

RESEARCH PAPERS

12

CHANGES IN THE GOVERNANCE OF GLOBAL VALUE CHAINS OF FRESH FRUITS AND VEGETABLES: OPPORTUNITIES AND CHALLENGES FOR PRODUCERS IN SUB-SAHARAN AFRICA

A Revised Version

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JUNE 2007

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ACKNOWLEDGEMENT

The authors wish to thank Appolinary Manyama for his tireless efforts in reviewing the paper, and for his invaluable constructive criticism in enriching the paper.

We specifically extend our appreciation to South Centre for commissioning us this important research assignment.

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LIST OF ACRONYMS

AGOA	African Growth and Opportunity for Act
COMESA	Common Market for Eastern and Southern Africa
DCs	Developing Countries
EAC	East African Community
EU	European Union
EurepGAP standards	A scheme for good agricultural practices (GAP) at the farm level, developed by EUREP-an association of European fresh produce retailers and importers.
FAO	Food and Agricultural Organization
FDI	Foreign Direct Investments
FFV	Fresh Fruits and Vegetables
GDP	Gross Domestic Product
GNP	Gross National Product
GVC	Global Value Chain
HACCP	Hazard Analysis and Critical Control Point
HVAPs	High Value Agricultural Products
NGO	Non-Governmental Organization
SADC	South African Development Commission
SSA	Sub-Saharan Africa
WHO	World Health Organization

EXECUTIVE SUMMARY

Horticultural trade, especially fresh fruits and vegetables from Sub-Saharan African to European market, has received a great deal of attention over the past decade due to the rapid and sustained growth of its exports to Europe. This impressive growth has undoubtedly contributed to increased national incomes and has reduced rural poverty in Sub-Saharan Africa. Good examples in this respect are Kenya, South Africa and, to some extent, Zimbabwe. Despite this growth, the inclusion and proportion of the rent obtained from this lucrative business for smallholder farmers, who in the past used to be the major players, have been worsening over the span of the horticultural trade. One of the major contributing factors is the recent changes and dynamism of the global governance of fresh fruits and vegetables value chain. The changes of governance of global value chains for FFV from the market based coordination to the explicit vertically integrated coordination, coupled with other factors such as stringent phytosanitary measures, private standards like EurepGAP, and the increased consumers' demand and choices, have led to the exclusion of smallholder farmers in the value chain because of their failure to comply with different requirements and standards. This poses a potential threat to the efforts of addressing chronic poverty and well being of the rural poor in the region.

Thus, the purpose and scope of this paper were: to investigate, compile and analyze concrete evidence regarding the nature of changes in the governance of fresh fruits and vegetables value chain and their causes; to identify the opportunities and challenges stemming from these changes and what determine success and failure in the new future governance and architecture; to see how the competitive advantage of FFV producers is affected by the changes in the governance of FFV value chains; to discuss the implication of the changes for the aspirations of economic diversification of commodity dependent developing countries. Finally, the paper provides recommendations on coping mechanisms, private sector strategies, and public policy responses that would enable developing countries' producers, taking into account ownership and equity considerations, to appropriate a fair share of the rents in the FFV value chains.

Our investigation has uncovered ample evidence that fresh fruits and vegetables trade contribute substantially to the GDP of several SSA countries involved in the business; and that FFV is a better agricultural investment alternative to complement or substitute the deteriorating benefits from traditional agricultural exports like cotton, coffee, sisal and tea. Nevertheless, in the past few decades there has been a remarkable transformation in the governance of the global value chain in the fresh fruits and vegetables industry. The complex operational difficulties of the traditional arm length market relationship of fresh fruits and vegetables trading, and other inherent weaknesses like huge number of players, leading to low profit margin across the chain, have been some of the driving forces behind these changes.

The changes of GVC into an explicit coordination which is a special form of hierarchy based global governance of value chains in FFV has substantially reduced the number of players to almost two or in some special cases one. The supermarkets and large retailers have bypassed the European based wholesalers and they are now directly working with exporters from Africa. On the one hand, this entails the increased share in the rent obtained among the remaining few players in the value chain; but on the other hand, it entails the exclusion of some players including smallholder farmers who fail to meet the standards and set conditions due to lack of capital, technology and technical know how. The analysis of global value chain of FFV has paved a way towards the exploration of the consequences due to changes on the structure of the value chain, the distribution of functions within it, and the inclusion and exclusion of different agents in the chain.

The changes in the FFV global value chains have opened some opportunities to medium and large-scale farmers and exporters in Africa and to supermarkets and large retailers in Europe but

leaving the smallholder farmers (which form the majority of the population in developing countries) in the bad economic state. For Europe, the most affected people are the wholesalers of FFV, the agents and smaller retailers who were depending much on the wholesalers because the European based wholesalers are skipped by the current governance of the value chain.

Apart from the marginalization of smallholder farmers in the FFV value chain in Sub-Saharan Region, other changing patterns include: high transaction costs, costly access to market and technical information, inadequate infrastructure, limited access to credit, limited management skills and capacity, stringent legal, commercial, and private standards.

On the other side, the opportunities available for African producers include favourable regional and international protocols like the regional and international preferential market access, favourable agro-ecological conditions and the EU market trends, and the increased consumer demands for tropical produce like fruits.

Recommendations

The policy geared at addressing and mitigating the exclusion of the smallholder farmers from the chain should be addressed with a due concern. One way of addressing this is through collaboration between the government and other stakeholders like NGOs in helping small farmers to form cooperative unions for fresh fruits production. This will help small farmers to easily access capital, technical and technological support from donors, government, training and financial institutions. More specifically and based on the findings from various literature, the following recommendations may be useful in these specific targets.

Governments of Sub-Saharan Africa

- In the light of the requirements of domestic and foreign markets, governments of SSA countries with a significant export interest in the EU market should make a realistic assessment of the implications of changes taking place in the FFV trade, and to identify appropriate strategies.
- Governments need to involve growers/exporters and other stakeholders in a dialogue to discuss options and strategies, taking into account the strengths and weaknesses in each country.
- For the countries, which are smaller exporters, large companies could seek individual certification. Such countries could also set up national GAP guidelines or standards. In general, the focus of export promotion could be on issues such as infrastructure development, business skills, and strengthening the links.

Policymakers and Technical Administrators in Developing Countries

To create enabling environment for small holder producers in developing countries Policymakers and technical administrators should:

- Create or enhance awareness of the benefits of GAP among producers.
- Support training on various mandatory and voluntary standards and related measures.
- Elaborate criteria for assessing new sites for FFV production.
- Address problems with the registration of crop protection products.

- Assure effective control of some aspects covered by EurepGAP control points, such as seed quality, registration of agrochemicals, and developing national legislation in the areas of environmental protection and workers' health and safety.
- Provide the necessary infrastructure for compliance with control points (e.g. appropriate disposal of empty packages of agrochemicals), promoting research and development, and technical assistance (e.g. to facilitate accreditation of laboratories to ISO 17025 or an equivalent standard for testing).
- Formulate policies geared at helping the market information accessible and readily available to producers of fresh fruits and vegetables. Such information will help them in making important decisions concerning the production and effective strategic management of the FFV value chain.
- Create enabling environment for small and medium scale environments. These include effective policy on land ownership and acquisition, credit availability and risk management facilities to be put in place. Investments at macro level may be required, in, for example, the installation or maintenance of local accreditation or certification systems; lab analysis and lab accreditation; documentation and record keeping systems; business development services; input supply services/input regulations; and training and technical assistance (Santacoloma, 2007).
- Improve infrastructure including roads and utilities such as water and electricity, which seem to be vital especially during post harvest handling. There is a need to facilitate smallholder suppliers of FFV in terms of input supplies, production, quality inspection and packaging. Technology dissemination and training of producers will help to improve the production of FFV in the developing countries.

The Private Sector in Developing Countries

The private sector in the developing countries should do the following:

- Incorporate current and expected requirements related to standards and other specified requirements into business plans, including considerations of product-market combinations, customer and supply relationships, production technology, logistics, and investments in the processing and marketing facilities.
- Small and medium scale farmers should look for the opportunity of merging through cooperatives to form relatively large groups of farmers whose production is in a large scale. This will enable them to reduce unnecessary transactions costs and enjoy the economies of scale.

The Private Sector in the Industrial Countries (especially supermarkets)

The private sector in the industrial countries (especially supermarkets) should

- Look forward for alternatives to include the smallholder farmers in Sub-Saharan Africa in the value chain without comprising their interest but also by considering the interest of this vital group which is highly volatile economically and vulnerable to the current global value chain.
- Harmonize or mutually benchmark the growing array of overlapping and competing private protocols on good agricultural and manufacturing practices, hazard analysis and critical control point (HACCP) systems, and other process standards. Doing so would save their own costs and those of the supplier while enlarging and diversifying the base of potential supplier countries.

- Enter into joint programs with governments and donor agencies in providing technical assistance to suppliers to enable them to meet the emerging requirements.

Academic Institutions and Agricultural Research Institutions

Academic institutions and Agricultural research institutions should

- Put more emphasis on the impacts of the current global values chain to developing countries and its implication to poverty reduction. And find out the best alternative in which the resources available may be allocated equitably across all the major players.
- Advise the policy makers and propose relevance evidence based policy emanating from the research output.

Bilateral and Multilateral Development Agencies

- Development agencies need to disburse more research funds for projects on the sustainability of the current global value chains in fresh fruits and vegetables with the emphasis on equitable distribution of the rents accrued.
- UK DFID and the German GTZ have recently announced their intention to provide funding for a “developing country-ambassador” to work at FoodPlus GmbH (the EurepGAP secretariat) who would liaise with developing-country producers, exporters and governments on issues of standard setting and implementation. The SSA is advised to use the opportunity to fine-tune its FFV sector so as to meet the global requirements standards.

Training and Capacity Building

- Farmers need to be trained on issues such as: pesticide management; traceability and record keeping; farm business management skills; environmental and social sound practices; basic food hygiene and sanitation; post-harvest management and certification procedures. Capacity building efforts are also required at the macro level, both for extension agents (basic GAP principles; IPM and integrated crop management; food regulation and market requirements for exports; packaging and post-harvest technologies) and for the other agents (e.g. laboratories practices, sampling; traceability procedures; GAP auditors; and market information systems). (Santacoloma, 2007).

Alternatives for FFV Trade in SSA

At times, the requirements to participate in value chains may just be too difficult for smallholders in weaker economies such as the LDCs. It would be better for the FFV trade to exploit other possible opportunities to support the survival and well-being of small-scale growers in exporting FFV. The examples of other opportunities include:

- The domestic market;
- Regional African market;
- Other markets (e.g. the middle-east where requirements are less stringent);
- The European wholesale market; and
- Markets for organic produce.

I. INTRODUCTION

The production of fresh fruits and vegetables for trade has increasingly become an attractive and rewarding activity in many developing countries. For instance, between 2001 and 2006 the monetary value gained from the export of edible fruits, nuts, peel of citrus fruits or melons to European Union by Sub-Saharan Africa increased by 20%, which is equivalent to 319,957 million Euros. In the same period, an increase of 28%, which is equivalent to 67,652 million Euros, was recorded for edible vegetables and certain roots and tubers. (www.export-help.cec.eu.int). Ascribing to the dynamic nature of the sector, in terms of rising demand and high prices compared to traditional primary commodities, the production of tropical fruits and vegetables for trade has been consciously encouraged in many developing countries for alleviating heavy dependence on few, and often, non-remunerative primary commodities (Diop and Jaffee, 2005). It is for this reason that the volume of trade in tropical fresh fruits and vegetables (FFV) increased at the annual rate of 7% and 14 % during the periods from 1995 to 2000 and from 2000 to 2003 respectively (Pay, 2005).

The growth in the production of FFV for trade in developing countries has been paralleled by the dramatic changes in governance patterns of the trade in FFV. Two factors are behind these changes mainly in developed countries. The first one is the increasingly complex and stringent regulatory environment related to food safety, particularly pesticide residues and conditions for post-harvest processing, environmental and labour standards. The proliferation of the increasing complexity and stringent regulatory environment related to food safety, particularly pesticides residues, and the conditions for post-harvest processing and environmental and labour standards have been extensively investigated and well documented by Pay and Ellen, (2005) and will, therefore, not be included in the current study.

The second set of factors behind the changes is the rise of few dominant supermarkets chains. The increasing involvement of retailers in FFV is attributed to the strategic importance of FFV, which stems from being one of the few items for which consumers will change their choice of the stores, and because they are income-elastic products (Kaplinsky, 2004). It is reported for example that, the rise of few dominant supermarkets in the UK food retailing industry has changed the way in which supplies of FFV for the UK markets are grown and processed in Africa (Dolan and Humphrey, 2001). The increased concentration of market power in the hands of few retailers has transformed the trade in FFV from an arms-length market relationship to an explicit coordination between producers in SSA and supermarkets in Europe (Gereffi *et al*, 2005).

The objective of this paper is to provide a brief review of the changes in the governance of the global value chain of fresh fruits and vegetables; and look at the Opportunities and challenges for producers in Sub-Saharan region. More specifically, the paper intends, firstly, to examine the changes in the governance of the FFV value chains; and secondly, to recommend strategies and policy response (both at enterprise and government levels) for taking advantage of the opportunities arising from the changes while mitigating the threats.

The paper is organized into six sections as follows: Section One comprises the introduction; Section Two presents background information on fresh fruit and vegetable (FFV) sector and its economic relevance for DCs. Sections Three and Four provide the overview of changes in the governance of FFV value chains and their effects on producers from DCs. Conclusion and recommendation are presented in Sections Five and Six respectively.

II. BACKGROUND

Agriculture is the mainstay of the economy for most developing countries [DCs] especially the non-oil exporting ones. In Tanzania, one of the developing countries, agriculture provides 50% of the Gross National Product (GNP) and 54% of foreign exchange earnings (URT, 2006). It is estimated that over 80% of Tanzania population live in rural areas and depend on agriculture for their livelihood. Also, Agriculture forms the basis for employment and food supply for the majority of the population in the country. The situation is more or less the same in most of the DCs in sub-Saharan Africa. For example, the contribution of agriculture to the GDP in Ethiopia, Kenya, Malawi, Mozambique, and Uganda was 52%, 20%, 42%, 24% and 42% respectively, and which is far above the overall average of sub-Saharan Africa of 18% (World Bank, 2005). Therefore, it is apparent that improvement in farm incomes of the majority of the rural population is a precondition for the reduction of poverty in Sub-Saharan region whose economic growth depends on agriculture.

The export of agricultural products particularly both the traditional and non-traditional cash crops have been contributing significantly to foreign earnings. Recently, the falling prices of traditional cash crops such as coffee, cotton, sisal, tea, and cashew nuts, and the emergence of world markets for non-traditional cash crops have forced farmers to look for alternatives, hence the emergence of export of fresh fruits and vegetables. The export of fresh fruits and vegetables started in the last decade; and ever since, the production of these crops has kept increasing. This increase could be attributed to an increased demand and high prices of fresh foods in the global market, and which led to the creation of attractive export opportunities. According to Humphrey *et al* (2004) a lot of efforts have been devoted in promoting the production and export of fresh horticultural products by developing countries especially because of an increasing trend for the demand of fresh fruits and vegetables. This trend has influenced the organization of marketing system of horticultural produce, which was mainly dominated by the collection of fresh fruits and vegetables from small and scattered producers into a more integrated marketing system in the developing countries. The former proved to be cumbersome, particularly in the accumulation of amounts to satisfy the demand and quality of the world market.

In respect of the foregoing reasons, it was therefore deemed necessary to try to find the best way of maintaining both the quantity and quality of the produce at a more controlled system; this is what we refer to as value chain governance. The governance had to look at how smallholder producers can satisfy both the local and international markets with different terms of quality standards and quantity demanded. Chain governance becomes necessary particularly in managing customer requirements and global trading process in order to attract the new expanding and evolutionally global fresh fruit and vegetable marketing.

III. THE RELEVANCE OF FRESH FRUITS AND VEGETABLES TO THE ECONOMIES OF DEVELOPING COUNTRIES

For decades, the economies of developing countries including Tanzania have largely been depending on the agricultural sector, which employs the majority of the population. For instance, about 80 percent of Tanzanians depend on agriculture for both household income and food. On the other hand, 40 percent of the country's export comes from agriculture of which fresh fruits and vegetables are some of the components.

FFV has been considered as high value crops, which have quick and high returns to producers. The newly emerging production set-up employs many jobless youths who produce either for themselves or for medium and large scale producers, from whom the youths get employment. Because of this, developing the FFV sub sector has become one of the strategies for reducing income poverty, and which has, consequently, been contributing to the growth of the national economy through taxation. Nutritionally, the FFV sub sector contributes towards good health of the people by providing the body with the protective foods (vitamins). This aspect increases and maintains the quality of the national manpower, which is required to actively participate in the various economic activities.

The penetration of FFV in the world market has however become difficult due to the set stringent conditions on meeting quality standards. The standards for food products were established by the *Codex Alimentarius Commission* under FAO and WHO (2005) to serve as benchmark/guidelines for governments and other institutions when setting their own standards. The codex, though not legally binding, ensure that human food is safe and of good quality. The consequence of the codex rests on the shoulders of the majority smallholder producers who are impliedly required to adhere to the standards for increased exports to the international markets. In addition, the buyers often impose their own quality standards, especially when importation is done from developing countries e.g. through contractual purchase of controlled production. The challenge on the production sides is on how to meet and maintain the quality standards, which, are in some cases, capital intensive. Because of these difficulties, the buyers in the developed countries have tried to minimize the number of participants by reducing the number of players in the chain and control over the system.

III.1 Fresh Fruits and Vegetables Trade in the Past Years

In the past decades, the typical fresh produce marketing transaction were characterized by many shippers selling to many buyers in terminal wholesale markets-a classic case of a perfectly competitive market with many independent transactions at the observable spot market price. There was a great fragmentation on both the selling and the buying sides with large numbers of local and regional retail grocery chains rather than national chains with large number of stores and buying volumes per chain, given the relatively small buying volumes per firm. The seasonality and perishability of fresh fruits and vegetables, and the need for frequent deliveries and physical inspections to verify quality by wholesale markets posed a big challenge to both producers and sellers.

Over the years, however retailers grew in number. Large retailers have become self-distributing, performing wholesaling activities such as purchasing goods directly from suppliers, and arranging for shipment to distribution warehouses. In Tanzania, like in other developing countries, FFV trade was under many small producers who, on individual bases, had to look for markets internationally. This system forced individual producers to strive on their own to win outlet in the world market. However, the system had many big disadvantages particularly on the sustenance of the quantity demanded to

meet the all year round supply. On the buyer's side, it was difficult for them to meet the quality standards demanded by their customers because of the differences in the production conditions from country to country. This resulted from the fact that the production itself was dominated by small producers from different countries. As a consequence, there was a great variation in terms of the quality of the produce. Conclusively, the evolving market called for changes in all fronts and hence changes in the governance of value chain.

III.2 Current FFV Trade and Major FFV Drivers and Trend

III.2.1 Introduction

There is a need to understand the current market structure of FFV in order to compare it with the past structure of trade in FFV and realize the nature of the changes in the governance of the global value chain in FFV. This sub-section presents the recent market structure and interactions between European supermarkets and other agents in FFV with the producers in Sub-Saharan Africa. Next, in this section is the discussion on issues regarding market drivers for the expansion of domestic production and global demand of FFV.

III.2.2 Current FFV trade

More recently, competitive pressure caused by a maturing food industry and new entrants, such as value-oriented retailers in developed countries, where FFVs are marketed, and upscale specialty stores have stimulated the consolidation of conventional grocery retailing channels. In a more consolidated market place with fewer larger buyers, a high share of fresh produce is now sold directly by shippers to retailers, and thus bypassing intermediaries and terminal wholesale markets. In today's shipper/retailer transaction, price may just be one component of a more complicated sales arrangement that might also specify payment of off-invoice fees such as promotional fees, rebates, or other discounts; volume commitments or automatic inventory replenishment provisions; quality and packaging characteristics; and food safety assurances such as the provision of third-party food safety certification.

Although the relative importance of wholesale markets has been declining over several decades, the spot market remained the norm in the fresh produce industry due to potentially large weekly price fluctuations for any given item based on the weather and other shocks. Short-term market clearing prices can vary greatly for perishable commodities where storage potential is generally limited, and whose availability from alternative production regions may either be substantially above or below normal in any given week. Relatively, the inelastic demand may quickly either drive prices below the total costs for the markets to clear (down to the variable cost level) or drive prices 10 times above the norm. However, despite the challenges posed by these conditions to both the buyer and the seller, more buyers are moving to seasonal or annual contracts. This is beneficial to both producers and traders: Producers are assured of the sale of their produce; the traders are expecting to get the quality produce according to the agreed standards.

The current trend of making price contracts or arrangements in advance price is no longer the key element in the daily exchange that has typically taken place between fresh produce buyers and sellers. Both can focus more on understanding their customers, adding value and increase marketing. The trend referred to above has been initiated by new entrants to the grocery retailing industry, such as the value-oriented mass merchandiser, with its super centre format (a grocery store combined with a large, general merchandise discount store).

Whereas in the past retail sales accounted for the bulk of food and fresh produce sales, currently foodservice (hotels, restaurants and institutions) channels account for approximately half the final

value of both fresh produce sold, and the consumer food budget in the developed countries (Cook, 2004). Although the foodservice industry is still quite fragmented compared to the food retailing industry, it is embarking on the same consolidation trend. Further, these larger foodservice firms are also increasingly purchasing directly from shippers based on the producing regions. This trend poses further challenges to wholesale markets since as retailers shift procurement from wholesale markets to shippers, wholesalers focus much more on foodservice accounts. All year-round availability of consistent high quality large volume supplies of fresh produce is now a necessity for both foodservice and retail buyers and also because more shippers are willing to source in diverse regions (domestic and international) to supply them (food service and retail buyers). Many large foodservice buyers are also requesting for contracts from shippers. The incentives to have a contract are even greater for foodservice firms than for retailers since the predictability of ingredient costs is a critical factor for the latter (than it is for the former).

The streamlining of marketing channels poses both challenges and opportunities for horticultural producers. The quality of fresh produce is one of the key differentiation tools used by retailers to gain a greater market share in the increasingly competitive retail food markets. Retailers have greatly expanded both the offerings of their fresh produce and the size of the produce, thus enabling producers to sell more. The intense competition in the retail food markets means that today's buyers are receptive to contracts which are individually negotiated and vary greatly based on seasonal, spatial, and other factors, which affect the expected weekly pricing and the risk for any given commodity. For example, fixed seasonal prices might be used for some items, whereas for other items, which have more stable supplies, annual fixed price contracts may be appropriate. For very risky commodities, seasonal price bands or other variations, with formulas for adjusting price, have been observed. The risk preferences of each party inform the negotiations as well.

The past trade affected not only the producers alone but also the sellers in the global market because of non-uniformity and the collection costs of the produce. In the process of striving to maximize profit and minimize losses, sellers in the developing countries are fighting to reduce/minimize suppliers and intermediaries so that they can increase assurance in terms of quality and the quantity supplied. The reduction of producers means an amalgamation of smallholder producers to form few but capable suppliers for a timely shipping of the produce to the world market. In future, this would mean to have few big suppliers who can control the production system to insure both quality and steady supply.

Most of the non-traditional crops in Africa are produced for export to the European market. During the 1990s, imports of fresh fruits and vegetables by the European Union (EU) countries have surpassed all the other non-traditional crops for export, by the volume in which the crops were exported from Africa to Europe (Watts 1994). A number of African countries have taken advantage of this opportunity by diversifying their agriculture into the production of crops desired by the EU. South Africa, Cote d'Ivoire, and Kenya are the leaders in the export of non-traditional crops, whereas Zambia and Zimbabwe have achieved a rapid growth in the export of similar crops just recently.

The growth of Egyptian export of fresh vegetables has also been impressive. In 1994, African nations supplied 92% of the EU imports of green beans from non-EU countries. In this respect, Kenya, which was the largest supplier, accounted for 29% of these imports, followed by Egypt (24%), Morocco (13%), Senegal (7%), Burkina Faso (7%), and Ethiopia (5%) (Tropical Produce Marketing News, 1996). The export of fresh vegetables from sub-Saharan Africa to the European Union climbed by 150% between 1989 and 1997 (Eurostat 1998a,b). However these statistics should be interpreted by considering the time limitation and the production and trade dynamics.

Vegetables commonly exported from Africa include asparagus, snow peas, and fine beans, round beans, baby carrots, baby corn, hard-shell garden peas, and Brussels sprouts. Others include, broccoli, chillies, and globe artichoke. On the other hand, the bulk of the fruits export comprises avocado, mango, passion fruit, and pineapple, just to mention a few. Additionally, considerable

amounts of Asian vegetables are imported into the United Kingdom from Kenya. Also, recently, African countries have started shipping roses and some other flowers to the EU.

Several reasons have been advanced for the boom in horticultural export from Africa (Jaffee, 1995; Barrett *et al.*, 1997; Dixie, 1999; Malter *et al.*, 1999). One reason is to do with trade agreements such as the Cotonou; such agreements give preferential treatment to African exports in the European market. Another reason relates to the fact that African governments have recently engaged in the privatization of public enterprises, enacted less restrictive business laws, and provided incentives for the export trade. Furthermore, international corporations have tied up with African counterparts and transferred technology, provided logistics, and created market identity and penetration for African products. Additionally, several African countries have formed regional economic groups combining business activities, technical know-how, market information, and technical manpower to increase their competitiveness.

The competition for export to Europe may increase in the future as more African countries enter the market. Trade liberalization policy adopted by the EU will also bring countries from outside Africa into competition after 2008 when the Lome non-reciprocal preferences will be replaced by free trade agreements (FTA) at the beginning of 2008 (Stevens and Kennan, 2000). Fresh produce consumption in Europe is expected to grow at a relatively slow pace because of limited population growth and the current high level of consumption. The consumers, on the other hand, will increasingly be looking for more variety and hazard free (organic) produce. The products with quality characteristics such as fresh appearance, eating quality, little waste, and positive health effects will be in demand (Smits, 1989).

III.2.3 Major growth drivers and trends in FFV

The major drivers for the growth of high value agricultural products for the past decades have been: urbanization, change in dietary preferences, increased awareness about the health benefits of FFV, and general income growth in some countries. For the export market, the key drivers seem to be the increase in Foreign Direct Investments (FDI) following market liberalization, increased competitive pressure, and escalating production cost in the industrial countries. In addition, there are signs of a “quiet consumer revolution” (Temu and Temu, 2005); i.e. the tendency for the consumer to continuously demand more from the supplier; for example, the demand for a continuous supply of fresh fruits and vegetables throughout the year, forcing supermarkets and larger retailer chains to source from multiple producing countries. In doing so, such market agents exploit the opportunities provided by differences in the climate and growing seasons around the world. Stiff competition between few large supermarket chains in developed world, due to small margins, have forced the chains to look for cheaper sources elsewhere (Dolan, Humphrey, Harris-Pascal, 1999).

- ***Rural-Urban population growth and FFV markets***

For domestic market in SSA, urbanization is one of the strongest drivers of the development process of FFV coupled with an increase in cash income and higher dependence on the market as a source for food rather than subsistence. In addition, urban people happen to be more informed, have more access to information, and are better educated than rural dwellers. Access to information and education has raised awareness about health benefits of high value products including FFV; this has led to a change of dietary preference. As Temu and Temu, (2005) point out, the increase in the number of better-informed consumers in the market has generated enough pressure for a change in the production of High Value Agricultural Products (HVAPs) in the sub-Saharan Region. South Eastern Africa countries showed a clear contrasting population growth trend between rural and urban areas. For example, during 1980 and 2000, the trend of population growth showed a decline in rural population and an increase in urban population. This observation is not only explained by high rural-urban migration but also by the difference in fertility and mortality patterns between the rural and the urban areas.

- **Exports drivers**

There are many factors that influence the growth of FFV production in the developing countries vis-à-vis the developed countries. Such factors comprise one of the key players in the FFV value chain. The factors include, agro-ecological and agricultural labour difference, social capital and market links, policy changes and growth of the European market, foreign direct investments, and spin offs from and inter-linkages with other developing sectors. Each of these factors is discussed below.

(a) Agro-ecological and agricultural Labour difference

According to Temu and Temu (2005) the differences in climatic patterns, agro-ecologies and agricultural labour between Europe and Sub Saharan countries and other tropical countries have acted as one of the major driver for fresh fruits and vegetables exports. Sub-Saharan and other African countries have taken the opportunities presented by the differing agro-ecologies of Africa from that of Europe to supply the latter with the fresh fruit and vegetables. Most of the developed countries including Europe are characterized by temperate climatic zone, where the cropping is limited to seasonality especially during summer. Sub-Saharan Africa is typically tropical in climate; this ensures the region a comparative advantage of producing and supplying out-of-season fresh fruits and vegetables to the European market. In addition, such off-season demand helps to ensure that the prices are lucrative. It is important to note that the high altitudes of regions like Ethiopia, Kenya and Uganda have suitable climates for crops requiring low temperature.

Apart from agro-ecologies difference, another factor, which drives the direction of export of fresh fruits and vegetables from Sub-Saharan African to Europe, is the difference in agricultural labour cost. To employ agricultural labour is far cheaper in Sub-Saharan Africa than it is in Europe; this renders the produce of FFV from sub-Saharan cheaper. According to Singh (2002) greenhouse heating the labour costs, coupled with pricing pressure in an increasing global economy, have made tropical countries a favoured alternative for producing greenhouse crops. This has made an important milestone in the global demand for FFV from SSA.

(b) Social Capital and market links

Sub-Saharan countries export vegetables to various countries in Europe. The existing market linkages including those of traditional exports, between Europe and Sub-Saharan countries, have facilitated more entry points for the exports of more horticultural produce and other high value products like spices. According to the pattern of trade of FFV, and other HVP from SSA to Europe, Kenya and South Africa are shown to be the dominant players of the trade, accounting to more than 60% of the trade volume of vegetable export to Europe from SSA in 2003 (See Figure 1 below).

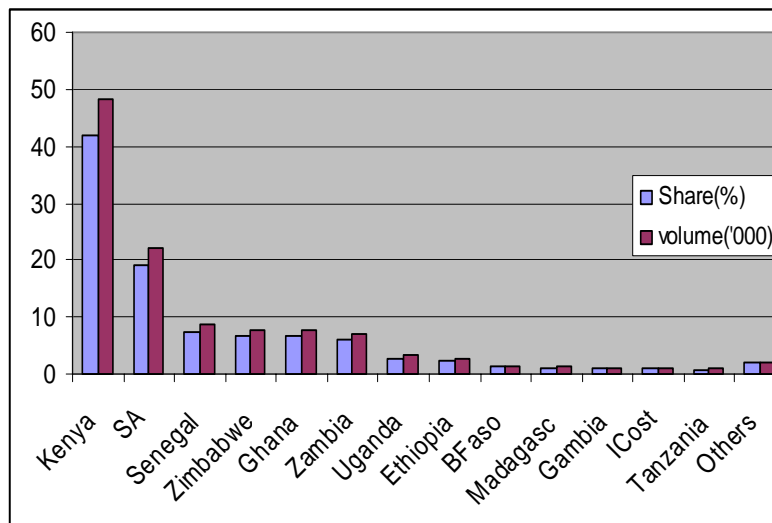


Figure 1. The SSA vegetables export to EU in 2003

Source: Original data extracted from IFT, 2005

Key: SA –South Africa; BFaso-Burkina Faso; Madagasc-Madagascar; ICost –Ivory Cost

These statistics may be linked to the importance of long-term market linkages and social capital built over time between exporters and importers of not-traditional crops, as exemplified by large shares of Kenya and South Africa's Exports in some niche markets. Exporters and importers work closely together to ensure quality and reliable production. Within SSA, there is limited formal trade on vegetables and fruits. However, there is an informal unrecorded cross-border trade between neighbouring countries. For example, in 2004, customs authorities recorded 7,000 tons of onions, tomatoes, potatoes, and oranges worth US\$424,000 of exports from Tanzania to Kenya (IFT, 2005). This is believed to be an underestimate of the actual trade. Records on "within the region" export values of horticultural produce are highly limited and mostly depend on conservative estimates of consultants or government officials because of increased informal trade.

(c) Policy Changes and growth of the European Market

Changes in international trade and policies, in some countries, have also played a role in the growth of exports from SSA to Europe. The Lome trade agreements and other similar arrangements provide preferential treatment to exports from Africa to the North. SSA countries have also enjoyed a new technology because of the international co-operation forged between African countries and collaborating countries in the North by international corporations, or through Regional co-operation such as East African community (EAC), Southern Africa Development Community (SADC) and COMESA.

Apart from Regional and National policies, individual firm/corporate policies have also influenced the growth of FFV sector in SSA. Currently, most of the supermarkets and large retailers in the European markets are concentrating their efforts on their core retailing activities and on looking for alternative ways to reduce the risk by distributing the risk of procurement, processing, and quality sustenance to other actors in the chain. Much of such responsibilities plus storage, distribution, etc have been pushed up the chain, implying that now the global value chain has become even more complex and sophisticated with a special form of vertical integration without full ownership of some of the components in the chain.

Such changes have made the SSA to use the relational strategy with the European importers in managing substantial investment in value added activities. Being capable of producing large volumes and willing to sell at the agreed price, African producers are becoming more attractive to many European supermarkets (Temu & Temu, 2005). The fact that SSA's imports of HVAPs, including fish and fishery products, to the EU is less than 8% of European imports in volume, suggests that this sector has a tremendous potential for growth. However as has been pointed out earlier, and which is to be followed by further discussion later, the challenges are in different policies related to health and sanitary, and environmental condition such as those posed by European Union plus other individual or group based policies like EUREPGAP.

(d) Foreign direct investments

Economic liberalization that begun in the early 1990s influenced SSA countries in opening their markets; and this has been encouraging foreign investments (Temu and Temu 2005) in a broad range of sectors including agriculture. (Temu and Temu 2005) argue further that

liberalization of SSA economies has also provided a private sector with a conducive environment to spur investment in horticultural products. Policy environment in SSA are no longer exclusively favouring parastatals; laws governing business are now less restrictive; taxation regimes have been reformed and tax rates have been rationalized with a reduction in export taxes. In response, foreign investors have selectively invested in specific niches including cut flowers and other high value fresh fruits and vegetables. Currently, investor countries are using supermarkets in the destination countries as outlets for their food and consumption goods. Although FDIs seem to be less of a driver of domestic agricultural economies, they have placed a considerable pressure on the local participants in the horticultural market chains in the region. There are however, frequent concerns regarding the manner in which poor farmers and traders can effectively participate in retail chain, especially since such investors are introducing a new operation mechanism. This presents a particular challenge to rural development.

(e) Spin offs from and inter-linkages with Other Developing Sectors

Development in one sector could yield developmental spill over effects to another sector: Minot and Ngigi (2004) provide an example of such a phenomenon. In this regard, a relationship is drawn between the development of tourism industry in Africa and the growth of horticultural produce in Kenya and other neighbouring countries such as Tanzania and Uganda. In the first place, tourism increased the access of and reduced airfreight to Europe in 1980; Kenya used to receive 372,000 international tourists per year; this was more than any other African country could achieve except South Africa, which is in the lead. Because fresh produce depends generally on airfreight, and because low volumes would not justify hiring a charter for agricultural produce, a lucrative alternative was to use cargo capacity passenger jets. Later, as volume rose, more use was made of cargo airfreights. In a different dimension, tourism increased local demand of high quality fruits and vegetables by hotel restaurants. This has given Kenyan farmers more experience in the production of horticultural produce that meets export standards.

IV. WHAT SHOULD BE DONE BY PRODUCERS IN LDCs?

In order to meet the global market demand, smallholder producers in the developing countries need to join and develop partnership to form producers associations that can have a say in the market. In so doing, small producers will be coordinated at one point, and this will, in turn, motivate local quality control because all other small producers will be under one umbrella. Consequently, the producers will be able to maintain the supply chain in a well coordinated marketing system, because they will all be inspected locally, and will be urged to have a steady supply in terms of quantity with common assemblage points before the produce is exported. The system should be organized such that every member is kept well informed about the marketing trend of the FFV market internationally so that they can be able to adjust in time whatever needs to be adjusted and according to the needs.

Product innovation, “partnering” (improved vertical coordination) of supermarkets with key suppliers by offering those specialized services are likely to yield improved and quality products. On the other hand, they (small producers) should try to keep abreast with the recent advancement in production and be more technology-intensive and service-oriented in order to meet the increasing needs and demands of specific, large retail (and foodservice) accounts. In short, the recent trend in the FFV industry is such that the industry has been far removed from a commodity (undifferentiated) marketing approach where suppliers have been offering the same product to buyers on an untailed spot market basis. Today, buyers increasingly seek to concentrate their purchases to a few numbers of larger preferred suppliers with whom they (buyers) can form partnership on a systematic year-round basis, understand their specific needs, and contribute to mutual growth. This means that suppliers must diversify their own sources of supply and act more as sourcing agents for retailers and other buyers; and this would mean increasing both the potential risks and the rewards. The stakes are high for shippers as they attempt to transform themselves from seasonal, commodity, producer-driven entities into more market-oriented suppliers.

In the developing economies of Asia, Latin America, and elsewhere, supermarket chains are rapidly capturing a growing share of the consumer’s food budget and are competing effectively with the traditional fresh produce marketing channels (Cook, 2004). Over the next decade, the dynamic evolution of supermarkets (and lagging but emerging foodservice channels) may induce more direct linkages between suppliers and customers, and may later erode the dominant role of traditional wholesalers and wet markets, following the trend occurring in the latter half of the 20th century in the U.S. and Europe. The transformation in the international trade of FFV shows that FFV’s products will be handled by fewer, but larger firms. Thus, horticultural producers everywhere must develop linkages with larger marketing entities upstream in the marketing system.

IV.1 Market Structure of FFV

The traditional market structure, which has not yet been phased out completely consists of many participants ranging from producers in the developing countries to intermediaries who have to sell to exporters in the developing countries. From the producers in the developing countries, when the FFV reach the global market they land onto the hands of the brokers who sell the products to the supermarkets which ultimately sell the products to the consumers. The effect of this chain is twofold: on the one hand, there is the reduction of profit margin for the retailers as well as the reduction of the price for the producers in the developing countries. On the other hand, the chain causes a lot of deterioration of the quality of FFV products.

Global commerce in agricultural commodities fits into the buyer driven model. The commodity chain for international fresh fruit and vegetable trade is made of retailers, importers, exporters, and

growers (Dolan *et al.*, 1999; Dolan and Humphrey, 2000). However the inconvenience and the inefficiency stated above have led to the explicit coordinated global value chains, which trade most of the produce in the recent global market.

IV.1.1 Retailers

There are two main retail outlets for fresh produce in the European market: first, traditional greengrocers and vegetable markets, and secondly, supermarkets and major retail chains (multiples). The market shares of traditional outlets have steadily declined and the major portion of fruits and vegetables is now sold through multiples. They (multiples) account for 90% of fresh vegetable sales in Sweden (Smits, 1989) and 76% of fresh fruit and vegetable sales in the United Kingdom (Dolan *et al.*, 1999). Traditional retailers purchase their stock from the wholesale market. Wholesalers also supply fresh cut flowers to individually owned flower shops. Wholesalers, in turn, source their inventory from domestic suppliers and importers. Since multiples are chain operations that deal with large volumes, they bypass the wholesalers and deal directly with the suppliers and importers in the developing countries.

The functions of multiples¹ in the supply chain are as follows: first, to make produce available for consumer use; secondly, to advertise the product aiming at increasing the sales; third, to supply value added products; fourth, to keep track of consumer preference; fifth, to monitor suppliers; and sixth, to set the retail price for fresh produce based on the supply and demand factors and market competition.

Supermarkets employ various strategies to draw customer attention to fresh produce. Fresh fruits and vegetables are placed unpackaged on the shelf and customers are allowed to self-serve. This gives customers satisfaction that they purchase the best quality produce; and the items finally left on the shelves by customers help the stores to judge the quality and standards of their supply source. Multiples try to maintain consistently the quality of fruits and vegetables throughout the growing season so that customers know what to expect. They make sure that shelves are stocked at all times because shoppers switch stores if products are not available at the time of shopping. Retailers are increasingly giving more shelf space and nudge customers toward fresh value added products that command higher profit margins. Vegetables are washed, chopped, and mixed so that they are ready-to-use as salads or stir-fry. Different fruits are also washed, peeled, and mixed into ready-to-eat packages. Buyers have responded favourably to this promotion because it fits well into their busy life style. Supermarkets have also been increasing the number of fruits and vegetables offered to meet a consumer demand for variety.

To comply with the existing food safety legislation in European countries, retailers have developed systems that trace products from the field to the supermarket shelf (Marsden and Wrigley 1996). Since retailers are often held responsible directly or through consumer and non-government organizations for labour and environment standards in the supply chain, they also monitor their suppliers' compliance with these standards in these areas. Multiples invest heavily in the development of supply chain to identify and retain suppliers who repeatedly deliver contracted produce of high quality in a timely manner.

IV.1.2 Importers

The procurement of fresh fruits and vegetables by the EU from Africa is handled through importers. Once multiples and wholesalers decide on the items, quantity and delivery schedule of imports and procurement orders are placed with the appropriate importers. The European importers, in turn, contact Africa based exporters to source produce on the ordered schedule. Importers obtain produce

¹ Multiples means supermarkets and major retails chains

from a number of countries based on the growing season for crops in different countries. At a particular time of the year, however, shipment comes from only one or two countries; a good example of this is the Kenyan exporters who buy fresh fruits and vegetables from Tanzania (especially from Arusha, Tanga and Kilimanjaro), then they later export them as a unit consignment. Importers share the responsibility of enforcement of standards established by the retailers. For this purpose, they (importers) visit African suppliers several times during the year. Some importers have permanent staff in Africa to ensure compliance and provide technical assistance to African exporters. Also, a number of importers have equity stakes in African export companies.

IV.1.3 Exporters

Until the early 1990s, importers used to buy produce from a range of exporters based on the availability and price. However, as multiples became the prime outlet for imported fresh fruits and vegetables, the volume of import surged, and the preference shifted in favour of large exporters. These were perceived as more dependable in their ability to supply year-round bulk volume of superior quality produce.

Exporters are not just shippers of produce but they are also the primary party in Africa, responsible for meeting the supply chain requirements set by retailers. These firms need the following: capability to work closely with European importers, an organized system to deal with growers to meet volume and quality requirements, capital to invest in transportation and post harvest facilities, ability to benefit from governmental incentives, and connections to bypass bureaucratic hurdles. As a result, only a few large firms within each country succeed in this venture.

Exporters work with growers from planting to harvest to ensure the production of high quality produce and to be in compliance with the European standards of food safety and labour practices. In some occasions, they (exporters) provide training to farmers in safety, labour law, and quality management. To comply with “due diligence” requirement of European law, exporters also oversee the use of chemicals on produce grown for export.

Fruits and vegetables are perishable commodities. The freshness of the produce on the retail shelf, to a great extent, depends on how it is handled after harvest. Field heat of the harvested crop has to be removed as soon as possible and the surface washed and disinfected to prevent bacterial and fungal damage. To this end, products need to be placed in the shade immediately after harvest, transported in refrigerated trucks to packing facilities, cooled, washed with chlorinated water, graded, and packed under controlled humidity and temperature. Facilities for post harvest handling including cold storage chambers require considerable investment. However, not many growers have capital or expertise to undertake post harvest processing. Therefore, specialized processors or exporters themselves assume this function.

Multiples are increasingly focusing on activities that add value to their products (Boehlje *et al.* 1998) and at the same time pushing product processing to the source of supply. Adding value to fresh vegetables and fruits is labour intensive and can be carried out more economically in Africa because of the availability of cheap labour. Shipment cost of processed products is also lower because of high value-to-weight ratio. Processors and exporters are happy to assume the added task because of high profitability in the added value produce processing. However, constructing, maintaining, and operating facilities for processing, packaging, and bar coding of ready-prepared vegetables, fruits, and salads require a great deal of capital investment. These facilities also must comply with stricter hygiene regulations.

Flexibility and reliability of supply is essential for large-scale retail operations. Multiples do not like to keep a large inventory of perishable products, but at the same time want to be sure that store shelves are full at all times. It is only possible if stocks of product are kept in the supply chain and the movement of products from farm to supermarkets is expeditious. Essentially, under this supply

management scheme, retailers transfer inventory control to exporters who must establish proper control systems and bear related costs (Hughes, 1999). Thus, logistics become a core competence needed by exporters; furthermore they must invest in computerized supply chain management with proper hardware and software to track sales, orders, storage, delivery, transport, billing, and receipt.

Exporters are also expected to participate in the promotional activities of the supermarkets. The standard promotion mode of advertising fresh fruits and vegetables is to lower the on-shelf price of certain commodities for a short duration or give away extra produce at no additional cost (Chetwood, 1997). Thus, exporters must have the cash flow to withstand temporary losses in the hope of future gains.

Most fresh produce is shipped via air to ensure fast and reliable delivery. Exporters, at present, are facing major hurdles to their trade due to limited air cargo space and high airfreight cost from Africa to European destinations (Barrett *et al.* 1997). To ease this problem, many exporters are entering into joint ventures with freight forwarding companies, which enable them to consolidate their shipments with other cargo and take advantage of reduced airfreight rates for large volumes.

IV.1.4 Growers

Entities producing export commodities can be grouped into three types: first, exporter owned or leased farms; secondly, large commercial farms, and third, small farms. In the beginning of the fresh produce export from Africa, most of the crops were grown on small farms. In 1992, approximately 75% of fruits and vegetables for export from Kenya were produced by smallholders (Harris, 1992). African fresh produce was in demand only during the season they could not be grown in Europe. Gradually, Europeans expanded procurement year-round and increased the variety of fruits and vegetables purchased. The volume requirement thus skyrocketed and drew commercial farms and export firms into the cultivation of fruits and vegetables. By 1998, four of the largest exporters in Kenya were sourcing only 18% of their produce from small farms, while 42% came from large commercial farms, and 40% came from exporter owned or leased land (Dolan and Humphrey, 2000).

Exporter Owned or Leased Farms: To increase the profit margin, exporters have gotten into on-farm crop production (Janick and Whipkey, 2002). In this way, they gain control of all operations on the export side of the supply chain. It also makes harvesting to value added processing an integrated operation; and that oversight on labour laws, pesticide regulations, and safety compliance is easier. Growing crops on their own farms guarantees continuity of supply and reduces the risk of losing suppliers due to competition.

Large Commercial Farms: Large exporters prefer dealing with commercial farms because they can supply different products, meet large volume requirement for export transactions and can manage the products professionally. It is also not very difficult for large exporters to monitor commercial farms' compliance with various regulations. However, as the number of exporters kept on shrinking, the number of commercial farms growing fresh produce kept on growing (Janick and Whipkey, 2002).

Small Farms: According to Janick and Whipkey (2002) the number of small farms producing crops for export has been steadily declining. Exporters find it more convenient to deal with a few large commercial farms than it is with many smallholders. Variations in crop quality due to non-uniform agronomic practices from farm to farm, logistic problems of overseeing compliance with pesticide use, child labour, worker safety regulations, and difficulty of communicating with large number of growers make small growers less attractive to exporters.

In several African countries, foreign and domestic non-governmental agencies and governments have set up projects to bring more smallholders into export oriented crop production. But in order to enable small farmers to make prudent decisions, they should be given all the facts about the benefits and risks of export crop enterprises including: first, average income in good growing seasons and the amount of loss from crop failure; secondly, market price variability over time; third, marketing institutions and

their weaknesses and strengths; fourth, higher input requirements and the need for credit; and fifth, special production skills and quality control requirements.

Labour intensive crops that require staking and picking of individual pods are suitable for production by small growers. While large farms have to hire outside labour and supervise them, small farmers use family labour, which is both low cost, and self-supervisory (Collins, 1995). Smallholders also compete favourably in organic crop production in terms of labour cost, but not so much in terms of marketing and other requirements such as reliable and year round supply, all of which seem to be a big hurdle to them. For smallholder operations to be successful, it is essential to have an adequate number of willing growers in close proximity that can facilitate the formation of larger production unit to enable them to enjoy economies of scale. Farms should be located in areas with good road and transportation systems. Otherwise it becomes uneconomical to collect produce from different farms and set up post-harvest processing centres.

IV.2 Changes in the Governance of FFV Value Chain

In the recent decades, there have been major changes in the governance of global value chain from the traditional one, which was market based, to more sophisticated forms including hierarchy on the extreme end. With the latter, the governance form is usually driven by the need to exchange tacit knowledge between value chain activities and the need to effectively manage complex webs of inputs and outputs and to control resources, especially intellectual property. It is more of a special form of vertical integration. In between, there is a continuum modular, relational and captive based global value chain (Gerrefi, *et al*, 2005). Recent publications from “Global value chain initiative” and studies from a range of disciplines show that the value chains, whereby the activities are distributed among multiple firms and spread across wide swaths of geographic space, have become much more prevalent and elaborate at the tail end of the 20th century. While many firms have had international operations and trading relationships for decades, and a few of them have had this for more than a century, in recent years, we have seen the formation of global-scale economic systems which are tightly integrated and often managed on a day-to-day basis.

Due to the ongoing process of trade liberalization and globalization, the process of economic development cannot be isolated from these global systems. This means that in widely separated locations, firms and workers affect one another more in the present than they had been in the past. Some of these effects are quite straightforward, including such cases as when a firm from one country establishes a new factory or engineering center in another country, and some of which are even more complex; or as when a firm in one country contracts out a firm in another country to coordinate production in plants owned by yet another firm in a third country, and so on and so forth. A typical example in the FFV is the recent trend whereby the supermarkets in Europe, especially the UK, contract out some selected major exporter of FFV from developing countries like Kenya to supply them with FFV on condition of compliance with the specified standards and other set environmental and labour conditions imposed by the supermarkets and other private and national/regional agencies like EUREPGAP.

In its basic form, the Global value chain implies a full range of activities that are required to bring a product from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer. The activities that comprise a value chain can be contained within a single firm or distributed among different firms. Value chain activities can be contained within a single geographical location or spread over wider areas (www.ids.ac.uk). Thus when we talk about the changes in the global value chain we refer to the change in the way these activities are coordinated, and where possible owned by different players in the entire business network of FFV.

In the paper entitled *Governance in Global Value Chains: An Analytic Framework*, major changes and pattern of the global governance, GVC Initiative presents a detailed discussion on the five major patterns changes in the global value chain. These are: Markets based GVC governance, Modular based, Relational based, Captive based, and Hierarchy based GVC governance. The detailed informations are available in Gereffi *et al*, (2005) and governance of the global value chain (www.ids.ack.uk).

IV.3 Changes of FFV Global Value Chain Governance, Kenyan Case Study

Markets are the simplest form of GVC governance. GVCs governed by markets contain firms and individuals that buy and sell products to one another with little interaction beyond exchanging goods and services for money. The central governance mechanism is the price. Market linkages do not have to be completely transitory, as is typical of spot markets; they often persist over time, with repeat transactions. The essential point is that the degree of transactional dependence (i.e. the costs of switching to new partners) is low for both parties. The linkages between value chain activities are not very "thick" because the information that needs to be exchanged and knowledge that needs to be shared is relatively straightforward. This approach dominated the trading of FFV by Africa countries for the European market in 1960s, as is demonstrated by Kenya's experience. In the late 1960s, 90% of the FFV produce in Kenya was traded by the wholesale market in the UK, and thus linking dispersed producers with small retailers, greengrocers and market stalls (Gray and Kleih, 1997). When Kenya started selling vegetables and off-season temperate vegetables in the UK during early 1970s, these products too, were sold through wholesale markets.

During this era, the majority of exporters purchased vegetables through spot markets in the rural areas (Harris, 1992; Dijkstra, 1997). The fact that many of these businesses operated for a short period of time and with limited capital, buying produce when margins were good and withdrawing when conditions were difficult, reinforces the point that barriers to entry were low. Barriers to entry were also low to producers, and by the early 1980s the participation of smallholders in fresh vegetable production had increased markedly. Whereas the majority of Kenya's fresh produce exports during the mid-1970s came from 150-200 medium-or large-scale farms, by the mid-1980s there were an estimated 15,000 smallholders involved in the trade-growing French beans, Asian vegetables and fruits (Jaffee, 1995: 347, 352-53).

Many smallholders are now entering into contracts with exporters who provide them with inputs and technical assistance, but a larger number of smallholders sell their products through intermediaries such as brokers or middlemen. Smallholder production of horticultural crops continued throughout the 1980s with close to 75% of fruits and vegetables in Kenya still grown by smallholders in the early 1990s (Harris, 1992). This system served Kenya well. In 1989, Kenya accounted for over 30% of all EU imports of legumes and "other vegetables", and the trade was worth Euros 31 million. When the UK supermarkets first entered the fresh vegetables trade, they too purchased products from the wholesale markets, employing wholesale agents working on a commission basis. However, this posed certain constraints on the supermarkets. The mixing of produce by exporters and importers meant that the supermarkets had little or no precise information about the products' origin; and also they could not exercise any control over how the products were produced. Further, the supermarkets could only purchase standardized products, having no control over the type or quality of the product in the wholesale markets. Finally, the production could not be scheduled in advance. Each retailer competed for the same pool of produce when it reaches the UK.

According to one of the former supermarket buyers, as recently as the late 1980s, supplies for product promotions would be secured by a team of buyers arriving simultaneously at the main London wholesale market, Covent Garden, and buying as much produce as possible from the various wholesalers in cash. If they could not buy all they needed at once, their increased demand would quickly raise prices. The system of fragmented production and export, combined with the wholesale

market distribution channel, provided flexibility, but it also meant that the UK supermarkets were unable to specify the product, process or logistical parameters along the chain. This began to change as the UK supermarkets began to reorganize the supply channels.

The recognition of the supply channels by the supermarkets in the UK and other European countries drastically influenced and induced a lot of changes in the Global value chain governance; and hence the shift from market based to GVC governance to other sophisticated governance systems, which accord the supermarkets a higher degree. One recent publication (i.e. Dolan *et al.*, 2004), reports the continued growth of fresh fruits and vegetables. In the 1990s, specifically between 1989 and 1997, exports from sub-Saharan Africa to the EU grew by 151%. Kenya remained the dominant supplier, accounting for 56% of all vegetable exports from sub-Saharan Africa. However, during this period, the fresh vegetables value chain was totally transformed. This transformation stemmed from several factors. Firstly, the UK multiple stores (supermarkets and major retail chains) greatly increased their share of total fresh fruit and vegetables sales, from 44% in 1992 to 76% in 1997, the highest level in the EU (Nagarajan *et al.*, 1994). Secondly, the supermarkets bypassed the wholesale markets and worked directly with the UK importers, delegating lower-profit functions such as quality control, monitoring, and distribution to their suppliers (Marsden and Wrigley, 1996). Thirdly, there was a marked shift away from standardized, loose product to greater product variety, product innovation and increased packaging and processing. Fourthly, traceability was established along the chain and monitoring and audit regimes put in place. The major driving forces behind this change can be attributed to, firstly, improved efficiency and cost reduction by the supermarkets and other major sellers in Europe; and secondly, increased ownership and control of the process to ensure the reliable and consistent supply of quality and standardized horticultural produce. More details on the theoretical and evolution of global value chain governance can be found in the paper on the governance of global value chain by Gereffi *et al.*, (2005).

IV.4 The Effect of Changes in FFV Global Value Chain Governance

From the competition viewpoint, the effects of changes in the global value chain governance on fresh fruits and vegetables have drastically transformed both competition and market structures of the fresh fruits and vegetables in sub Saharan Africa. Before the change in FFV global value chain governance, the wholesalers and exporters were competing for fresh fruits and vegetables in the spot market in the producing countries (for this case sub Saharan Africa). All of them were rivaling in their effort of buying enough produce for the export. This had a positive significant effect on the accrued profit margin for poor producers, allowing them to enjoy a considerable amount of the proportion of the rent distribution in the global value chains. On the side of developed countries, supermarkets, greengrocers and other large retailers were competing on the open auction market of fresh fruits and vegetables by using agents. These have been trying to rival and, some-times, raising the price to make sure that they get enough produce to carter for their customers. This market structure created conducive environment for the wholesalers and large exporters to appropriate significant portion of the rents distributions from FFV and enjoy high profit margin.

Thus, in this approach, whole sellers in the developed countries, small farmers and larger farmers in the Sub Saharan countries were enjoying direct benefits and more power in controlling the FFV trade. But supermarkets and large retailers in the developed countries were vulnerable and had to take what the market offers (design taker). Also, the profit margin of these supermarkets and large retailers were highly dependent on the competition on the wholesale market and on the willingness of the customers to pay high prices for the produce.

IV.5 Opportunities and Challenges of FFV Sector in Sub-Saharan Africa

In summary, the fresh fruits and vegetables sector in Sub-Saharan Africa has poised a lot of opportunities for smallholder, medium size, and large farmers. Some of these opportunities, and which have been mentioned earlier, include the difference in agro-ecological zones which favour SSA in having a competitive advantage to produce and supply off season agricultural produce to European market; and consumers' increased awareness on the nutritional value of FFV. However, there are also a number of challenges that face producers in SSA with regard to the production and marketing of FFV. This subsection is dedicated to opportunities and challenges facing the FFV sector in SSA.

IV.5.1 Challenges facing SSA in horticultural Exports to Europe

Exporters of FFV from Sub Saharan Africa, particularly small-sized and medium-sized enterprises, face a number of constraints that either affect their ability to be competitive in the European markets, or act as barriers to entry facing newly formed companies. These constraints are common to exporters in most developing countries, and several of them are particularly serious in Africa. Most of the findings come from the technical paper on innovative approach to agribusiness development in Sub-Saharan Africa by Maxwell *et al* (1997).

(i) Exclusion of the smallholder farmers by the current GVC

The current global value chain for fresh fruits and vegetables has drastically changed from arm length market relationship to explicit coordination through vertical coordination (vertical integration). This has led to reducing the number of players in the value chain, which implies that most of the rent will be distributed to the supermarket owners and African exporters. But unfortunately, due to stringent conditions set by the supermarkets and the implied cost for coordination and monitoring of produce from smallholder farmers, there is an increasing trend in the exclusion of smallholder farmers in the value chain and more inclusion of the medium and large African farmers and exporters. Although, the latter groups form a small portion, population-wise, they handle more than 70% of FFV trade. This is a very big challenge for smallholder farmers, policy makers, and governments of the respective countries. It leaves some questions unanswered as to whether the current value chain governance and the value chain configurations for horticultural produce have the potential to reduce poverty in developing countries.

(ii) High Transaction Costs

There is a high transaction cost associated with the production and marketing of horticultural produce in the international market. For the exporter, these costs are associated with obtaining reliable information on market conditions and opportunities in the importing country; determining the financial status of buyers and agents in distant foreign markets; and lack of face-to-face contact with buyers, leading to extended bargains over prices, quality, delivery times, and resolution of disputes. The importers may also incur transaction costs associated with dealing with suppliers at a long range, their failure to meet delivery schedules, and their difficulty in meeting product specifications, thus making it necessary to re-sort and re-grade produce on arrival. Some successful African exporters, particularly those of Asian and Lebanese ethnicity, deal with this problem by establishing family-owned trading companies in the importing country (Maxwell *et al*, 1997).

The recent changes of the GVC for the buyers, to demand quality, a reliable and consistent supply of fresh fruits and vegetables directly implies that, for the farmer or an enterprise to get entry into the market and be able to maintain its status needs to meet at least the minimum cost requirement whose threshold is, most of the time, relatively high for smallholder farmers to afford.

(iii) Costly Access to Market and Technical Information

Access to market and technical information on a regular and sustained basis requires investments that may be beyond the means of small enterprises. Modern telecommunications offer many advantages to the small trader but require investments in computers, phone and fax equipment; and training of personnel in identifying, accessing, and interpreting the available data in order to fully benefit from market information systems. If a horticultural exporter is unwilling or unable to subscribe to a service that provides detailed import volume and price data for major terminal markets, she/he may rely upon a representative or a trading partner in one or more terminal markets. This can also be costly, and the reliability of the data may be questionable. The most effective market intelligence is obtained through the actual visits to the wholesale markets, supermarkets, and shops selling fruits and vegetables, and importers in foreign markets. However, this form of market Research is very costly. Most of the SSA small and medium producers are in the outskirts of the big cities where commonly there are no modern communication infrastructures; and facilities like Internet, fax, computers and sometime even electricity are a problem. However, with the current trend of mushrooming of mobile and cellular phone service providers, it is common for these farmers to be reachable by phone, but this is not always reasonably cheap. This poses a big challenge to small and medium producers of fresh fruits and vegetables in SSA.

The situation described above has dangers of resulting into information asymmetry, whereby few exporters have a lot of information about the current market situation and prices whereas smallholder producers know little about. This poses a potential threat of opportunistic behaviours among the exporters to exploit the smallholder producers by paying them very low prices for their products.

(iv) Private-sector standards

Private-sector standards such as EurepGAP appear to contribute to the exclusion of weaker players (i.e. countries with low volumes of FFV exports and smallholder producers) from value chains even in the developing countries where infrastructure and services operate efficiently and reliably. This may have significant impacts on poverty because the smallholder supply base has strong links with rural development in developing countries (COLEACP, 2007). A recent Natural Resources Institute (NRI)/International Institute for Environment and Development (IIED) study found out that in Kenya in 2006 there were 60 per cent fewer smallholders (less than 1 ha) exporting products to the United Kingdom than was the case in 2002 (Graffham and Vorley, 2005). The situation, which was found in Kenya, can be generalized to most SSA because of the similarities in the production and resource characteristics of smallholder producers within the region.

Even though private standards are said to be non-mandatory, i.e. standards compliance is voluntary, but impliedly they are in a way a must-do, as they have shown a negative impact by excluding smallholder farmers and countries with low volume of export (COLEACP, 2007). If you want to sell, you should comply, otherwise don't sell. Since most of the producers especially from SSA, target the EU market for FFV, they have only one option, that is, if they have to remain in the business they should comply with both government (mandatory) standards and the private (non-mandatory) standards.

(v) Inadequate Infrastructure

The emerging infrastructural requirements which are due to the current changes in the global governance of value chain of FFV such as the stringency of standards, specific control points and compliance criteria; the availability of certification infrastructure, laboratories and other facilities; training and extension services; certification costs – all of these have made it difficult for smallholder producers to gain access to some or all of the said infrastructure leading to their exclusion from the value chain. But in some successful cases, meeting high quality and food safety standards may also

provide developing countries with a competitive edge in specific FFV. An often-cited example is the asparagus sector in Peru. (O'Brien and Rodríguez, 2004).

The individual farmers or groups of farmers seeking to comply with EurepGAP or other GAP standards have to incur costs of investment in equipment and facilities, training, record keeping and use of tracking systems, audit, and certification. There are some few groups of success stories in Tanzania whereby the groups of farmers in collaboration with NGOs have managed to certify their farms for organic production. Good examples include, Iringa based Dabaga Fruits and Vegetable Canning Company Ltd, which also deals with the purchase, the processing and the export of canned organic pineapple produced by farmers in Njombe district and two smallholder organic out-growers schemes. The other one is Arusha based Rotian Seed Company, which exports green bean seeds and other vegetables produced by 7 large-scale out-growers (Ashimogo, 2006).

(vi) Limited Access to Credit

The commercial banking sector is generally not well developed in Africa, and in many countries is at least partially under state ownership. The result is a rationing of credit to the private sector and, in some countries, the channelling of available debt to inefficient state enterprises. Limited commercial credit may be available only to large enterprises such as urban real estate that can meet the collateral requirements of the banks. Government credit schemes, which used to benefit small farmers and businesses, have proven costly to run and difficult to sustain, requiring ongoing subsidies. These require clearly innovative financing schemes.

However, recently, some countries such as Tanzania have privatized most of their financial institutions and the banking sectors. But experience shows that the privatization of the banking sector has made the accessibility of the credit facilities to smallholder farmers worse than was the case before. Since the private sector is entirely for profit maximization, they become very sensitive to eligibility, i.e. who is eligible and who is not eligible for the credit. Since smallholder farmers have poor record management and formal entrepreneurial skills, it is very difficult for them to qualify for credits. And, where the farmers qualify for the credits, the amount they require is, in accordance to the value of their collateral, meagre, and this makes the exercise of credit management extremely expensive. Generally speaking, small farmers are not attractive in the eyes of the formal financial institutions (Personal discussions with Loan Recovery manager of CRDB Bank, Tanzania). The alternative option is to source funds via informal financial institutions such as FINCA, PRIDE and SELF for the case of Tanzania. However, these institutions charge the farmers very high interest rates, which may result to low profit margin and render the farming business unprofitable.

Considering the current changes in global values chain governance, some of the stated requirements such as certification costs are relatively high for individuals/groups of middle or lower incomes individuals to afford. This poses a big challenge for a smallholder to cope with the current FFV trade requirements. With regard to certification, some examples help to illustrate the kind of costs involved. According to Eco-LOGICA-a national certification body in Costa Rica, the average basic cost of certification for a producer ranges from \$800 to \$1,200; this is plus the additional costs that depend on the farmland extension, the location, and conditions of access to the farm. The costs during the consulting period (when technical support is provided to prepare for the certification inspection) vary from \$3,000 (if a group of companies receives certification and technical support) to \$12,000. In Brazil, indicative certification costs for individual farms are estimated to range from \$1,000 to \$1,500, plus some \$700- \$800 per audit. For group certification, the costs are estimated at \$200-\$300 per producer. In addition, there are general administration and registration fees as well as travelling costs of the inspector (WTO, 2007). This estimated cost might be used as a good benchmark for SSA where most of the countries per capita incomes are less than 1000\$ (CIA fact book, 2006)

IV.5.2 Opportunities for horticultural Exports from SSA to Europe

Despite the challenges mentioned above and the increasing competition for the FFV trade from other developing countries of Latin America and Asia, there is still some promising potentials from SSA to gain from FFV trade in exporting reasonable share of FFV in terms of both volume and values as is exemplified by successful cases such as Kenya and South Africa (see Figure 1 above). Moreover, there are some possible opportunities worth the trade. These opportunities for FFV exports from SSA to Europe include: high export potential due to regional and international preferential market access, Agro-climatic conditions, EU Market Trends, and Exporters' Management of Market Channels. These are briefly discussed below.

(i) High export potential due to regional and international preferential market access

Geographic proximity, counter-seasonality, and preferential access to most attractive markets provide the region with a huge opportunity for FFV market unlike in other developing countries of South America and some South Asian countries. Such attractive markets include: Southern Africa Development Community (SADC Commercial Protocol), European Union (EBA initiative EBA and Cotonou Agreement: The EBA initiative grants duty-free access into the European Union to 48 LDC's for all products excluding arms), India, Middle East and USA (AGOA - African Growth and Opportunity Act).

EBA is a unique door for accessing the EU market especially for goods with higher price and significant value added, including fresh and food products. To benefit from this opportunity, SSA needs to increase production and upgrade the quality of its products

(ii) Agro-climatic conditions

Agro-climatic conditions are perfect not only for growing tropical crops with high market potential worldwide (e.g. banana, mango, chilli, pepper, papaya, pineapple, litchi) but also for growing high-value intermediate crops (e.g. paprika, flowers, oranges, tangerine, lemon, grapefruit, kiwi). For example, recent studies identify the area suitable for horticulture & fruit production at 550,000 ha and estimate sales revenue at 2.75 billion USD per year (national market and export) in the "Beira corridor" (which has one of the best range of microclimates) in Mozambique. At the moment, 74,000 ha are under this kind of cultivation. Also, agro-climatic conditions of SSA ensure all year around production and supply of FFV, which is one of the important conditions set by the supermarkets in Europe.

(iii) EU Market Trends

The EU market for fresh horticulture products has expanded, as part of the general trend toward healthier diets. There is an increasing demand for "exotics" or tropical fruits, such as mangoes, papayas, and avocados, as consumers seek to diversify their diets with new and interesting fruits. In contrast, there appears to be an oversupply of temperate climate fruits and vegetables in the off-season both from within the EU, (now that Spain and Portugal are included) and from non-EU countries such as Morocco and Egypt, which have rapidly increased production of the products in recent years; and they are also very competitive due to their proximity to Europe. This is a good indicator that the European market still has some space to accommodate tropical products from SSA. However, the space availability and its sustainability pose doubts and need further investigation due to the observed trend of FFV production from SSA, South Asia, South America, and from within Europe and all targeting European Market. What will happen when the EU market is saturated?

(iv) Exporters' Management of Market Channels

Few African exporters have knowledge about or control over the marketing of their exports and they cannot truly be said to be “managing” market channels in Europe. The EU market for off-season fruit and vegetables, ethnic crops, “exotic” fruits, and flowers has a wide range of suppliers to choose from in Africa, Asia, and Latin America. Despite limited opportunity for channel management, exporters from SSA have a potential to enter into institutional arrangements with foreign buyers. This reduces the risks and enhances the returns vis-à-vis relying entirely on open market sales, spot market sales, and sales on consignment.

V. CONCLUSION

In the past few decades, there has been a remarkable transformation in the governance of the global value chain in fresh fruits and vegetables. Before the transformation, the governance of the global value chain in FFV were based on arm-length relationship among the smallholders producers in the African countries, exporters from Africa, the wholesalers in Europe, agents in Europe, and finally supermarkets, greengrocers and large retailers in Europe. This approach was complex and had a lot of inherent weaknesses including a number of players, which was huge, and lead to low profit margin across the chain. It was difficult to control and ensure that the products are up to a specified quality and standards, to trace the originality of the produce and the cost entailed by the exporters by monitoring large numbers of farmers.

These conditions, among others, have led to the transformation of the global value chain from the market-based approach (arm-length relationship) to an explicit coordination, which is a special form of hierarchy based on global governance of value chain in FFV. This approach has substantially reduced the number of players to almost two, and, in some special cases, one. The supermarkets and large retailers have bypassed the wholesalers and they are now directly working with the exporters from Africa. This, on the one hand, entails the increased profit margin and the increased share of the rent among the players in the value chain. However, on the other hand, it entails the exclusion of some of the players including smallholder farmers who failed to meet the standards and set conditions due to lack of capital, technology and technical know how.

The analysis of global value chain of FFV has paved the way towards the exploration of the consequences due to changes on the structure of the value chain, the distribution of functions within it, and the inclusion and exclusion of different agents in the chain. The driving force behind the transformation of global value chain is more attributed to the rise of dominance of few numbers of supermarkets in Europe, specialized in food retailing, and which exercise a decisive influence over all the stages of the value chain, ranging from the way crops are grown (and the processes of innovation that lead to the introduction of new crops and varieties) to their processing and storage. This is despite the fact that they (supermarkets in Europe) do not take ownership of the produce until it is delivered to their regional distribution centres. The supermarket requirements for increased processing of products and product differentiation, combined with increasing external pressure to meet food safety, environmental and labour standards have led to a radical restructuring of the fresh vegetables business.

The changes in the FFV global value chains have opened some opportunities to the medium and large scale farmers and exporters in Africa and the supermarkets and large retailers in Europe while leaving the smallholder farmers, who form the majority of the population in the developing countries, in the worst economic state. A good example is Kenya where more than 60% of smallholder producers of FFV have been excluded from the FFV value chain (WTO, 2007). In the case of Europe, the most affected people are the wholesalers of FFV, agents and smaller retailers who were depending much on wholesalers.

In a way, the trading of FFV from SSA has increased, and the enforcement of the standards and coordination, and issues like traceability have all been made possible but at the expense of the smallholder farmers in Sub Saharan Africa and in other developing countries. Also, the capacity to meet food safety requirements has become an important factor of competitiveness in the international trade of horticultural food products. As it has been demonstrated by the case study of the Kenyan fresh produce export industry, that the introduction of a number of food safety requirements in the main markets has led to a significant reduction of the participation of the traditional African smallholders in the production of fresh fruit and vegetables for export. The degree of the impact varies with the severity of the food safety requirements as evidenced by fieldwork conducted in Kenya (see Jensen, 2004 for more details).

The marginalization of the smallholder, which occurred in Kenya in the 1990s, was driven mainly by the developments in the UK market. Here, a new general food laws were taken up by the expanding EU supermarkets and became an important part of the supermarkets' private quality assurance standards. As the EU is currently reforming and harmonizing its food safety policy, it is plausible that the experiences from the UK exports will be generalized in the near future to include all the EU member countries. The important question is whether the experiences of Kenyan fresh produce exports can be generalized for other countries as well as for other products.

Other observed constrains on the marginalization of smallholder farmers from FFV value chain include: High transaction costs, costly access to market and technical information, inadequate infrastructure, limited access to credit, lack of interest by foreign investors, raw material procurement problems, risk aversion of small African entrepreneurs, limited management skills and capacity and stringent legal and commercial standards.

On the other side, the opportunities available for African producers include favorable regional and international protocols like regional and international preferential market access; favourable agro-ecological conditions, the EU market trends and increased consumer demands for tropical produce like fruits.

VI. RECOMMENDATIONS

The policy geared at addressing and mitigating the exclusion of smallholder farmers from the chain should be addressed with a due concern. One way of addressing this is through collaboration between the government and other stakeholders like NGOs in helping small farmers to form cooperative unions for fresh fruits production. This will help small farmers to easily access capital, technical and technological support from donors, government, training and financial institutions. More specifically and based on the findings from various literature, the following recommendations may be useful in these specific targets : governments of SSA, policymakers and technical administrators in developing countries, the private sector in industrialized countries, academic institutions and agricultural research institutions, bilateral and multilateral development agencies, training and capacity building, and alternatives for FFV trade in SSA. Recommendations on each of these aspects are presents below as follows.

Governments of Sub-Saharan Africa

Governments of SSA countries, which have a significant export interest in the EU market, should make a realistic assessment of the implications of the chances taking place in the FFV trade, and should identify appropriate strategies in the light of the requirements of domestic and foreign markets. Governments need to involve growers/exporters and other stakeholders in a dialogue of discussing options and strategies, taking into account the strengths and weaknesses in each country.

With regard to EurepGAP certification, larger producers/exporters could seek individual certification whereas smaller producers, who are organized in groups or linked with larger exporters, could seek group certification. (For example, in Ghana, large pineapple producers/exporters have EurepGAP certification and groups of smaller producers have sought group certification, with donor assistance). Countries that have a national GAP scheme could seek benchmarking of their schemes against the EurepGAP, (as Kenya is doing). Other larger countries could seek to establish national interpretation guidelines of the EurepGAP standards.

In countries that are smaller exporters, large companies could seek individual certification. Countries could also set up national GAP guidelines or standards. In general, the focus on export promotion could be on issues such as infrastructure development, business skills, and strengthening links.

Policymakers and Technical Administrators in Developing Countries

To create enabling environment for small holder producers in developing countries Policymakers and technical administrators in should :

- Create or enhance awareness of the benefits of GAP among producers.
- Support training.
- Elaborate criteria for assessing new sites for FFV production.
- Address problems with the registration of crop protection products.
- Assure effective control of some aspects covered by EurepGAP control points, such as seed quality, registration of agrochemicals, and developing national legislation in the areas of environmental protection and workers' health and safety.

- Provide the necessary infrastructure for compliance with control points (e.g. appropriate disposal of empty packages of agrochemicals) and promoting research and development and technical assistance (e.g. to facilitate accreditation of laboratories to ISO 17025 or an equivalent standard for testing).
- Formulate policies geared at helping the market information in fresh fruits and vegetables accessible and readily available to producers. This will help the producers in making important decisions concerning the production and effective strategic management of the FFV value chain.
- Create enabling environment for small and medium scale environments. These include effective policy on land ownership and acquisition, credit availability and risk management facilities to be put in place. Investments at macro level may be required, for example, for the installation or maintenance of, for example: local accreditation or certification systems; lab analysis and lab accreditation; documentation and record keeping systems; business development services; input supply services/input regulations; and training and technical assistance (Santacoloma, 2007).
- Improve infrastructure including roads and utilities like water and electricity, which seem to be vital especially during post harvest handling. There is a need to facilitate smallholder suppliers of FFV with input supplies, production, quality inspection and packaging. Technology dissemination and training of producers will help to improve the production of FFV in the developing countries.

The Private Sector in Developing Countries

The Private Sector in Developing Countries should do the following,

- Incorporate current and expected requirements related to standards and other specified requirements into business plans, including considerations of product-market combinations, customer and supply relationships, production technology, logistics, and investments in processing and marketing facilities.
- Small and medium scale farmers should look for the opportunity of merging through cooperatives to form relatively large groups of farmers and whose production would be in a large scale. This will enable the farmers to reduce unnecessary transactions costs and enjoy the economies of scale.

The Private Sector in industrialized Countries (especially supermarket)

- The private sector in industrialized countries should look forward for an alternative to include the smallholder farmers in Sub-Saharan Africa in the value chain without comprising their interest but also by considering the interest of this vital group, which is highly volatile economically and is vulnerable to the current global value chain.
- The sector should harmonize or mutually benchmark the growing array of overlapping and competing private protocols on good agricultural and manufacturing practices. Hazard analysis and critical control point (HACCP) systems, and other process standards should be carried out. Doing so would save their own costs and those of the supplier while enlarging and diversifying the base of potential supplier countries.
- The sector should enter into joint programs with governments and donor agencies to provide technical assistance to suppliers to enable them to meet emerging requirements.

Academic institutions and Agricultural research institutions

Academic institutions and Agricultural research institutions should:

- Put more emphasis on the impacts of the current global values chain to developing countries and its implication to poverty reduction. And find out the best alternative in which the resources available may be allocated equitably across all the major players.
- Advise the policy makers and propose relevance evidence based policy emanating from the research output.

Bilateral and Multilateral Development Agencies

- Development agencies need to disburse more research funds for projects on the sustainability and on the current global values chains in fresh fruits and vegetable with emphasis on equitable distribution of the rents accrued.
- The UK, the DFID and the German GTZ recently announced their intention to provide funding for a “developing country-ambassador” to work at FoodPlus GmbH (the EurepGAP secretariat) who would liaise with developing-country producers, exporters and governments on issues of standard setting and implementation. The SSA is advised to use the opportunity to fine-tune its FFV sector to the global requirements in terms of standards.

Training and capacity building

Farmers need to be trained on issues such as, pesticide management, traceability and record keeping, farm business management skills, environmental and social sound practices. Others include, basic food hygiene and sanitation, post-harvest management and certification procedures. Capacity building efforts are also required at the macro level, for both extension agents (i.e. basic GAP principles; IPM and integrated crop management; food regulation and market requirements for exports; packaging and post-harvest technologies) and for other agents (e.g. laboratories practices, sampling; traceability procedures; GAP auditors; and market information systems) (Santacoloma, 2007).

Alternatives for FFV trade in SSA

At times, the requirements to participate in value chains may be just too difficult for smallholders in weaker economies such as the LDCs. It would be better for the FFV trade to exploit other possible opportunities to support the survival and well being of small-scale growers in exporting FFV. The examples of other opportunities include:






- The domestic market
- Regional African market
- Other markets (e.g. the middle-east where requirements are less stringent)
- The European wholesale market, and
- Markets for organic produce

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APPENDIX

Table A 1
SSA Vegetables export to EU, 2003

Country	Volume	Share (%)
Kenya	48,183.00	41.80
South Africa	22,112.00	19.20
Senegal	8,551.00	7.40
Zimbabwe	7,810.00	6.80
Ghana	7,719.00	6.70
Zambia	7,132.00	6.20
Uganda	3,189.00	2.80
Ethiopia	2,840.00	2.50
Burkina Faso	1,375.00	1.20
Madagascar	1,179.00	1.00
Gambia	1,074.00	0.90
Ivory Cost	1,014.00	0.90
Tanzania	842.00	0.70
Others	2,146.00	1.90