air freight costs have created unfavorable conditions for companies operating in the floricultural industry.

Decreasing air freight capacity and subsequently rising air freight costs in Benin, the Gambia, and Senegal are also serious barriers to enhancing export performance.

Despite the fact that Senegal has some geographical advantages due to its close proximity to continental Europe (6 hours by plane and 5 days for sea transport to major North European ports), it is losing ground on the EU markets. There is strong competition from other African producers, but also from exporting countries in Asia and the Americas. The main products with export potential are bobby beans, green runner bean, cherry tomatoes, mangoes and water melon. Almost all produce is exported by air. The stability of the horticultural sector tends to be weakening. This is reflected in the annual variations in exports. The constraints identified by a study of the JEXCO study group in 2001 encompasses many different types, ranging from availability of land and water, financial aspects, lack of knowledge, absence of trade network, variable qualities and quantities, lack of diversification in both products and export markets, high logistic costs, poor availability and high cost of input goods and difficulties with compliance with a range of international norms and standards (packaging, marking, environmental protection, food safety standards). These factors are often interrelated which makes quantification erratic. The upcoming opening of a dedicated freight center, scheduled for 2004 will make a valuable contribution to resolving some of the above-mentioned constraints.

East African Horticulture. A study from 1997 into the comparative costs of transport in Northern Tier Countries of the Greater Horn of Africa, financed by USAID, revealed that all ports in the studied countries, Sudan, Eritrea, Djibouti, and Somalia continued to experience a myriad of operational problems (Anyango 1997). The conclusion was that as part as the colonial heritage, almost all existing land related transport infrastructure is connected to these ports with hardly any intercountry and interregional linkages. Commercial air cargo transport was also restricted in the sub-region. Besides inadequate investments in physical infrastructure (hardware) and the subsequent poor condition of this infrastructure, more organizational aspects such as cumbersome customs procedures, insufficient quality services and overall weak policy measures and strong bureaucracies are also serious threats to the improvement of the logistic performance.

On the other hand, the current export infrastructure in other East African countries (especially Kenya) has been developed into a relatively professional level. This is the result of individual and joint efforts of private Euro-Afro horticultural operations that extended its traditional core business (flower or vegetable production) with logistic activities such as freight forwarding and chartered air cargo.

The availability of competitive air cargo in the region is based on:

- the initial presence of aid-based cargo flights;
- a professional and private approach;
- the existence of critical volume.

At the moment, Nairobi can be considered a major regional hub for perishable products. In addition, Zambian export is now also supported by a relatively competitive air connection as a result of the joint efforts of (Euro-Afro) flower producers.

Local Politics and Government

It can be generally stated that horticulture develops *despite* local politics and governmental influence rather than *because of*. The main issue on local politics and government is state

control. State control very often affects logistics and the costs and availability of important input materials.

With respect to logistics, most problems can be found in:

- landing rights (protection of national carriers);
- freight forwarding and custom agents (often state-own and poorly managed).

Adequate supply chain management, which becomes more and more essential for perishable product, can hardly be materialized when essential logistical activities are run by state companies. It is not merely a question of costs but especially a question of effectiveness. One of the reasons for the boost in Kenyan exports of perishables lies in the fact that private companies (very often the flower farms themselves) were allowed to charter flights and to manage freight forwarding activities.

With respect to important input materials, the problems lie in:

- state controlled imports;
- high import duties.

Most important input materials are, besides production specific inputs (pesticides, fertilizers and other horticultural consumables), the packaging material. Very often state influence and high import duties are meant to launch a new industry or to protect a local industry. The problem is that the local industry (fertilizers, pesticides and packaging material) is very often focused on the general agricultural industry. The horticultural industry generally requires cleaner and more soluble fertilizers, specific pesticides and more sophisticated packaging material than local industries can deliver.

Position and Implications for SSA Producers and Distributors

The developments that have been described in the previous chapters and paragraphs can be best summarized by a growing demand for:

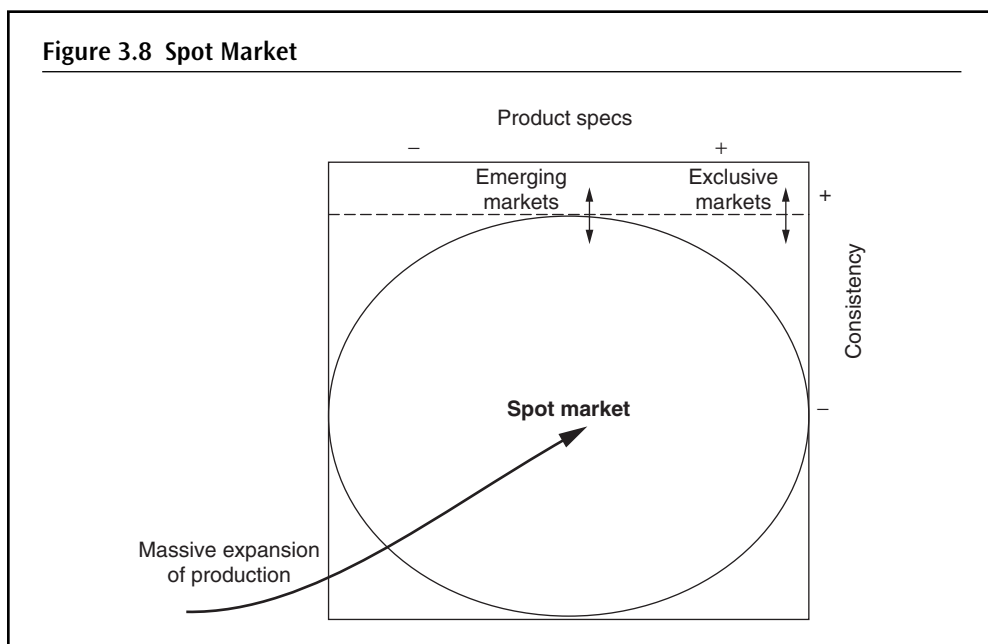
- Consistency in supply (steady volume/quality per time unit);
- Recorded and traceable product and production attributes and specifications.

Until the mid-1990s, these requirements were latently present among buyers but due to the supply-driven market, they were not really expressed in concrete actions. Only a small percentage of supply met these requirements as shown in the figure below.

In terms of consistency and product specifications, there were three distinct markets:

- Small exclusive markets;
- Small emerging markets;
- A major spot market.

There have always been small exclusive markets. In general, they are specialized retailers or caterers that insist on a daily/weekly supply of certain products, regardless of the cost.



Source: Authors.

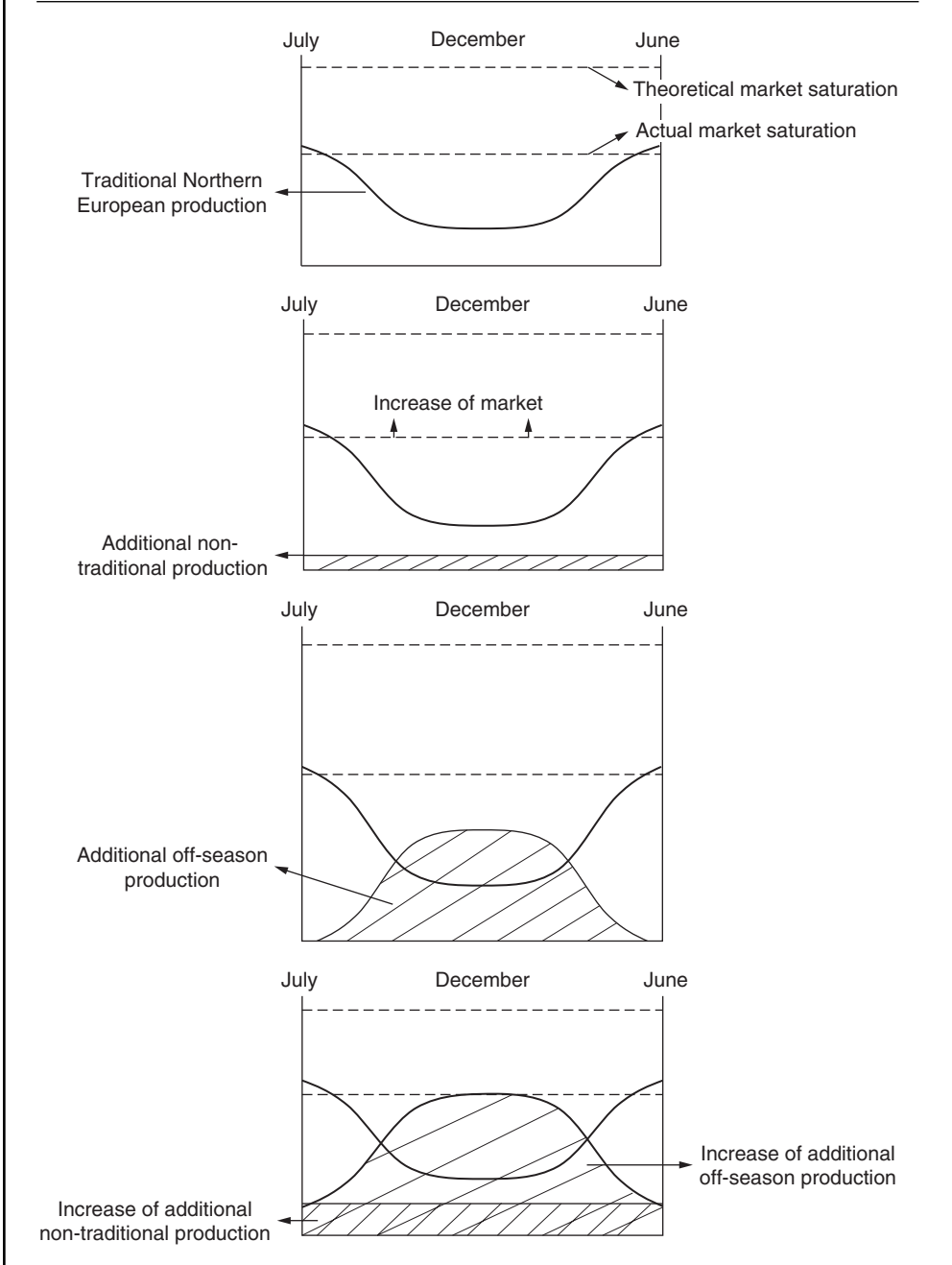
Emerging markets developed in the late 1980s and early 1990s. These emerging markets consisted of newcomers in the fruit, vegetable and flower retail industry. Think here of supermarket chains, gas stations, DIY chains, etc. Their primary requirements were steady supply and prices, but not necessarily high quality in order to experiment with and launch new businesses. Besides regular suppliers, these exclusive and emerging markets occasionally sourced on the spot market because of the abundance of products.

That vast majority of the entire market was supplied on a spot market basis, characterized by a relatively unsegmented structure, fluctuating supply and prices, unidentified sources/origins and vague quality perception. Parallel to an enormous market expansion, the spot market attracted many new foreign producers based on the principles of off-season, additional exotic products and “eat what’s cooked”. In the figures below, the developments are shown visually.

Obviously, the structure of a spot market in perishables combined with a shortage in supply leads to lucrative market expansion at producer level. In case of oversupply in a perishable spot market, producers continue to produce and supply as long as variable costs are covered, and as long as cash flow remains positive. When supply eventually shrinks, market saturation may not be far behind. This is illustrated by the graph representing the relation between the volume of imported roses and the market prices at auction.

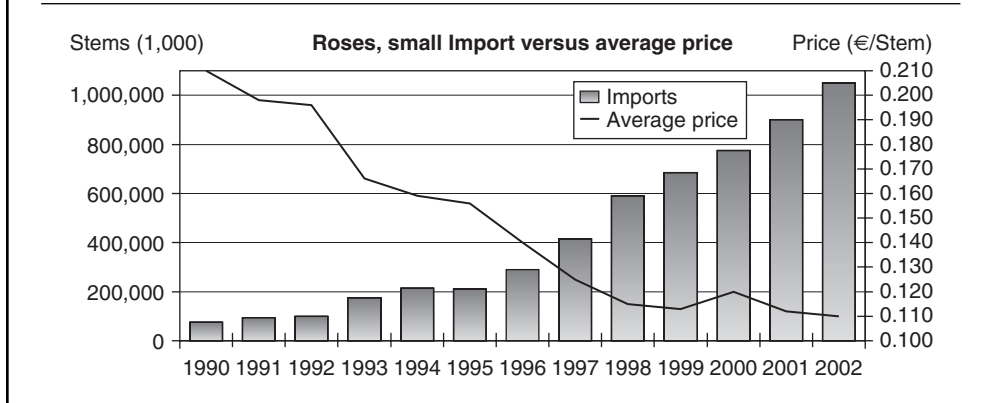
In ten years time, the prices of imported roses (mainly African roses) dropped by 50 percent, while prices of Dutch produce went up as a result of innovation and marketing. The Dutch are leaving the segment of small roses (commodity product for bouquets) and moving towards large flower roses (specialty).

Figure 3.9 Off-Season Patterns



Source: Authors.

Figure 3.10 Imports of Small Roses



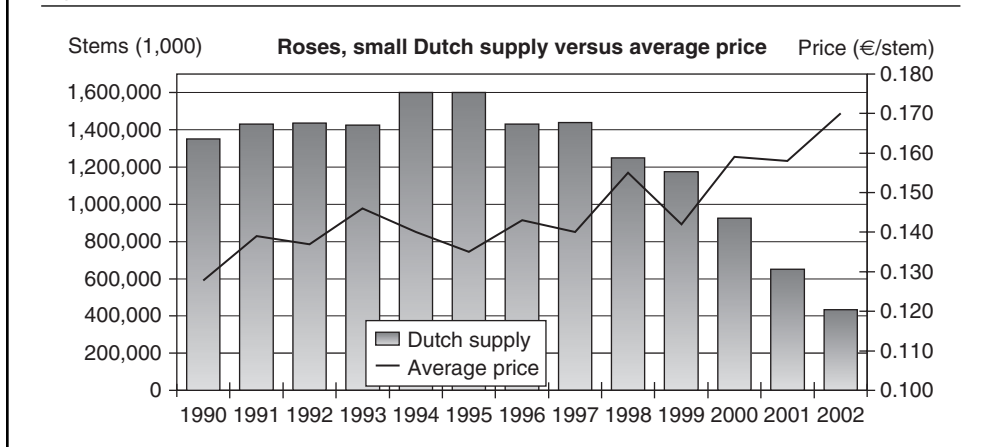
Source: Authors.

Through the price mechanism, market power quickly shifted from supply side to demand side. The demand-driven market together with other (public) developments led to an implicit and explicit “license to produce”. This resulted in a sharp turn to a “standing order” market characterized by buyer requirements.

This also led to a more portfolio-based market that included:

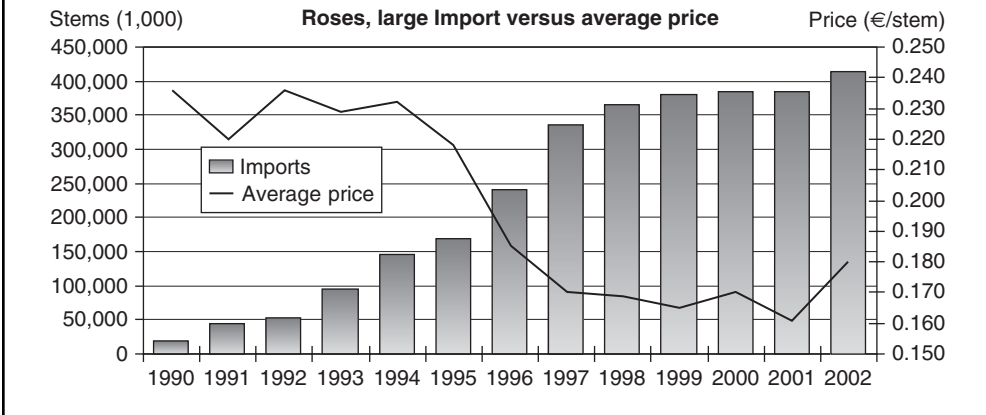
- a steady mainstream market based on contracts, agreements (implicit and explicit) and logistics;
- a firm discount and loss leaders market as a vehicle for theme and price promotions;

Figure 3.11 Dutch Supply of Small Roses



Source: Authors.

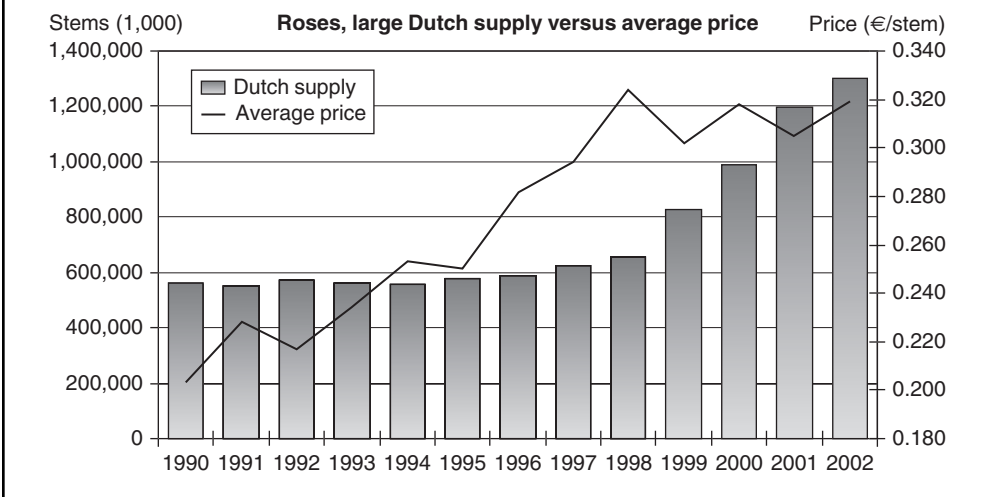
Figure 3.12 Imports of Large Roses



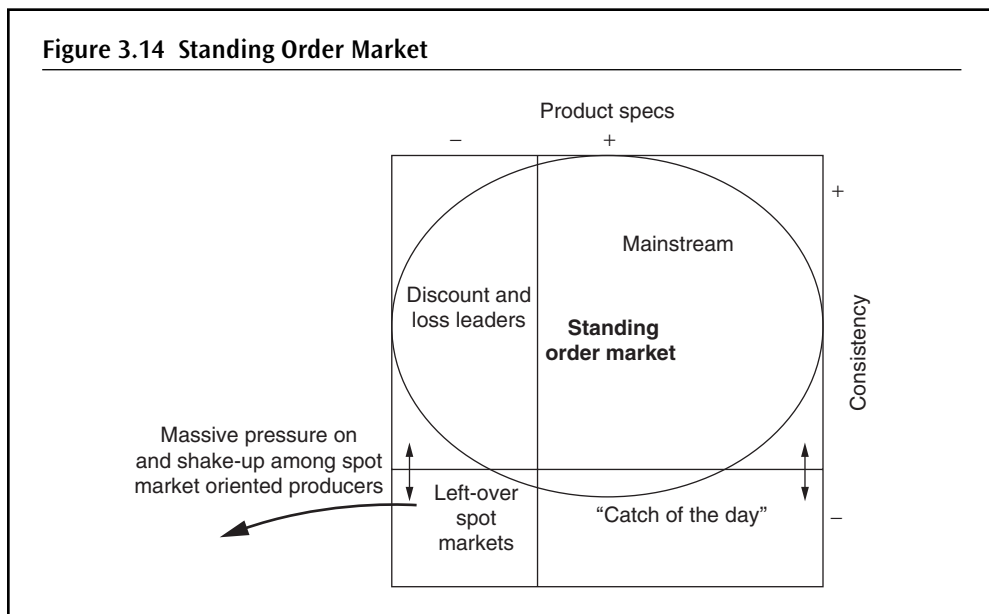
Source: Authors.

- An exclusive/seasonal “catch of the day” market for incidental product range adjustments or preliminary product introductions;
- A left-over market (rudimentary spot market) as an expansion value to cope with market discrepancies.

Figure 3.13 Dutch Supply of Large Roses



Source: Authors.



Source: Authors.

Flower Sector

At the distribution level, these structural market changes in the flower sector resulted in:

- mergers between auction (only two serious auctions left) and development of direct sales departments combined with traditional auction clock sales covering the entire market;
- a limited number of international flower providers (less than 20) covering and controlling the discount and mainstream market having access to direct sources (either independently or through the intermediary of direct sales departments of auctions);
- a limited number of foreign integrated supply chains (less than 20) controlling production, logistics and marketing;
- hundreds of larger and smaller (inter)national and regional specialized wholesalers mainly performing allocation and distribution tasks and occasionally some specific sourcing tasks.

Four types of producers successfully fit into this portfolio-based standing order market:

1. loyal, consistent and specialized producers (demonstrated by track record and certificates such as MPS, ISO) distant from consumer markets, supplying all products to either auctions or directly to flower providers that cover the complete market portfolio;
2. specialized regional producers close to consumer markets, supplying directly to smaller wholesalers and retailers and taking advantage of low distribution costs (despite higher farm-gate costs);

3. large integrated supply chains with a sufficient product basis, critical volumes, and international logistics covering the complete market portfolio;
4. internationally recognized producers of exclusive specialties selling to the highest bidders.

It is hard to quantify the size of each of these types of producer. A rough indication is that each of the two first groups cover 30 percent of the EU market while the two others cover less than 5 percent each.

The remainder of some 20 percent consists of products from producers who do not completely fit into the portfolio-based market structure. This group of producers has in turn five major groups of producers.

1. small-scale regional producers close to consumer markets piggybacking existing distribution structures;
2. small-scale EU producers distant from consumer markets generating diseconomies of scale at production and distribution level;
3. non-EU-smallholders piggybacking local exporters;
4. basically viable but poorly run production facilities distant from consumer markets;
5. basically viable production facilities distant from consumer markets that are practicing opportunistic sales by direct sales to larger and smaller regional wholesalers in the EU.

In the next chapter, these producer groups are evaluated.

Fruit and Vegetable Sector

For fruits and vegetables, these structural market changes caused at distribution level:

- The collapse of the Dutch cooperative auction system;
- A dramatic shake-up among traditional wholesalers;
- Mergers of traditional wholesalers developing into major food providers; currently some 50 companies are active but are expected to decrease to only 10-15;
- Withdrawal of wholesale markets from mainstream distribution.

At producer level, there are three types of producers who successfully adopted the new market standards:

1. large-scale specialized producers supported by an adequate infrastructure to deliver controlled and certified final products to food providers;
2. medium-scale specialized producers supported by a jointly developed infrastructure to deliver controlled and certified final products to food providers;
3. integrated supply chains that are developed at producer level and able to directly supply international retail chains.

The EC substantially supports joint initiatives of medium-scale EU producers. The funds required to support these initiatives are obtained by reallocating funds that were earmarked to finance market interventions (buying structural surplus out of the market).

Finally, two major groups of producers do not comply with the new market standards, no matter where these producers originate (Europe or Africa). These producers are typically:

1. small-scale and traditional family farms;
2. traditional farmers' cooperatives.

Conclusions and Opportunities for SSA

The analysis of the data shows that the overall export opportunities are determined by a large number of factors, related to:

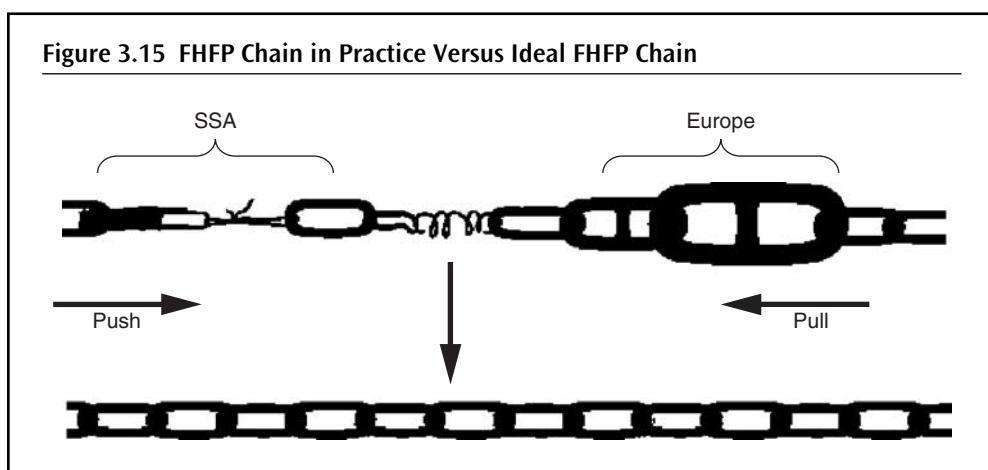
- market dynamics in the EU;
- bilateral and multilateral licenses to produce;
- european Food Safety Acts;
- other external barriers (trade policy, logistics, politics and governmental influence);
- reactions by existing producers and distributors.

Also, many of these categories are difficult to measure or even to estimate.

The identification of a key factor or a number of key factors in the transaction arena is a complex task, simply because in the case of most SSA countries, there are unfortunately more weak links in the producing chain. Enhancing a single link is, however, essential, but the danger to encounter another weak link in the chain remains. This is visualized in the figure below.

The entire chain has to be improved. This requires the involvement of many parties, both public and private. Both push and pull forces are needed but they need to be selectively approached.

Private parties' involvement should be facilitated by efficient policies taking note of both short- and long-term needs. From a SSA perspective, it is necessary to search for, trigger



Source: Authors.

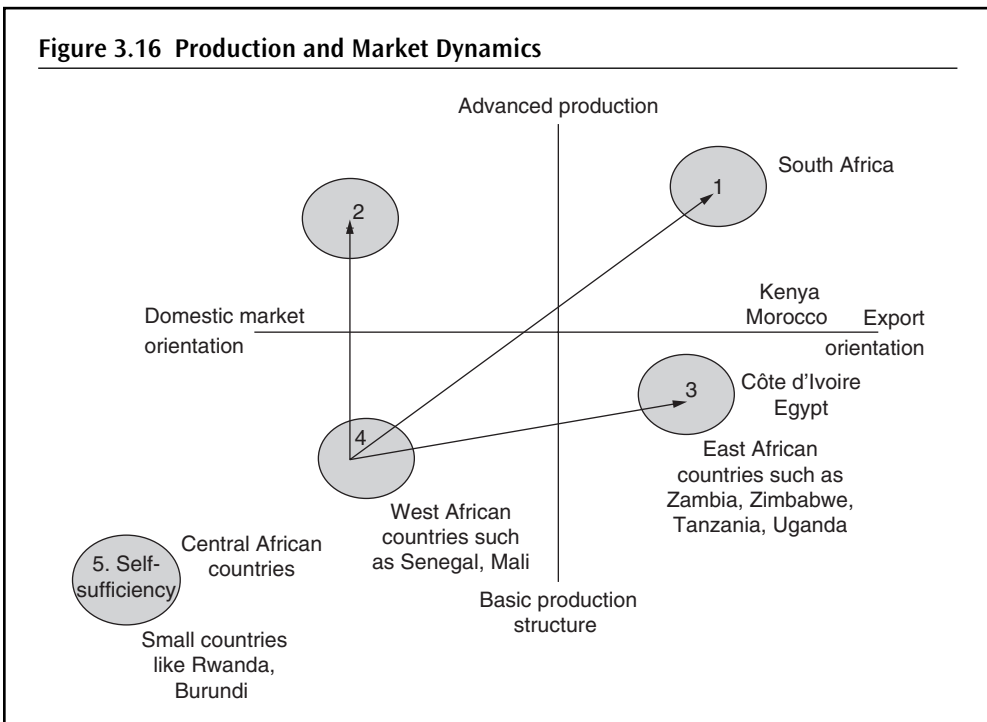
and support local nascent entrepreneurship directly, as well as to facilitate investment by foreign companies who are also searching for and working on the improvement of local management and entrepreneurial skills.

The opportunities for SSA with respect to the issues discussed are based on joint Euro-Afro project development rather than individual SSA or European projects. As a result of EU chain dynamics, international partnerships based on supply chain management, food safety and corporate social responsibility will dominate the EU market in the coming years. This is not a futuristic vision, but a development which is already taking place.

The chances for SSA lie in the fact that the SSA FHFP industry can be built up from scratch where other existing and traditional suppliers have to restructure existing facilities and organizations. It is expected that a large restructuring in the European horticultural sector will take place (closing down horticultural operations). This seems a slim advantage but, on the other hand, the conservative and traditional nature of competing agricultural sectors provides opportunities for innovative newcomers.

The consequence of these chain dynamics is that the level of entry, that gives access to the FHFP market, is higher than in the previous couple of years. The traditional development continuum (emerging, nascent, immature, mature) changed into a discontinuous development.

That discontinuous development implies that market entry should be based on a minimum set of requirements. In this respect, we can distinguish basic production factors and advanced production factors. This is visualized in the figure below.



Source: Authors.

In this figure we can distinguish:

Global professionals are internationally recognized producers of high value horticultural crops. Examples of global professionals are:

- the Dutch greenhouse vegetable and flower industry;
- the Israeli flower industry;
- the South African fruit industry;

Based on the advanced production and distribution infrastructure, the global professionals are able to export perishables along lines of latitude and longitude.

Local professionals can be found in EU horticultural production countries such as France, Italy, Belgium and Scandinavian countries. Outside the EU, local professionals can be found in Japan and USA. In general, production facilities are advanced but, due to unfavorable factors in the field of cost structure and distribution, they are only competitive in their home market.

Successful newcomers are relatively new horticultural industries that were launched 10–15 years ago or more recently. Although their production and distribution infrastructure is less sophisticated than that of global professionals, they successfully manage to export high value products, especially to the Northern markets. Examples of successful horticultural newcomers in the EU market are: Egypt, Morocco (supplying vegetables to the EU market) and Kenya and Colombia (supplying flowers to the EU market).

There are many examples of horticultural potential to be found all over the world. The future existence of smaller farmers being successful to varying degrees in their home market largely depends on:

- the existence of entry barriers for foreign competitive suppliers; barriers can be official (import bans, import restrictions, import tariffs in Japan), unofficial (criminalized food distribution in parts of Eastern Europe) or structural (combination of demographics and available infrastructure in China);
- regional economic growth creating opportunities.

The EU chain dynamics force candidates and present procedures to develop production factors to a higher level. The consequences for SSA producers are described in the next chapter.

Implications for SSA Exporters: Opportunities and Challenges

In the previous chapters, an overview was given of the relevant internal and external parameters of SSA horticulture. Basic questions such as:

- can one grow horticultural crops at all?
- is there sufficient minimum basic infrastructure?
- is there a market?

cannot be answered generally, but on a case-by-case basis.

The basic horticultural requirements seem to be available and adequately developed. As a result, the authors believe that horticulture should be considered an interesting diversification strategy for SSA.

One of the major constraints for many SSA agricultural sectors is the lack of experience in large-scale high-value fresh product cropping by local state or private companies. Most local activities are based on self-sufficiency and regional sales that resulted in an agricultural infrastructure that is purely focused on smallholders.

Defining Segmented Horticultural Producer Groups

In SSA horticulture, there are six main categories of producers involved in horticulture:

- a. the large basis of smallholders, predominantly focused on self-sufficiency;
- b. cooperatives, either farming together with a group of smallholders on an obtained piece of land for a joint account, or farming with the same crop and same objectives;

- c. a small group which crops over 3 or 4 ha, a large part of which is sold on the domestic market;
- d. a small group which crops over 3 or 4 ha, a large part of which is sold on the export market;
- e. a small group of growers with more than 3–4 ha (supported by advanced or less advanced technical production infrastructure) that predominantly focuses on exports;
- f. a small group of foreign investors and producers specialized in high value fresh product exports and starting material.

The first two groups consist of rural smallholders. They are in horticultural crops to transfer a small part of their subsistence into cash. The stimulation provided by aid programs or agricultural extension officers is most often the reason why they grow horticultural products. The horticultural involvement of this group is based on what they heard through the grapevine.

The third and fourth groups are a mix of talented smallholders or small local entrepreneurs who understand the basic principles of horticulture and business. They started or extended existing horticultural operations. These operations are specialized and generate both cash and employment. The employment generated by these farms range from 10 to over 30 people per farm.

The fifth group is very small and consists of educated entrepreneurs with roots in the public sector. These roots mean that they have access to key persons, (inter)national information and funding. They also seem to be an important take-off requirement, which is demonstrated in countries such as Kenya and Zambia, etc.

The sixth group is the foreign investors who typically launch the horticultural sector. Examples can be found in Kenya (UK and Dutch investors), Uganda (UK and Dutch investors) or Morocco (Spanish and French investors). Actually, in most currently successful horticultural supply countries, foreign investors are an important basis.

Basic Approach of Segmented Producers Groups: Structuring

One element underlines these six completely different groups: lucrative prospects in the horticultural market, whether national, regional or intercontinental. Structuring the horticultural sector is very important since, in principle, all groups are in the same market.

Structuring the horticultural sector will support general macro-economic challenges such as:

- creating economic activity;
- increasing foreign currency;
- generating employment rather than subsistence;
- launching international trade.

Strategy for Smallholders (Strategy #2)

The extremely large group of smallholders is the foundation of the horticultural industry. The assets of this group are: availability of land, horticultural experience, entrepreneurial talent and employment potential.

Current activities to promote horticulture are often based on smallholders' land availability. This may be effective for agricultural commodities (raw materials) but should be handled with caution for high value fresh products. It is questionable whether the various aid-funded projects which promote horticulture among smallholders will support the emergence of an horticultural industry because of the relatively high entry level. There is a potential risk that many of these initiatives turn counterproductive and result in vicious production cycles of over-supply and under-supply.

It is recommended that smallholders be monitored in order to identify, select and support horticultural and entrepreneurial talented smallholders to develop the domestic horticultural sector. The uncontrolled expansion of horticultural products should NOT be encouraged.

Strategy for Talented Smallholders and Small Entrepreneurs (Strategy #2)

This small group (less than 5 percent) is an important asset to an emerging horticultural sector. Talent and entrepreneurial acumen can hardly be "taught". As already explained previously, they should be identified, developed and supported.

The primary task of this group is to supply the domestic and regional market and to transfer subsistence-generating activities into employment-generating activities.

A major constraint of this group is insufficient or even non-existent access to key persons and organizations which can provide information on:

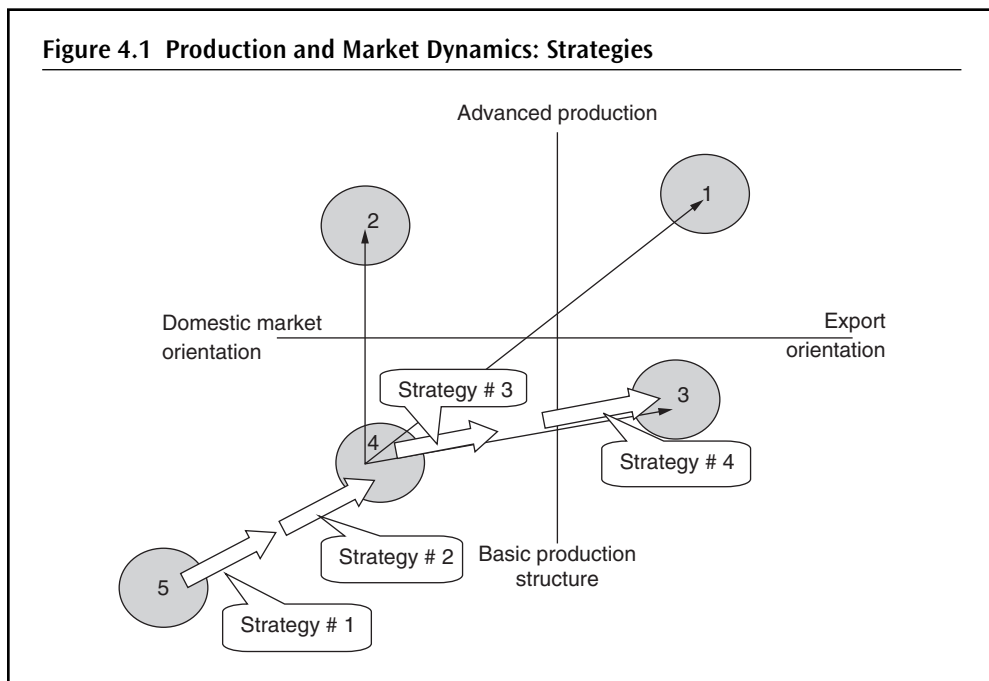
- access to funding;
- access to supply;
- access to markets;
- access to technical assistance.

It is recommended that talented smallholders and small entrepreneurs be (1) identified and (2) actively approached and encouraged to develop business plans/feasibility studies.

Strategy for Educated Urban Entrepreneurs (Strategy #3)

The educated urban entrepreneurs are often a good starting point for the start-up of horticultural projects. This group has access to key people, organizations and information and thus to funds. In addition, this group is generally able to supply equity for substantial projects.

The catalyst function of new horticultural projects is evident and is generally followed by "me too" projects. This is obviously a very positive aspect that should be promoted. This group should in principle be successful. A good example is the Kenyan flower sector. Politicians, bankers and large entrepreneurs directly or indirectly own many Kenyan flower projects. Many of these farms, however, are currently in financial difficulties because of mismanagement of production, finance and marketing. Generally, these farms invested substantially in excellent technical infrastructure but not in experienced and qualified management.



Source: Authors.

The consultants are aware of “the old boys’ network” that exists in every country. Nevertheless, they recommend that care be exercised in funding these projects unless availability of qualified management can be clearly demonstrated. Unsuccessful first movers will set an emerging industry back immediately.

Strategy for Foreign Investors (Strategy #4)

Foreign investors are instrumental in launching or boosting an horticultural sector. As explained earlier, many SSA horticultural suppliers currently owe part of their success to foreign investors. At present, not all SSA countries are on a long-list of foreign investors. This is due to political instability, economic risks, corruption and inadequate international logistics.

It is strongly recommended to support initiatives aimed at attracting foreign investors and developing Euro-African projects in order to shortcut constraints in supply of inputs, coordination of logistics, access to the market and hands-on experience in the field of supply chain management, tracing and tracking and food-safety.

Focus on Best Basic Production Factors

Developing successful horticultural projects should be based on the best locally available production factors. From an horticultural point of view, there are typical region-product

combinations. The following basic production factors are important for every region-product combination:

1. access to national tarred roads within 1–2 km with small trucks or vans;
2. access to year-round floating rivers, lakes or boreholes (in the case of cut flowers, this is a prerequisite for field crops and is highly recommended, especially in the case of export);
3. access to electricity and means of communication;
4. reasonably flat plots of land (minimum: 5 ha, minimum altitude: 1,400-1,500 m).

This focus on best basic production factors eliminates a large proportion of current SSA production structures.

The lack of an adequate agricultural inputs industry (fertilizers, pesticides, packaging material and seeds) is a problem. In many SSA countries, the agricultural inputs sector is typically supplied (or controlled) by state-owned organizations and humanitarian programs. This keeps out private initiatives and thus competition. This problem cannot be resolved in this study and emphasizes the importance of larger-scale projects and the involvement of (foreign) entrepreneurs with direct contacts in international markets.

The focus on best basic production factors means high-value fresh products should not be considered a rural activity. The agricultural input problem should be compensated by the involvement of entrepreneurs with international contacts.

Focus on Advanced Production Factors

Advanced production factors were discussed previously. In the following paragraphs, they are further developed as export-oriented horticultural operations.

Controllable and Transparent Production and Distribution

Organization. The first important issue to be raised is the basic organization structure of production and distribution activities. Obviously, a large-scale project owned by one or more entrepreneurs would be the “simplest” way of launching horticulture. The consultants are fully aware of the limited opportunities in this field. Also on a smaller scale, there are opportunities through cooperation and consolidation of purchasing power, equity and expertise.

The consultants do not support the use of traditional agricultural cooperatives in horticulture for a number of reasons. In the first place, traditional agricultural cooperatives are based on problems; in fact, a cooperative is a set of consolidated weaknesses. Cooperatives only work in a cooperative culture (Western Europe), in a market situation where demand exceeds supply, in specific product groups (commodities) or in specific activities (sourcing inputs).

The second reason is that cooperatives are not based on entrepreneurs, but on members, either enforced or voluntary, who hope that the cooperative can solve some of their problems. Since no relevant criteria (skills, drive, expertise) have to be met to become a member, a cooperative is as strong as the weakest link. It will be clear that there are many weak cooperatives.

The third reason is that a cooperative is merely based on a general description of the scope of activities and on a set of rules and regulations (statutes). In general, there is no qualification or quantification of objectives in terms of a business plan.

Traditional agricultural cooperatives are typically smaller or larger groups of individuals. Until ten years ago, traditional agricultural cooperatives would have been able to contribute to horticultural development. At that time, demand exceeded supply. The changed structure of international horticulture requires cooperation-based partnership (supply is greater than demand). The consultants are aware of the benefits and value of rural cooperatives, but these cooperatives are certainly not the best basis to develop horticulture for exports. Matchmaking activities should be initiated to develop such partnerships.

Crop-Technical Aspects. When it comes down to crop-technical aspects, three issues requiring investment are:

- protection facilities;
- irrigation facilities;
- crop supporting facilities.

Although the prevailing climate is very suitable for horticultural production, excessive rain, temporary droughts and wind affect the quality and quantity of the products.

For most cut flowers, greenhouses are a prerequisite. Some basic protection is required against damage due to heavy rain, hail and wind. A simple tunnel or roof structure covered with shading material will substantially improve the quality. Protection is required to maintain a year-round constant and high quality and to decrease infection by disease and use of chemical pesticides.

Irrigation is a vital element in horticulture that requires investment. For cut flower projects, year-round and 24-hour/day irrigation facilities are essential. For other field products, it is strongly recommended to have year-round irrigation facilities. This means access to a year-round water source: a river, lake or boreholes. Irrigation systems supplied by hand-dug canals in marshlands are too rough. A system of pumps and at least a movable pipe system are required to maintain year-round production and quality.

The investment required for the technical side of the production, especially that for the irrigation system, is only financially sound above a minimum level of production. Each individual grower does not necessarily meet the minimum scale. An association (partnership in special activities, as explained earlier) can be instrumental in obtaining the economy of scale and a broader investment basis.

Post-Harvest. Post-harvest facilities become more and more important. The following issues are brought up since they are essential to horticultural business development.

There is no understanding of EU quality, sorting and grading standards. As explained earlier, EU standards only provide a general basis. Retail chains have far more detailed requirements. The EU standards are generally available, simple and clear. Thus the excuse that horticultural producers and exporters are unaware of these standards is poor and unacceptable. This issue emphasizes the importance of entrepreneurs rather than smallholders. A simple start in improving the average quality is to apply positive grading (taking out only the best products) rather than negative grading (throwing away the worst ones).

Packaging is another important issue. Producers and exporters should be aware that the EU fruit, vegetable and flower business is highly efficient. Distributors, retailers and food services are generally not equipped to handle the product by themselves. Actually, their business is merely based on “moving boxes”. There are four reasons for this:

- specialization (effectiveness);
- incurred costs (efficiency);
- products should be packaged for the consumer market at the farm; each additional handling causes major or minor damage (longer shelf life);
- retailers and food services do not like consumers to rummage around in product displays (hygiene and shelf life).

Unpacked products (unprinted and unidentified bulky sacks and cartons) usually end up on the spot market.

As a result, the question is not **if** the product should be packaged, but **how** it should be packaged. The lack of a professional packaging industry in many SSA countries forces them import proper packaging from neighboring countries. This requires critical mass and international contacts. The development of a packaging industry also needs the availability of sufficient working capital.

Storage is also a major investment issue. On-farm or nearby separate facilities are required for:

- short storage of field products; if they are immediately graded/sorted/packed; short storage can be unconditioned, if not conditioned facilities are required;
- grading, sorting and packing activities;
- storage of packed product (conditioned);
- storage of packaging material (away from external influences, for example, sun, rain, and wind).

A few years ago, very modest facilities were effective. Regulations regarding facilities for handling unpacked products have been tightened and also imposed on overseas producers. These regulations apply to:

- hygiene issues (availability of and access to sanitary facilities; easy-to-clean walls and floors; eating, drinking and smoking prohibited; wearing uniforms);
- social issues (adequate labor conditions such as light level, working hours, working position, noise and dust, etc.);
- dangerous materials (this can range from covered lamps to staff being forbidden to wear jewels and the use of knives and scissors);
- procedures (documentation, record keeping, access by authorized staff only).

Again, in all EU facilities these regulations are already imposed. Not all distributors/chains have imposed these regulations on their overseas suppliers *yet*. Most of the serious African suppliers work hard to comply with these regulations. Ignoring these developments will substantially decrease market penetration opportunities.

Off-farm transport is also an important issue in the controlled and cooled product chain. The SSA infrastructure makes forced cooled transport a vital element of the horticulture sector.

Marketing is often hardly developed as a separate activity. Many SSA exports are typically channeled through private middlemen on the local side and middlemen on the European side into European spot markets. The combination middlemen and spot markets lays a very insecure long-term basis for market penetration. In its infancy, this spot market controlled by middlemen can be used during a testing period.

The consultants believe that the market controlled by middlemen should be left as soon as possible since:

- i. spot markets are “excuse” markets. Excuses are: lack of market information, lack of quality standards, and lack of contacts.
- ii. middlemen-controlled markets create substantial chain bias, draining potential margins and uncontrolled distribution. It is a non-transparent and opportunistic market.
- iii. as there is a need for direct sourcing (tracing and tracking), spot markets controlled by middlemen soon lose their *raison d'être*.

The activities required in the post-harvest phase imply that investments have to be made, skills developed and available information used. It is strongly recommended that a voluntary export certificate be developed. This voluntary export certificate should be based on a training program to be attended by the potential exporter and a set of minimum requirements to be met by the potential export (minimum production and post-harvest standards). The reason for this is that European distributors tend to generalize bad experiences at a national level. One off-load by ONE Kenyan supplier means that Kenya is an unreliable supplier. One refused shipment of any SSA supplier and it is assumed that SSA cannot grow horticultural products. The impact of generalizing individual cases at a national level is evident and causes general image problems. Uncontrolled export initiatives should NOT be encouraged.

Entrepreneurial Management and Horticultural Expertise

Entrepreneurial Management. The report emphasizes that horticulture is not a rural peasant-based agricultural sub-sector. Entrepreneurial management is required for:

- market communication and information collection;
- basic business principles (bookkeeping, file-keeping);
- organizing and managing people and processes.

Market communication is critically important. Suppliers and distributors should communicate frequently either by telephone or email. Access to means of communication (telephone, internet) is paramount.

Information collection is important. Horticulture is a rapidly changing sector. Adequate anticipation of international developments is required and should be supported by access

to the internet and knowledge of the English language since most relevant information is only available in English.

Basic business principles such as economics, finance, bookkeeping, file-keeping and an understanding of contracts and procedures are essential. This is not only an internal requirement, but also and especially an external requirement. EUREP-GAP, BRC and individual chain requirements put strong emphasis on documented procedures.

Managing people and processes is inherent in the nature of horticultural operations. From a managerial point of view, horticulture is an industrial rather than an agricultural process.

Horticultural Expertise. Adequate horticultural expertise is not widely developed in SSA. In this “from scratch” situation, expertise-developing initiatives are merely based on trial and error or re-inventing the wheel. The consultants question the efficiency and effectiveness of current aid-based initiatives. Horticulture is an international sector with a broad information and experience basis. The consultants are aware of the relatively closed character of the sector and of individual projects. Nevertheless, horticultural expertise can be more efficiently and effectively sourced.

A framework of entrepreneurial skills and horticultural expertise should support the take-off of successful export-oriented horticultural projects. Projects, in which both or one of these requirements are not developed, should be strongly discouraged. Experienced people who for the time being are often foreign nationals, should be managing large-scale operations. For smaller projects, it is recommended that existing horticultural expertise be used. This means not only study trips to the European market but to also to production areas. The consultants are aware of the closed nature of horticultural farms. However, based on the involvement of funding organizations such as the World Bank and USAID in horticulture in SSA, networks should be able to access existing expertise.

Logistic Infrastructure

The logistic infrastructure of fruits, vegetables and flowers is a closed and conditioned chain. The chain consists of the following activities and transport modalities:

1. from field to collection center/processing hall: means of transport on foot or internal;
2. from collection center to freight forwarder: means of transport by conditioned/insulated trucks;
3. from freight forwarder to shipper/carrier: means of transport by internal logistic systems;
4. from shipper/carrier to import agent: means of transport by internal logistic systems;
5. from import agent to distributor: means of transport by conditioned trucks;
6. from distributor to retail chain or food services: means of transport by conditioned trucks.

This first item is either often not developed or poorly developed in SSA. The biggest problem is the involvement of too many suppliers, supplying too little quantity resulting

in uncontrolled and undocumented primary sourcing. It is unknown where and when the products are harvested. This uncontrolled primary sourcing deters serious market interest. Transferring peasant growing into commercial growing is the first step to be taken.

The second item is also not developed or poorly developed. Collection centers certainly do not meet minimum standards for facilities for food handling and processing. As explained in previous chapters, the facilities typically consist of temporary storage of field products, handling hall, storage of final products. This link in the chain is very important, since here the final product (ready for shelf) is “assembled.” From this point, the product itself should not be handled or touched by persons other than the final consumer. This link requires professionalism, knowledge, coordination and financing. Professionalism should be based on entrepreneurship, up scaling production facilities and consolidation of initiatives by partnerships and not by traditional cooperatives. Financing may be based on a “business incubator” based on equity, loans and revolving funds. The Kenyan Acacia Fund (funded by local banks and European Development Funds and handled by KCP (Kenyan Capital Partners) is a good example of such a business incubator. KCP substantially contributed to starting up flower projects, vegetables projects and the Perishable Center at Jomo Kenyetta Airport.

The third and fourth stages are also poorly developed. Transport to freight forwarders is not effective. Generally, it is based on unconditioned and non-insulated small trucks and is obviously due to the ineffective production structure. The available cargo capacity is often limited and expensive and varies by region and country. The cargo-handling infrastructure is typically the result of the “chicken and the egg” question and the basic economic principle of demand and supply. Insufficient supply keeps out professional and reliable logistic service providers; absence of professional service providers does not encourage horticultural initiatives.

The authors are very critical of subsidizing freight rates. Whether or not it is internationally accepted, the macro-economic effects of such a subsidy are limited. Initiatives should be however taken to develop regional perishable hubs such as Nairobi, Kenya.

The distributor typically controls steps 5 and 6. SSA horticultural initiatives can only influence this by selecting professional and reliable distributors who provide access to the European market.

Supporting Infrastructure

In general, there is a good understanding at government level of the opportunities for horticulture in SSA. Banks are, however, reluctant to finance horticultural projects. The main constraints are in the field of equity for a project and collateral.

Credit lines and funds for financing are available in SSA, both locally and internationally. However, entrepreneurs willing to implement projects lack sufficient equity and the collateral they can offer is limited. Therefore, it is suggested to create an Horticultural Business Incubator based on provision of venture capital and a revolving fund, initially funded by donor funds and banks.

Developing Producer Strategies

In recent history of the horticultural production sector of high value products, EU producers adopted various strategies either to develop or to survive. These strategies were:

- organizational innovation;
- production innovation;
- product innovation.

Innovations in organization initially led to the development of growers' cooperatives. Growers' cooperatives were active in sourcing inputs and selling outputs. These growers cooperatives, based on cooperative law, have gradually transformed into corporate structures.

Production innovations initially focused on efficiency and effectiveness in order to increase yields and decrease costs. Nowadays, production innovations focus on developing sustainable production techniques.

The primary objective of product innovations was to introduce new products and improve the existing product range in terms of quality, yield, taste, and so forth. Nowadays, product innovations focus on adding value in terms of packaging and ready to prepare/eat.

These innovation cycles used to be gradual in nature until the late 1990s. The innovations that are now taking place are more revolutionary and are typical system innovations.

The basic starting point of this horticultural system innovation is that:

- international horticulture disposes of a minimum set of tools (either basic or advanced, either available by nature/location or by investment) and new technical innovations provide only marginal advantages;

- supply management chains are a necessity cutting out unnecessary activities/origination's;
- traditional farmers and cooperatives are dying out and entrepreneurs/corporate farms are surviving on the international market;
- opportunities for horticultural entrepreneurs are geographically boundless but limited to four major system modes.

These four general system modes are a combination of export orientation or domestic market orientation; they focus on advanced production factors or on basic production factors.

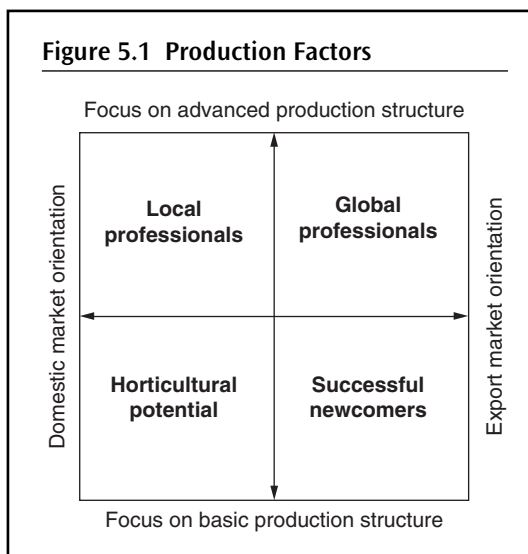
Five basic production factors are required for high value horticulture products. They are:

- non-restrictive politics towards horticultural development;
- suitable and controllable climate conditions such as day and night temperature, humidity, solar radiation and precipitation;
- availability of labor and horticultural growing skills;
- basic local general infrastructure; access to road/train/sea/air transport, telecommunication, electricity and water;
- basic local horticultural infrastructure; supply of horticultural inputs and services.

Advanced production factors are:

- access to logistic infrastructure linking production locations and international consumer markets;
- implementation of production and distribution facilities to control temperature, solar radiation, humidity and irrigation;
- transparent and guaranteed management information systems;
- support from facilitating service industry (finance, supply);
- entrepreneurial management and horticultural specialists.

Until recently, the availability of a set of basic production factors was sufficient to develop horticultural exports. Actually, most SSA exporters that are now successful launched their horticultural exports on basic production factors. The described EU market dynamics forced them to adapt and to develop more advanced production factors. The ones who were successful in developing advanced production factors are still successful; the ones who were not successful are either experiencing problems or are already out of business. The same situation happened to European producers.



Source: Authors.

For newcomers it is not realistic to rely on a strategy that is only based on basic production factors. As a result of EU market dynamics, the entry level substantially increased. A minimum set of advanced production factors (on top of basic production factors) is required to enter the EU.

Matching market orientation and production orientation results in the four system modes:

1. global professionals;
2. local professionals;
3. successful newcomers;
4. horticultural potential.

These four system modes have already been describe at the end of Chapter 3.

Strategies for SSA Producers

The general export strategy for SSA producers is based on moving from horticultural potential to successful newcomers or from successful newcomers to global professionals. As stated in the previous paragraph, the EU market dynamics do not allow single basic production factor based strategies.

This has consequences for the traditional stages of development: emerging, nascent, immature and mature. The traditional development picture suggests that there is a continuum of stages. This continuum is not compatible with the requirements of EU market dynamics.

The basic principle of SSA export strategies is that these strategies should be based on:

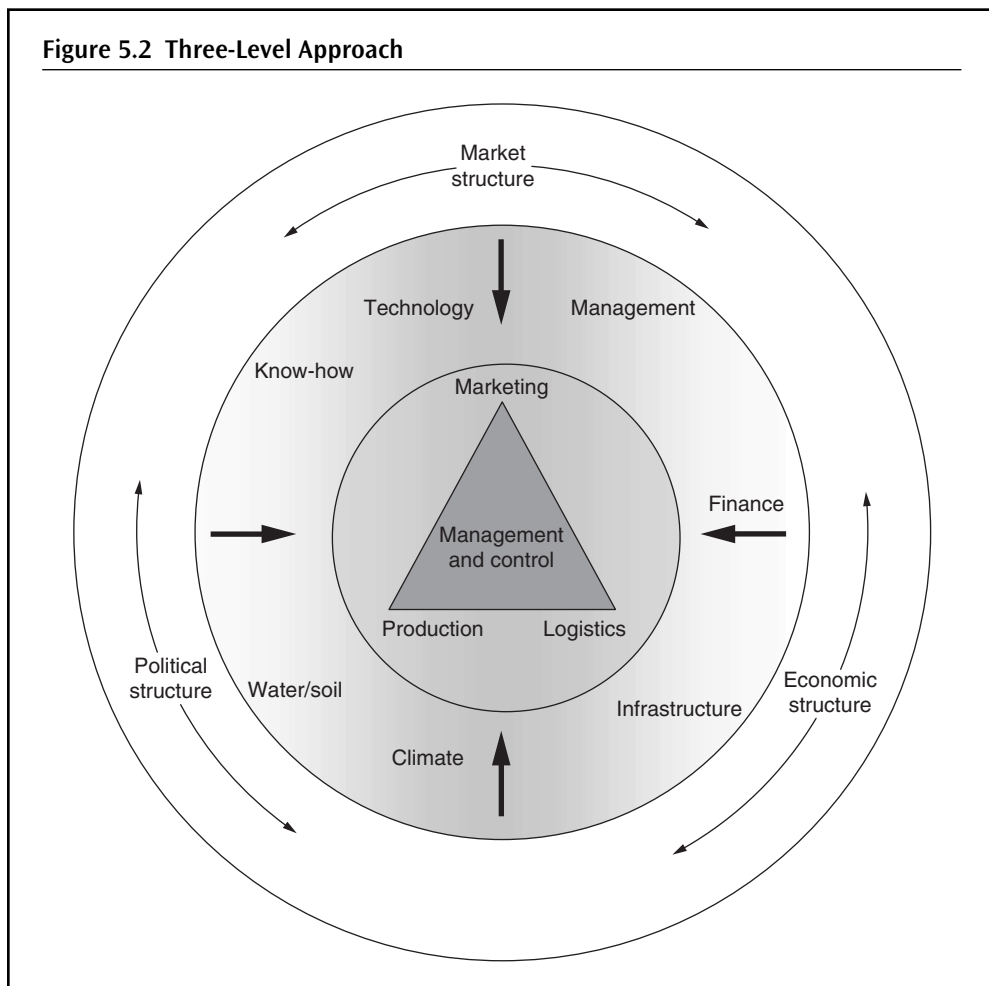
- an individual basis rather than a regional or national basis;
- horticultural business concepts rather than traditional farming concepts;
- a three-level approach focusing on:
 - Adjusting to management and control of production, logistics and marketing;
 - Embedding in a specific horticultural setting;
 - Adjusting to macro patterns.

This three-level approach is shown visually below.

Macro Patterns

The macro patterns (market structure, political structure and economic structure) are drivers for the necessary shift from traditional farming concepts to modern horticultural concepts. These macro patterns force producers to focus on efficient, effective and transparent production and distribution methods.

The traditional farming concept is generally based on the availability of land (often inherited), farmer's skills and green thumbs (often rural upbringing) and rural cooperatives (in principle defensive platforms). These farming concepts are generally rigid in terms of location, competence and market approach.



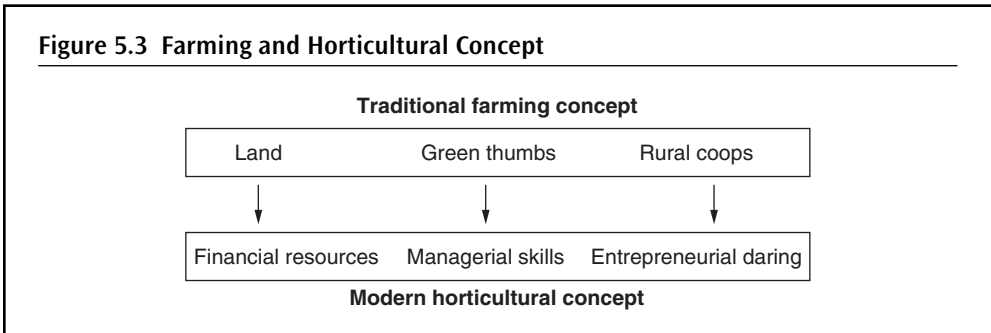
Source: Authors.

In the figure below, the difference between the farming concept and the horticultural concept is shown.

These macro patterns sketch the structure of horticultural enterprises. In practice, one can distinguish three modes of operation:

- corporate farming (controlled supply chain management);
- strategic alliances between producers and distributors (shared supply chain management);
- new generation cooperatives (shared supply chain management);
- medium- and large scale individual production companies (commissioned supply chain management).

Corporate farming is a concept in which production, logistics and marketing are fully integrated into a large international operation directly supplying retail chains. It is based on a



Source: Authors.

division between management and ownership that is generally based on multi-ownership. Corporate farms typically focus on return on investment and shareholder satisfaction. This mode of operation is often initiated by investors from other agricultural sectors or from outside the agricultural sector. The concept has not yet been generally adopted in the horticultural sector; however, examples can be found in Mexico and Kenya.

Strategic alliances between producers and distributors are also viable horticultural modes of operation. The concept is based on loyalty between a preferred supplier and a preferred distributor. Loyalty is based on mutual experience, understanding and arrangements. It provides a secure sourcing basis for the distributor and a more or less guaranteed market for the producer. Producers participating in strategic alliances should meet a number of minimum conditions:

- acceptable scale that enables distributors to limit their sourcing basis and to secure product quality and food safety from “seed to shelf”;
- willingness to supply all production (at least an agreed quantity, quality and product range) to the distributor, in good times and bad;
- adapting the production infrastructure to suit the distribution infrastructure.

Strategic alliances are becoming important vehicles in international horticultural marketing. This can be direct (producer-distributor) or indirect (through intermediary of auctions). A very sensitive element of strategic alliances is the identification of appropriate partners. Many current SSA producers are infamous for their opportunistic behavior. Also many EU distributors active on the spot market have a bad reputation.

The new generation cooperatives are corporate bodies that facilitate producers to develop advantages and added value at a higher level. These cooperatives may provide ICT infrastructure, connecting producers to buyers, advanced packing and processing facilities, and access to international logistics. Traditional cooperatives are defensive in nature while new generation cooperatives are offensive. New generation cooperatives may be established under cooperative law or corporate law and are the potential axles of the 10–20 remaining supply chains in Europe. So far, this is a typical European phenomenon, heavily supported by the EC. It should be noted that these new cooperatives represent a layer over an existing production infrastructure and can hardly be replicated or started from scratch.

The last potentially viable mode of operation is medium- and large-scale production companies that do not explicitly participate in supply chains. The viability of these “free-riders” largely depends on:

- how quality and food safety is secured and guaranteed in systems and procedures;
- size and nature of advantages (price, exclusiveness, logistics, etc.);
- a broad and sufficient basis of reliable buyers representing the market portfolio;
- consistent supply to auctions.

Many European and SSA producers claim to be in this group but cannot deliver the above conditions.

While the above modes of operation will become the standards in international horticulture, existing modes of operation (traditional farmers, rural cooperatives, smallholders) will be gradually phased out.

Specific Horticultural Setting

The second level of the strategic planning process is what we refer to as the “horticultural foot printing.” Horticultural foot printing results in a viable horticultural concept and can serve two purposes:

- seeking a viable project idea or product category for a concrete location;
- seeking a viable location for a concrete project idea or product category.

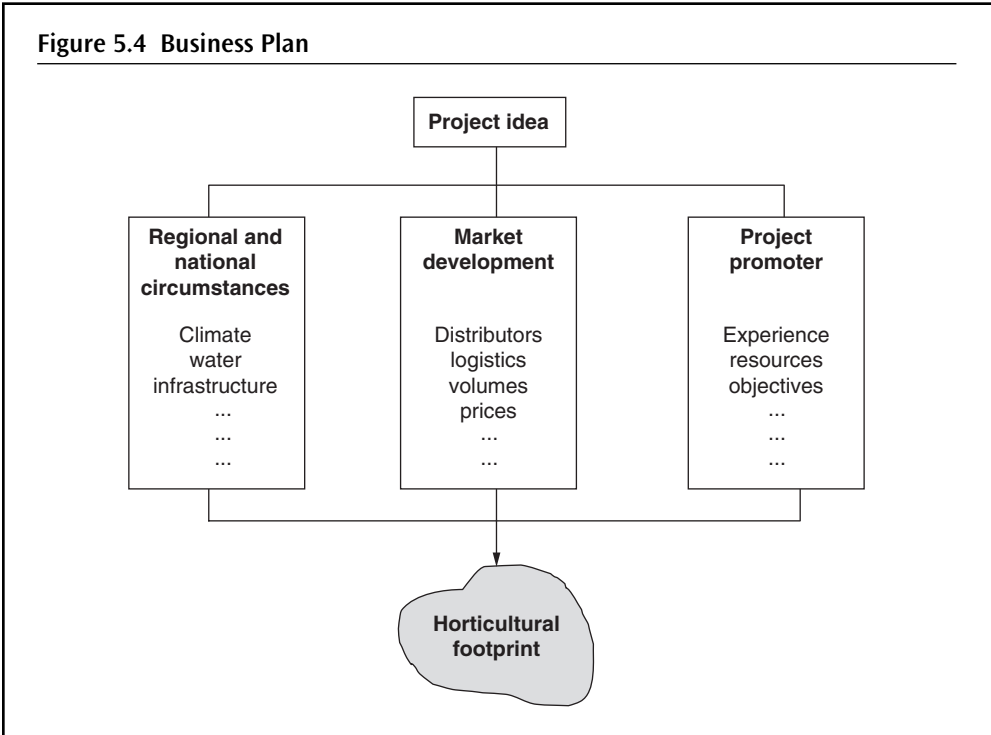
Three types of conditional parameter are determined and analyzed according to the figure later.

The horticultural footprint sketches the rough contours of the horticultural concept. Until recently, this horticultural footprint used to be unconditionally adopted as *the* project concept. Due to the changed market picture (described in Chapter 4), production concepts are also subject to structural changes. The imperfections of the initial horticultural footprint should be compensated by either effective investments or by effective management or by a combination of these factors. This is illustrated in the figure below.

Horticultural foot printing not only reveals imperfections but also reduces high hopes to realistic expectations.

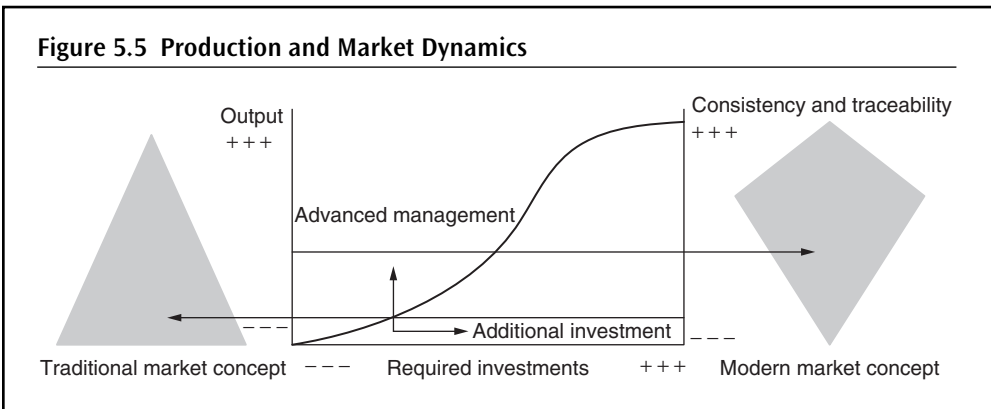
This important step in the strategic planning process is often not taken. It has caused major problems in SSA horticultural differentiation projects. Concrete examples are:

- horticultural projects generally do not meet investor objectives in terms of return on investment and payback period, as they commonly do in other industrial sectors. Withdrawal of investors led to bankruptcies and frequently changing ownership;
- climates and especially microclimates are underestimated parameters that substantially affect the available product range, food safety aspects and use of chemicals;
- for most high value crops, consistent daily supply of water and nutrients is vitally important. There are examples of prestigious but poorly localized Kenyan flower and vegetable farms that have to transport water by tanker regularly;



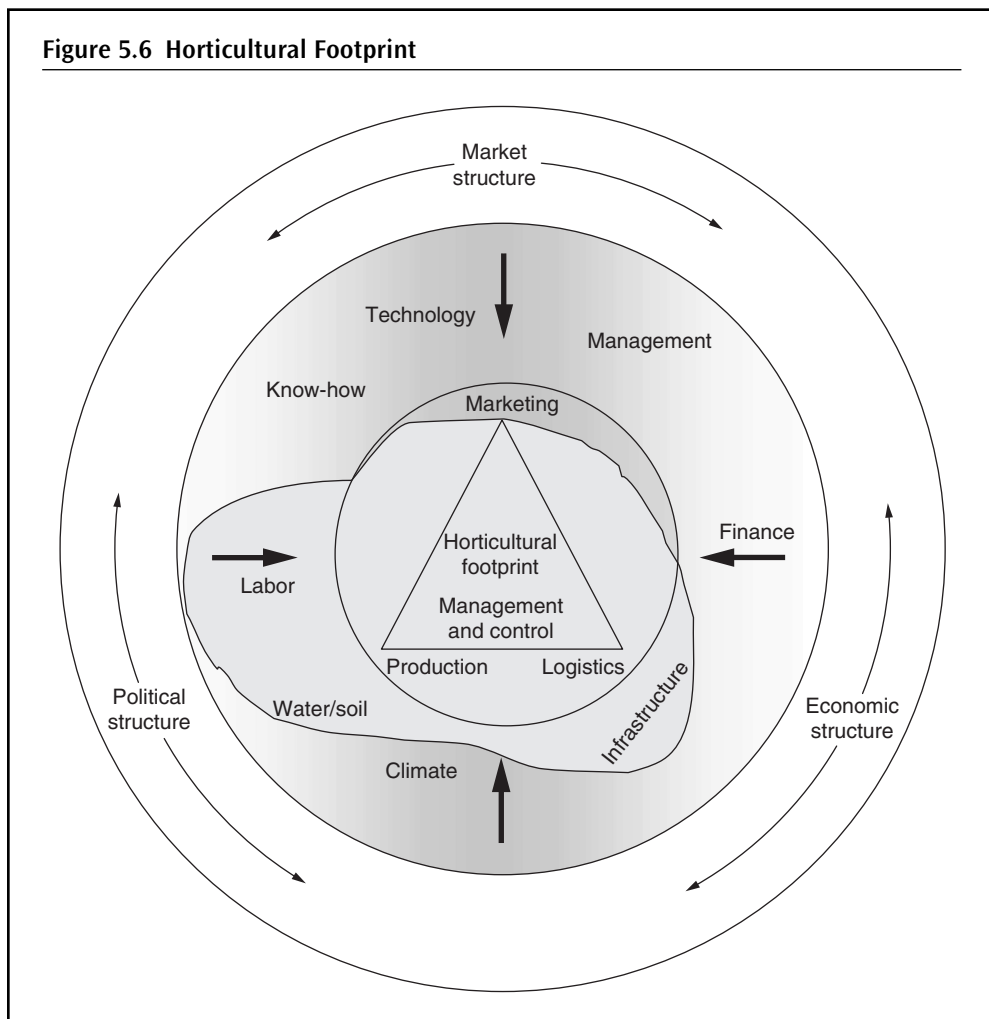
Source: Authors.

- the identification and selection of distributors determines service at producer level, which greatly affects the dimension and nature of supporting infrastructure on and around the farm. A low-service approach means a minimum of investments in infrastructure, but a high exchangeability due to low distributor loyalty. A high service approach means substantial investments in supporting infrastructure and management, but a more loyal distributor basis.



Source: Authors.

Figure 5.6 Horticultural Footprint



Source: Authors.

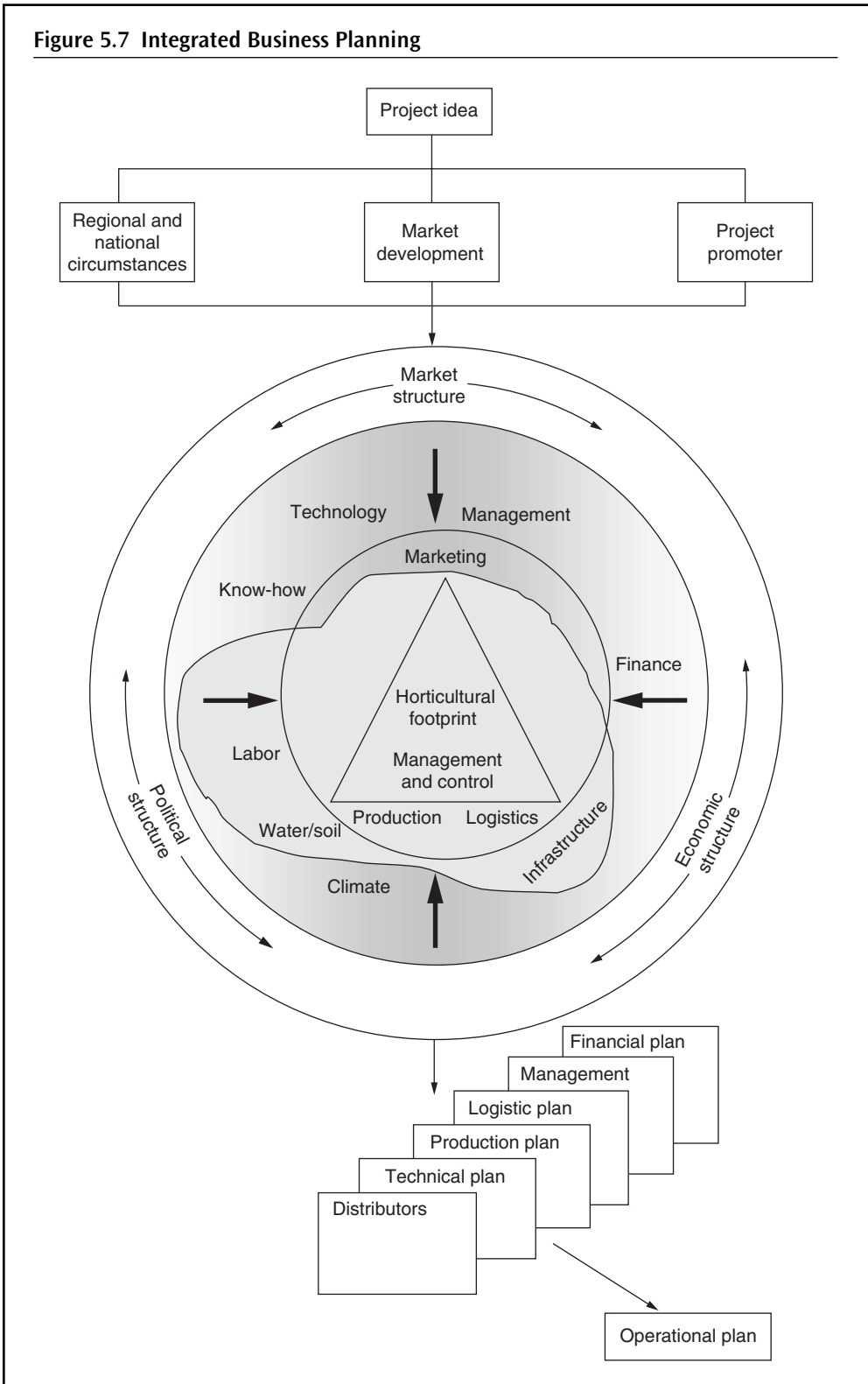
The horticultural concept:

- determines the ideal project location, a core product category, and desired distribution channels;
- indicates the level of technology and management;
- estimates the preliminary investment level;
- projects financial performance data.

Overall SSA Strategy Development for FHFP

In the figure later, the general strategy approach for SSA producers has been summarized.

Figure 5.7 Integrated Business Planning



Source: Authors.

Final Recommendations and Priority Areas for Action

Actions should be planned, based on three important statements:

1. The international horticultural market is a growing market but also an unforgiving market. Currently, positions have been taken by a number of professional preferred suppliers. Market penetration is only possible by being *better or cheaper*—preferably better *and* cheaper. There are opportunities in the necessary existence of a wide sourcing base in order to structurally secure consistent supply.
2. A large proportion of SSA horticulture is still very limited and commonly based on smallholders. Supporting infrastructure is hardly developed.
3. Horticultural development cannot be based on a traditional development continuum (emerging, nascent, immature, mature) but on the existence—or not—of a minimum set of basic and advanced production factors.

Diverting Horticulture from Smallholder-ship to Entrepreneur-ship

Horticulture is not a typical smallholder business. Traditional agricultural cooperatives are not by definition instrumental in developing export-oriented activities. Uncontrolled initiatives in these sectors may be counterproductive and lead to bad market reputations. Priority actions are:

- developing a multidisciplinary Horticultural Task Force to coordinate the suggested actions;

- identifying and selecting up and coming horticultural and entrepreneurial talent among traditional farmers;
- determining needs for skills;
- developing training programs.

The objective is to develop an horticultural (and entrepreneurial) incubator as a basis for professional projects.

Prioritizing on Region-crop Combinations

From a climatic point of view, there are hardly any limitations in the product range that can be grown in SSA. However, every region has its own strengths and weaknesses. The selection of crops should be based on a case-by-case basis. Priority actions are:

- Identifying region-crop combinations (potential high value fresh product map of Africa);
- Actively involving European food and flower providers in crop and variety selection.

The objective is to develop projects which are perfectly adjusted to local circumstances and market demand. This seems to be an obvious recommendation. In practice, however, many mistakes are made on this subject. This recommendation also implies that not all regions will be identified as potential high-value fresh production regions.

This prioritization can be done according the checklist below, which distinguishes:

- driving forces (initial strengths of a country);
- critical success factors:
 - minimum set (if this is not adequate, FHFP should not be considered);
 - additional set (these factors generate comparative advantages and determine the speed of developments);
- sector network (determines the potential spin-off due to horticultural development).

Pragmatic Application of Research and Funds

There is a broad international basis of information, expertise and funds, which is very instrumental in developing SSA horticulture. However, coordination is often lacking. Necessary actions are:

- opening up a network of multilateral and bilateral organizations and projects, which are currently active in horticultural development in SSA;
- using general budgets to develop regional logistic hubs;
- organizing study trips to successful African production centers rather than to consumption centers.

The objective is to stop reinventing the wheel.

Figure 6.1 Checklist

		Country X	Country Y	Country Z
Driving Forces				
	The society			
	The business man			
	The government			
Critical success factors	Minimum Set	The horticultural sector		
		Land and climate		
		Labor		
		Local infrastructure		
		Agricultural input supply		
	Additional Set	Water		
		Access to the market		
		Loans and credits		
		Producers associations		
		Skilled management		
		Cargo handling facilities		
		Promotion organizations		
		Horticultural education		
		Research and training		
		Extension service		
Sector Network	Services and Production of Inputs and Materials	Seeds & plant material		
		Soil & water testing facilities		
		Growing medium		
		Packing material		
		Consultancy services		
		Bookkeeping & accountancy		
		Certification Institute		
		Selection and breeding		
		Greenhouse construction		
		Greenhouse equipment		
		Greenhouse covering material		
		Fertilizers & chemicals		
		Specialized transport		
Biological crop protection				

Source: Authors.

Upscaling Production Facilities

From a marketing and logistic perspective, high value fresh products should be produced on a minimum critical scale. Necessary actions are:

- focusing on professional horticultural development;
- developing legal private entities for selected entrepreneurs and farmers to jointly invest in and exploit supporting production and post-harvest infrastructure;
- not actively encouraging small individuals or cooperative-based initiatives; these initiatives lead to uncontrolled, scattered and small-scale production of too many different varieties.

The objective is to create viable production facilities and production centers that create sufficient critical volume to allow necessary actions and investments on post-harvest side.

Horticultural Business Incubator

Horticulture is a capital-intensive industry due to the level of required investments and working capital (starting material and packaging). Bank loans provide very limited opportunities for starting entrepreneurs because of the lack of collateral and an insufficient equity basis.

Necessary actions are:

- creating an Horticultural Business Incubator based on provision of venture capital and a revolving fund, initially funded by donor funds and banks;
- actively approaching potential horticultural talent (see Action 1);
- making available international expertise in horticultural business planning to assist starters with feasibility studies;
- encouraging private pilot projects.

The objective is to lay a low financial threshold for starting private horticultural entrepreneurs and to initiate a pilot project.

Managing Large-scale Projects

African large-scale projects are typically launched by educated urban officials and professionals influenced by success stories in surrounding countries. Many of these projects fail or perform poorly as a result of both poor general management and poor production management capacity. Failed projects drain potential financing capacity out of the country (investments are generally imported) and contribute to reputation problems. This should be avoided. Priority actions are:

- limiting the amount of loans or venture capital to minor positions in projects that do not have a management team with proven experience;
- refusing substantial external financial positions (loans or venture capital) in projects where no foreign and experienced management is involved.

The objective is to avoid general reputation problems of SSA horticulture and to limit capital outflow.

Supporting and Developing Euro-Afro Initiatives and New Generation Cooperatives

Most problems occur as a result of little or no coordination on the production side (SSA) and the market side (EU). These problems occur in various important activities and decisions such as product/variety choice, means of production, documented and certified production and logistics, planning of harvesting, packaging, distribution, etc. Necessary actions are:

- facilitating EU food and flower providers to expand business in SSA (policy-based activities);
- supporting and enabling EU food and flower providers to expand business in SSA (finance and tax-based activities);
- initiating new generation cooperatives like the ones developed in the EU and in EU member states (creation of critical scale for supply chain management and commercial/food safety management).

The objective is to directly connect SSA projects to the infrastructure of EU flower providers and food providers. This not only tackles problems on the output side (sales and distribution), but also on the input side (necessary production inputs and packaging).

ANNEXES

EU Import Tariffs for Fresh Fruits

HS Code	Description	Third Country Duty Rate	Tariff Quota	Rate of Duty SPG A	Rate of duty LOMA (ACP)	Unit Value (€/100 kg)	St. Import Value (€/100 kg)
08	Fresh fruits						
0803	Bananas						
	Plantains	16		0	0		
	Other						
0804	Dates, figs, pineapples, avocados, guavas, mangoes, and mangosteens						
	Dates						
	Figs, fresh	5,6		0			
	Pineapples	5,8		0	0	129,45	
	Avocados	5,1		0	0	190,51	
	Mangosteen	0		0	0		
	Guavas,	0		0	0	87,45	
	Mangoes	0		0	0	87,45	
0805	Citrus fruits						
	Oranges	12		0			
	Madarins, clementines wilkings and sim.citrus hybr.	16		0		90,44	
	Lemons	6,4 + €.../100 kg					68,2
	Limes	12,8		0	0	109,61	
	Grapefruit	2,4		0	0	48,48	
	Other (cumquats)	12,8		0	0		
0806	Grapes						
	Fresh	14,1-17,6+ €.../100 kg	9 + €.../100 kg	0			104,4

0807	Melons and papayas						
	Melons (water)	8,8		0	0	33,22	
	others	8,8		0	0	55,37	
	Papayas	0		0	0		
0808	Apples, pears and quinces						
	<i>Apples</i>						
	cider apples 916/9-15/12	7,2 min €0,36/100 kg		0	3,6 min € 0,36/100kg		
	Golden Delicious	9-11,2 +€.../100 kg		0	4,5-5,6 + €.../100 kg		91,8
	Granny Smith	9-11,2 +€.../100 kg		0	4,5-5,6 + €.../100 kg		83,5
	Other	9-11,2 +€.../100 kg		0	4,5-5,6 + €.../100 kg		83,5
	<i>Pears and quinces</i>						
	<i>Pears</i>						
	Perry Pears 1/8–31/12	7,2 min € 0,36/100 kg		0	2,5 min € 0,36/100 kg		
	Other	10,4+ €.../100 kg	5 + €.../100 kg	0	3,6 +€.../100 kg		78,8
	Quinces	7,2		0	6		
0809	Apricots, cherries, peaches plums and sloes						
	Apricots	20	10	0	0	223,75	
	Cherries	12		0		452,96	
	Peaches and nectarines	17,6		0	14,9	97,14	
	Plums	6,4		0	5,4	69,6	
	Sloes	12		0	0		
0810	Other fruits						
	Strawberries	11,2		0		458,22	
	Raspberries, blackberries mulberries and loganberries	8,8		0	7,3	304,95	

(continued)

(Continued)							
HS Code	Description	Third Country Duty Rate	Tariff Quota	Rate of Duty SPG A	Rate of duty LOMA (ACP)	Unit Value (€/100 kg)	St. Import Value (€/100 kg)
	Black, white or red currants and gooseberries	9,6		0	8		
	Cranberries, bilberries other <i>Vaccinium</i> : cowberries, foxberries or mountain cranberries	0		0			
	Fruit of the <i>Vacc. myrtillus</i>	3,2		0	0	413,01	
	Fruit of the <i>Vacc. macrocarpon</i> and <i>Vacc. corymbosum</i>	3,2	tariff suspension 0	0	3		
	Other	9,6		0	5		
	Kiwi fruit	8		0	0	172,88	
	Durians	8,8		0	0		
	Other						
	Lychees	0		0	0		
	Cashew apples Tamarinds Sapodillo plums	0		0	0		
	Passion fruit, Carambola and Pitahaya	0		0	0		
	Other						
	Rose-hips	8,8	tariff suspension 0	0	0		
	Pomegranates	8,8		0	0	192,88	
	Khakis	8,8		0	0	330,3	
	Barbary figs	8,8		0	0		
	Medlars	8,8		0	0		
	Other	8,8		0	0		

EU Import Tariffs for Fresh Vegetables

HS Code	Description	Third Country Duty Rate	Tariff Quota	Rate of Duty SPG A	Rate of Duty LOMA (ACP)	Unit Value (€/100 kg)	St. Import Value (€/100 kg)
07	Fresh Vegetables						
0702	Tomatoes	14,4 + €.../100 kg		0	—		87,3
0703	Onions, shallots, garlic, leeks and other alliaceous vegetables						
	<i>Onions</i>						
	* sets	9,6		0	—		
	*other	9,6		0	8,1	21,68	
	Shallots	9,6		0	8		
	Garlic	9,6+€120/100 kg	9,6	0	8,1		144,73
	Leek	10,4		0	8,7	40,98	
	Other alliaceous vegetables	10,4		0	8,7		
0704	Cabbages, cauliflower, kohlrabi, kale and other similar edible brassicas						
	Cauliflowers and headed broccoli	13,6 min €1,6/100 kg		0	11,4 min €1,3/100 kg		
	Brussels sprouts	12		0	10		
	Other						
	White cabbages and red cabbages	12 min €0,4/100 kg		0	10 min €0,3 /100 kg	52,34	
	Sprouting broccoli or calabres	12		0	10	61,43	
	Chinese cabbage	12		0	10,2	54,27	
	Other	12		0	10		
0705	Lettuce and chicory						

	Cabbage lettuce					
	Iceberg	12 min €2/100 kg br		0	0	
	Other	12 min €2/100 kg br		0	10 min €1,6/100 kg	
	Other Lettuce	10,4		0	8,7	
	Witloof chicory	10,4		0	8,7	
	Other	10,4		0	8,7	
0706	Carrots, turnips, salad beetroot, salsify celeriac, radishes and similar edible roots					
	Carrots	13,6	7	0	11,5	18,15
	other	13,6		0	11,4	
	<i>Other</i>					
	Celeriac	13,6		0	11,4	
	Horseradish	12		0	0	
	Other					
	Radishes	13,6		0	0	92,37
	Salad beetroots	13,6		0	0	
	Other	13,6		0		
0707	Cucumbers and gherkins					
	Cucumbers	16 + €.../100 kg		0	—	106,4
	Gherkins	12,8		0	10,7	
0708	Leguminous vegetables					
	<i>Peas</i>	8		0	0	386,25
	Beans	10,4 min €1,6/100 kg		0	0	110,9
	Other leguminous vegetables	11,2		0	0	
0709	Other vegetables					
	Globe artichoke	10,4		0	0	
	Asparagus (green)	10,2		0	0	245,67

(continued)

(Continued)							
HS		Third Country	Tariff	Rate of Duty	Rate of Duty	Unit Value	St. Import Value
	Asparagus (other)	10,2		0	0	457,25	
	Eggplants	12,8		0	0	133,53	
	Celery other than celeriac	12,8		0	0	79,14	
	<i>Mushrooms</i>						
	agaricus	12,8		0	10,7		
	chantarelles	3,2		0	0		
	Truffles	6,4		0	5,3		
	Capsicum and Pimenta						
	Sweet Peppers	7,2	1,5	0	0	137,87	
	other	6,4		0	0		
	Spinach	10,4		0	8,7		
	<i>Other</i>						
	Salad vegetables, other than lettuce and chicory	10,4		0	8,7		
	Chard and cardoons	10,4		0	8,7		
	Olives						
	for the production of oil	4,5		0	—		
	other	€13,1/100 kg		0	—		
	Capers	5,6		0	4,7		
	Fennel	8		8	6,7		
	Sweet Corn	€9,4/100 kg		0	€9,2/100 kg		
	Courgettes	12,8 + €.../100 kg		0	0 + €.../100 kg		104,5
	Other	12,8		0	0		

EU Import Tariffs for Fresh Flowers

Product/HS Code TARIC-Code		Conventional Import Duty (%)	
0603 10	Fresh cut flowers	ACP	
0603 10 10 10	Rosa (large)	12	0
0603 10 10 20	Rosa (small)	12	0
0603 10 20 10	Dianthus (one flower)	12	0
0603 10 20 20	Dianthus (many flowers)	12	0
0603 10 30 00	Orchids	12	0
0603 10 40 00	Gladiolus	12	0
0603 10 50 00	Dendranthema	12	0
0603 10 80 30	Proteas	12	0
0603 10 80 90	Other fresh cut flowers	12	0
0603 90	Prepared cut flowers		
0603 90 00 10	Prepared cut flowers (for the use of potpourri)	10	0
0603 90 00 90	Other prepared cut flowers (not for the use of potpourri)	10	0
0604	Foliage		
0604 91 9090	Fresh foliage	2	0
0604 99 1000	Dried foliage	0	0
0604 99 9090	Other foliage	10,9	0

Presentation of the General Principles of EU Food Safety Law

General Principles of EU Food Law

Objective

To provide a high level of protection of human health and consumers' interests, whilst ensuring the effective functioning of the internal market, by:

- establishing, at EU and national level, general principles of food law;
- creating the European Food Safety Authority;
- laying down procedures in relation to the safety of food.

Act

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety [Official Journal L 31, 01.02.2002].

Summary

1. The White Paper on food safety emphasizes the need for a policy underpinned by a sound scientific basis and up-to-date legislation. The general overhaul of EU legislation is designed to restore consumer confidence in the wake of recent food-related crises, with all the interested parties having a part to play: the general public, non-governmental organizations, professional associations, trading partners and international trade organizations.

2. The free movement of safe and wholesome food is a key principle in the smooth functioning of the internal market. Since differences between the food laws of the Member States may hamper the free movement of foodstuffs, it is necessary to define at EU level a common basis for measures governing human food and animal feed.
3. With a view to adopting a comprehensive, integrated “From the farm to the fork” approach, legislation must cover all aspects of the food production chain: primary production, processing, transport, distribution through to the sale or supply of food and feed. At all stages of this chain, the legal responsibility for ensuring the safety of foodstuffs rests with the operator. A similar system should apply to feed business operators.
4. The creation of the European Food Safety Authority (EFSA) will enhance the current scientific and technical support system. Its main task will be to provide assistance and independent scientific advice, and to create a network geared to close cooperation with similar bodies in the Member States. It will assess risks relating to the food chain and will inform the general public of real and emerging risks.
5. Lastly, the recent food crises have shown that it is necessary to improve the procedures leading to food safety. This will entail, in particular, extending the scope of the rapid alert system and identifying measures to be taken in emergencies and for crisis management. A Standing Committee on the Food Chain and Animal Health is also being set up to replace the existing committees.

General Food Law

6. General food law covers all stages of the food chain. The related principles and procedures currently in force must be adapted as soon as possible, and by 1 January 2007 at the latest.

General Principles

7. The objectives pursued by means of food law are:
 - protection of human life and health, and protection of consumers’ interests, with due regard for the protection of animal health and welfare, plant health and the environment;
 - EU-wide free movement of human food and animal feed;
 - consideration of existing or planned international standards.
8. Food law is based mainly on risk analysis stemming from the available scientific evidence. Under the *precautionary principle*, the Member States and the Commission may take appropriate provisional risk-management measures when an assessment points to the likelihood of harmful health effects.
9. There is a requirement for transparent public consultation, directly or through representative bodies, during the preparation, evaluation and revision of food law. When a food or feed product is deemed to constitute a risk, the authorities must inform the general public of the nature of the risk to human or animal health.

General Obligations in the Food Trade

10. Food and feed imported with a view to being placed on the EU market or exported to a third country must comply with the relevant requirements of food law.
11. The European Union and its Member States must contribute to the development of international technical standards for food and feed, as well as for animal health and plant protection.

General Requirements of Food Law

12. Food must not be placed on the market if it is unsafe, i.e. if it is harmful to health and/or unfit for consumption. In determining whether any food is unsafe, account is taken of the normal conditions of use, the information provided to the consumer, the likely immediate or delayed effect on health, the cumulative toxic effects and, where appropriate, the particular health sensitivities of a specific category of consumers. If food which is unsafe forms part of a batch, lot or consignment, the entire quantity is presumed also to be unsafe.
13. Feed must not be placed on the market or given to any food-producing animal if it is unsafe. Feed is deemed to be unsafe if it has an adverse effect on human or animal health. The entire quantity of a batch, lot or consignment is considered unsafe if any part of it fails to satisfy the requirements.
14. At all stages of the food chain, business operators must ensure that food and feed satisfies the requirements of food law. The Member States are required to enforce the law, to ensure that operators comply with it and to lay down appropriate measures and penalties for infringements.
15. The traceability of food, feed, food-producing animals and all substances incorporated into foodstuffs must be established at all stages of production, processing and distribution. To this end, business operators are required to apply appropriate systems and procedures.
16. If an operator considers that a food or feed product which has been imported, produced, processed, manufactured or distributed is harmful to human or animal health, steps must be taken immediately to withdraw the product from the market and to inform the competent authorities and users accordingly.

European Food Safety Authority

17. The newly-established European Food Safety Authority (EFSA) will provide scientific advice and scientific and technical support in all areas impacting on food safety. It constitutes an independent source of information on all matters in this field and ensures that the general public is kept informed.
18. Participation in the EFSA is open to the Member States of the European Union and to other countries applying EU food safety law.
19. The Authority is endowed with legal personality. The Court of Justice of the European Communities has jurisdiction in any dispute relating to contractual liability.

The Authority's Tasks

20. In the areas within its sphere of competence, the tasks of the European Food Safety Authority are as follows:

- *To provide the European institutions and the Member States with the best possible scientific advice* on its own initiative or at the request of the Commission, the European Parliament or a Member State.

The Authority's independent scientific opinions have to do with matters of food safety and other related issues (animal and plant health, GMOs, nutrition, etc.). They serve as a basis for policy decisions in respect of risk management. The Commission lays down guidelines for the Authority covering the scientific evaluation of substances, products or processes which are subject to a system of prior authorization or registration on a positive list under EU legislation.

- *To promote and coordinate the development of uniform risk assessment methods.*
- *To provide scientific and technical support to the Commission.* Scientific and technical assistance entails the establishment, development and evaluation of guidelines.

The Commission may also call upon the Authority for assistance in crisis management.

- *To commission scientific studies necessary for the accomplishment of its mission*, whilst avoiding any duplication with European or national research programs.
- *To search for, collect, collate, analyze and summarize scientific and technical data* on food consumption and the exposure of individuals to risks. The Commission is required to publish a report on the existing data collection systems at European level.
- *To take action to identify and characterize emerging risks.* The Authority will establish monitoring procedures geared to searching for, collecting, collating and analyzing information and data with a view to the identification of emerging risks.
- *To build up European networks of organizations operating in the field of food safety.*

The Authority will participate in the rapid alert system linking the Commission and the Member States. It will encourage the exchange of information, knowledge and good practice, the coordination of action and the implementation of joint projects. The Commission is to compile an inventory of European-level data collection systems.

- *To provide scientific and technical support aimed at improving cooperation between the Commission, the candidate countries, international organizations and third countries.*
- *To ensure that the general public and other interested parties receive reliable, objective and comprehensible information.*
- *To express its own conclusions and ideas on matters within its remit.*

Organization

21. The main components of the Authority are:
- *Management Board.* The 14 members of the Management Board are appointed by the Council, in consultation with the European Parliament, from a list drawn up by the Commission; four of the members are required to have a background in organizations representing consumers and other interests in the food chain. Although the members' term of office is four years, which may be renewed once, the initial term of office for half of the members is six years. The Management Board elects its Chairperson for a two-year period, which is renewable. It adopts the rules of procedure, the work program and the general activity report.
 - *Executive Director.* Appointed by the Management Board, on the basis of a list proposed by the Commission, for a period of five years which may be renewed once for a period not exceeding five years, the Executive Director is the legal representative of the Authority. Prior to being appointed, the nominee is invited to make a statement before the European Parliament. The Executive Director is responsible mainly for the day-to-day administration of the Authority, drawing up and implementing the work program, and maintaining contact with the European Parliament.
 - *Advisory Forum.* Comprising one representative per Member State, the Forum advises the Executive Director in the performance of the latter's duties, particularly in connection with drawing up the work program and prioritizing requests for scientific opinions. Chaired by the Executive Director, the Forum meets at least four times a year. It encourages the European networking of national bodies operating within the EFSA's fields of activity: exchanging information, pooling knowledge and making the most of the available resources.
 - *Scientific Committee.* Composed of the chairpersons of the scientific panels and six independent experts, all appointed by the Management Board for a three-year period, this body provides the scientific opinions of the Authority. Responsible for general coordination with the scientific panels, it may also organize public debates and set up working groups on matters which do not fall within the competence of the scientific panels.
 - *Scientific Panels.* The eight Scientific Panels are: 1) the Panel on additives, flavorings, processing aids and materials in contact with food; 2) the Panel on additives and products or substances used in animal feed; 3) the Panel on plant health, plant protection products and their residues; 4) the Panel on genetically modified organisms; 5) the Panel on dietetic products, nutrition and allergies; 6) the Panel on biological hazards; 7) the Panel on contaminants in the food chain; 8) the Panel on animal health and welfare.
22. The Executive Director and the members of the different bodies undertake to act independently in the public interest. They must make a declaration of commitment and a declaration of interests indicating any interests, whether direct or indirect,

which might be considered prejudicial to their independence.

23. The EFSA will carry out its activities with a high level of transparency. In this connection, it will make public the agendas and minutes of meetings of the Scientific Committee and the Scientific Panels, the opinions adopted, the results of scientific studies, the annual report of activities and the annual declarations of interest made by the aforementioned parties. The Authority must ensure that the public is given objective and easily accessible information.

Financial Provisions

24. The Authority's budget, presented by 31 March each year at the latest, consists of revenue (contributions from the European Union and from any candidate country or third party involved, charges for publications, conferences, training, etc.) and expenditure (staff, administrative, infrastructure and operational expenses, contracts entered into with third parties).

Procedures Relating to Food Safety

25. There is a pressing need for procedures in matters of food safety to be improved, particularly in terms of extending the rapid alert system to all foodstuffs and animal feed, identifying emergency and crisis-management measures, and creating a Standing Committee on the Food Chain and Animal Health.

Rapid Alert System

26. A rapid alert system for the notification of a direct or indirect risk to human health deriving from food or feed is to be established. This network will involve the Member States, the EFSA, the Commission in a management capacity, the candidate countries, third countries and appropriate international organizations. When a member of the network becomes aware of the existence of a serious risk, it must notify the Commission accordingly, and the Commission will immediately circulate the information within the network.
27. Through this rapid alert system, the Member States are to notify the Commission and provide an explanation of:
- any measure aimed at restricting the placing on the market or forcing the withdrawal or recall of food or feed;
 - any measure involving professional operators aimed at preventing or controlling the use of food or feed;
 - any rejection of a batch or consignment of food or feed by a competent authority at a border post of the European Union.
28. Information concerning a food-related risk which is disseminated within the alert network must be made available to the general public.

Emergencies

29. Where food or feed originating in the EU or imported from a third country constitutes a serious risk to human health, the Commission is to adopt immediately, on its own initiative or at the request of a Member State which is alone unable to deal with the emergency, one or more of the following measures:
- for products of EU origin: suspension of the placing on the market or use of the product in question, imposition of special conditions and adoption of any

- other appropriate interim measure;
 - for products imported from a third country: suspension of imports, imposition of special conditions and adoption of any other appropriate interim measure.
30. Within a period of no longer than ten working days, the Commission is to endorse, revoke or extend the measures adopted.
 31. When a Member State officially informs the Commission of the need to take emergency measures and the Commission does not act, the Member State may take interim protective measures. It should immediately inform the other Member States and the Commission thereof. Within a period of ten working days, the Commission must refer the matter to the Standing Committee on the Food Chain and Animal Health with a view to extending, amending or revoking the national interim protective measures.
 32. When a Member State considers that protective measures taken by another Member State are incompatible with the Regulation or are likely to affect the functioning of the internal market, it may refer the matter to the Commission with a view to resolving it in an acceptable manner. If no agreement is reached, the Commission may seek an opinion from the EFSA.

General Crisis-Management Plan

33. In close cooperation with the EFSA and the Member States, the Commission is required to draw up a general plan for crisis management, specifying the situations entailing direct or indirect risks to human health not provided for by the Regulation, and setting out the practical procedures necessary for managing a resultant crisis.
34. When a situation involving a serious risk cannot be dealt with under the existing provisions, the Commission must immediately set up a crisis unit, in which the EFSA may participate by providing scientific and technical support. The crisis unit will be responsible for collecting and evaluating all relevant information and identifying the options available for preventing, eliminating or reducing the risk to human health.

Standing Committee on the Food Chain and Animal Health

35. A Standing Committee on the Food Chain and Animal Health, composed of representatives of the Member States and chaired by the Commission representative, will be organized in sections to deal with all the relevant matters.

Final Provisions

36. The EFSA is to publish its annual activity report before 15 June each year.
37. Before 1 January 2005, the Commission will publish a report on the experience acquired from implementing the rapid alert system and dealing with emergencies.
38. Before 1 January 2005, and every six years thereafter, the Authority will commission an independent external evaluation of its achievements, the impact of its activities and its working practices.
39. In EU legislation, reference to the European Food Safety Authority will replace every reference to the Scientific Committee on Food, the Scientific Committee on Animal Nutrition, the Scientific Veterinary Committee, the Scientific Committee on Pesticides, the Scientific Committee on Plants and the Scientific Steering

Committee.

40. In EU legislation, reference to the Standing Committee on the Food Chain and Animal Health will replace every reference to the Standing Committee on Foodstuffs, the Standing Committee for Feeding Stuffs, the Standing Veterinary Committee and the Standing Committee on Plant Health relating to plant protection products and the setting of maximum residue levels.
41. Decisions 68/361/EEC, 69/414/EEC and 70/372/EEC are repealed.
42. The EFSA commenced its operations on 1 January 2002. For further information, consult the website of the European Food Safety Authority .

Act	Date of entry into force	Deadline for implementation in the Member States
Regulation (EC) No 178/2002	21.02.2002	—
Articles 11 and 12 and 14 to 20	1 January 2005	—
Articles 29, 56, 57, 60, 62 and paragraph 1	As from the date of appointment of the members of the Scientific Committee and of the Scientific Panels to be announced by means of a notice in the Official Journal	—

References

- Achterbos, T.J., S. de Bruin, and F.W. van Tongeren. 2003. *Trade Preferences For Developing Countries*. Report 6.03.11. The Hague: LEI.
- Anyango, G.J. 1997. "Comparative Costs of Transport, The Northern Tier Countries of The Greater Horn of Africa." Technical paper No. 61, Office of Sustainable Development, Bureau for Africa, USAID.
- Brenton, P. 2003. *Integrating the Least Developed Countries into the World Trading System, The Current Impact of EU Preferences under Everything But Arms*. International Trade Department. Washington, D.C.: The World Bank.
- COLEACP/Cabinet Gressard, 1998, *Export logistics for ACP countries for fruits and vegetables and horticultural products*.
- European Commission. 2001. *EU Agriculture and the WTO*. Directorate-General for Agriculture, September.
- FAO. 2001. *World Market for Organic Fruits and Vegetables—Opportunities for Developing Countries in the Production and Export of Organic Horticultural Products*.
- Jaffee, Steve. 1995. *Marketing Africa's High-Value Foods: Comparative Experiences of An Emergent Private Sector*. Washington, D.C.: The World Bank.
- Milner, C., Oliver Morrissey, and N. Rudaheranwa. 2000. "Policy and Non-Policy Barriers to Trade and Implicit Taxation of Exports in Uganda." *Journal of Development Studies*.
- Stevens, C., and J. Kennan. 2001. "The impact of the EU's Everything but arms proposal." A report to Oxfam, final report, IDS/Oxfam, January.

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