RESEARCH PAPERS

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

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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 exports of fresh fruits and vegetables (FFV) from Sub-Saharan African countries to the European market, has received a great deal of attention over the past decade. This is due to its rapid and sustained growth. This rapid growth has undoubtedly contributed to increased national income and reduced rural poverty in Sub-Saharan Africa with clear evidence from Kenya, South Africa and partly Zimbabwe. Yet, 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 major players, have worsened in the past decade. One of the major contributing factors of this is the dynamic changes in the global governance of fresh fruits and vegetables value chain. These changes in the governance of global value chains for FFV have taken the form of changes from sport market based trade to vertically integrated explicit coordination. In addition, such factors as stringent phytosanitary measures, Private standards like EurepGAP, and increased consumers' demand and choices have led to the exclusion of smallholder farmers in FFV value-chain. This is because of the changes in the governance of the value chain and the ensuring stringent phytosanitary standards and as well as product delivery requirements have gone beyond the compliance capacity of smallholder producers in developing countries. This poses a potential threat to efforts in addressing the chronic poverty and wellbeing of the rural poor in the Sub-Saharan Africa.

Thus the purpose of this paper is to investigate, compile and analyze concrete evidence on the nature of changes in the global governance of fresh fruits and vegetables value-chain; the causes of the changes. The paper also aims to identify the opportunities and challenges stemming from the changes in the value-chain governance of FFV and what determines the success and failure of economic agents in the new value-chain governance architecture; how the competitive advantage of FFV producers is affected by the changes in the governance of FFV value chain; and the implications of the changes on economic diversification aspirations of commodity producing developing countries. Finally, the aims to provide some recommendations on coping mechanisms and private sector strategies and public policy responses that would enable developing countries' producers, taking into account ownership and equity considerations, to appropriate fair share of the rents in the FFV value chains.

Our research has uncovered ample evidence that FFV trade contributes substantially to the GDP of several SSA countries which are involved in the business. We argue that FFVs are better agricultural investment alternatives that would complement or substitute traditional agricultural exports like Cotton, Coffee, Sisal and Tea. Nevertheless the past few decades' remarkable transformation in the global value-chain governance of fresh fruits and vegetables has made investment in FFV by smallholders a difficult and risky business. This is due to the complex delivery, labeling requirements and stringent product standards that have posed difficulties for smallholders' participation in the FFV value-chain.

From the point of view of big supermarket chains that have increasingly dominated the value-chain of FFV, the traditional arms-length market relationship in FFV trading and inherent coordination difficulties arising from large number of players were seen as the cause for complex operational difficulties leading to low profit-margin across the chain. As a result, the supermarket chains engender a vertically coordinated market operation in FFV chains that has increasingly substituted the traditional arms-length trade.

The changes in the global value-chain governance into explicit coordination, which is a special form of hierarchy based global governance of values chain in FFV, has led to a substantial reduction in the number of players. Often, small-scale producers and suppliers of FFV have been most affected and excluded from the value chain. Yet, even large wholesalers both in developed and developing countries have been excluded from FFV value-chain. In Africa, European multinational supermarket

chains and large retailers have bypassed some European-based wholesalers directly procuring from producers and exporters in Africa. This, on the one hand, entails that the share in the rent obtained among the remaining few players in the value chain has increased. But on the other hand it entails that most of the increase in the share of rent of the remaining players in the FFV value chain comes at the expense of the excluded players, particularly smallholder producers and exporters who could not meet the stringent standards and delivery conditions due to lack of capital, technology and technical know-how. We believe that this analysis on the global value chain of FFV sets a stage for exploring the consequences of the 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-chain have opened some opportunities to medium and large scale farmers and exporters in Africa and for supermarkets and large retailers in Europe despite worsening the economic situation of smallholder producers (which forms the majority of the population in developing countries). In Europe, the most affected agents by the changes in the governance of FFV value-chain are the wholesalers of FFV and smaller retailers who had depended much on wholesalers. This is because the new governance structure of FFV resulted in the wholesalers being bypassed by large multinational retail chains making the wholesalers redundant in the FFV value-chain.

Apart from their marginalization due to the changes in governance of the FFV value chain, smallholder producers and exporters in Sub-Saharan African countries competitiveness has been highly affected by such factors as high transaction costs, costly access to market and technical information, inadequate infrastructure, limited access to credit, limited management skills and capacity and stringent legal and commercial and private standards.

On the potential opportunity side for African producers expanded regional and South-South trade, expanded demand for FFV and international preferential market access, favorable agro-ecological conditions and increased consumer demands for tropical produces like fruits.

Recommendations

The policy responses aimed at addressing and mitigating the exclusion of smallholder producers and exports in Sub-Saharan Africa from the FFV value-chain should be carefully considered. A multi-stakeholder collaboration involving governments and the private sector, particularly producer and exporter associations, NGOs and civil society organizations is essential. Also, the involvement of international organizations, regional bodies such as regional financial institutions, and donor organizations is essential for ameliorating the problems faced by smallholders in accessing capital and technology. Based on the findings from various literatures, we recommend specific measures that should be considered by various stakeholders:

Governments in Sub-Saharan Africa

- Governments in Sub-Saharan African countries with a significant export interest in the EU market should make a realistic assessment of the implications of the changes in the governance of FFV value chains. This is the first key step for catering an appropriate national strategy that is consistent with the social and economic peculiarities of each of the countries.
- 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.
- In small FFV exporting Sub-Saharan African countries, governments, in collaboration with private stakeholders, strategize to mobilize smallholders both nationally and regionally so that they take advantage of scale economies. Such mobilization could for example take a form of establishing national or regional certification bodies to ensure harmonization of export standards. The challenge, however, is the recognition and acceptance of such certification bodies by importing

countries and by international standardization organizations. One way of overcoming this could be for countries to set up national Good Agriculture Practices (GAP) guidelines or standards. In addition, governments need to prioritize enterprise development as part of an overall economic diversification and competitiveness strategy focusing on, *inter alia*, infrastructure development, and fostering business skills development, and strengthening business linkages for sharing knowledge and technology including among smallholder producers and exporters.

Policymakers and Technical Administrators in Developing Countries

- Creating or enhancing awareness of the benefits of GAP among producers.
- Supporting training in farming technology and post-harvest treatment of FFVs.
- Providing assistance with identification of new sites for FFV production such that the cost of pre- and post-harvest treatments required to comply with produce standards is lower.
- Addressing problems with the registration of crop protection products.
- Assuring effective standards 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. These are important for increased capacity of smallholders to meet standards for participating in FFV value-chains.
- Providing 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 for collecting and compiling timely market information on FFV and their accessibility by smallholder producers and exporters. This will help them in making strategic decisions concerning production and sales.
- Create an enabling environment for smallholder producers and exporters though policies such as for ensuring access to land, credit availability and risk management facilities. 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).
- Improvement of infrastructure including roads and utilities like water and electricity which are vital for post-harvest handling of FFV. There is a need to assist smallholder suppliers of FFV in input supplies, production methods, quality inspection and packaging. Technology dissemination and training of producers to adapt and use technology will help to improve production of FFV in developing countries.

The Private Sector in Developing Countries

- Incorporate current and expected requirements related to standards and other specific 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 organize themselves in cooperatives in order to take advantage of scale economics and to benefit from pooling of resources and skills. This will enable them to reduce transactions costs and enjoy the economies of scale.

The Private Sector in Industrial 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 highly volatile economically and vulnerable to the current global value chain.
- To 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 own and supplier costs while enlarging and diversifying the base of potential supplier countries.
- 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

- Undertake a detailed and holistic assessment of the impacts to developing countries of the changes in governance of FFV values chain and its implication to poverty reduction. Also, undertake comparative studies among various policy alternatives for different countries to identify effective national strategies to ameliorate the impacts. Undertaking such studies would help policy makers to take informed decisions.

Bilateral and Multilateral Development Agencies

- Funds more research funds and project on the sustainability and of the current global values chains in fresh fruits and vegetable with emphasis on equitable distribution of the rents accrued.
- UK 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) to 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.
- Provide funding for trainings in 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. Provide funding for capacity building efforts 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 other agents (e.g. laboratories practices, sampling; traceability procedures; GAP auditors; and market information systems) (see, 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 good to use other possible opportunities for FFV trade to support the survival and wellbeing of small-scale growers in exporting FFV, for example:

- The domestic market
- Regional African market
- Other markets (e.g. the middle-east where requirements are less stringent)
- The European wholesale market
- 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 gain from 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. 28% increase was recorded in the same period for edible vegetables and certain roots and tubers which is equivalent to 67,652 million Euros.[1] Ascribing to the dynamic nature of a 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 annual rate of 7% and 14 % during the periods 1995-2000 and 2000-2003 respectively (Pay, 2005).

The growth in 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 mainly in developed countries are behind these changes .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 increasing complexity and stringent regulatory environment related to food safety ,particularly pesticides residues and conditions for post-harvest processing and environmental and labor standards extensively investigated and documented by Pay and Elen,2005 and will 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 UK food retailing industry has changed the way in which supplies of FFV for the UK markets are growing 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 arms-length market relationship to explicit coordination between producers in SSA and Supermarkets in Europe (Gereffi et al, 2005).

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

The paper is organized as follows: Section 1. Introduction, Section 2 presents background information on fresh fruit and vegetable (FFV) sector and its economic relevance for DCs. Section 3 and 4 provides overview of changes in governance of FFV values chains and their effects on producers from DCs. Conclusion and recommendation are presented in section 5 and 6 respectively.

[1] See http://www.export-help.cec.eu.int

II. BACKGROUND

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

Export of agricultural products particularly both the traditional and non traditional cash crops have been contributing significantly on foreign earnings. Recently the falling prices of traditional cash crops such as coffee, cotton, sisal, tea and cashew nuts and 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. This started in the last decade, since then production has been increasing. This increase could be attributed to increased demand and high prices of fresh foods in the global market which led creation of attractive export opportunities. Dolan and Humphrey (2001) argues that, because of an increasing trend for the demand of fresh fruits and vegetables, a lot of effort has been devoted in promoting the production and export of fresh horticultural products by developing countries. This has influenced the organization of marketing system of horticultural produce which was mainly dominated by the collection fresh fruits and vegetables from small and scattered producers in the developing countries into a more integrated marketing system. The former proved to be a cumbersome, particularly in the accumulation of amounts to satisfy the world market demand and quality.

It was therefore deemed necessary to try to find the best way of maintaining both the quantity and quality of the produces 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 FRESH FRUITS AND VEGETABLES TO THE ECONOMIES OF DEVELOPING COUNTRIES

For decades, the economies of developing countries including Tanzania have been depended largely on agricultural sectors which employ 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 components. FFV has been considered as high value crops with quick and high returns to producers. The newly emerging production set up employs many jobless youths who either produce for themselves or have been employed by medium and large scale producers. Because of this, developing the FFV subsector has become one of the strategies for reducing income poverty and consequently contributing to growth of national economy through taxation. Nutritionally, it is contributing towards good health by providing body protective foods (vitamins) and hence increasing and maintaining the quality of national manpower for participating in various economic activities.

Penetration in the world market has however become difficult due to the set up stringent conditions on meeting quality standards. Standards for food products were established by the *Codex Alimentarius Commission* under FAO and WHO to serve as benchmark/guidelines for government 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 small holder 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 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 developed countries have tried to minimize the number of participants by reducing 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 was 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 great fragmentation on both the selling and buying sides with large numbers of local and regional retail grocery chains rather than national chains with large number 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. Large retailers 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 had to look for markets internationally on individual bases. This system forced individual producers to strive on their own to win outlet in the world market. However, it had big disadvantages particularly on the maintenance of the quantity demanded to meet all year supply. On the buyer's side, it was difficult for them to meet the quality standards demanded by their customers because of differences in production conditions from country to country. This resulted from the fact

that production was dominated by small producers from different countries. As a consequence, there was great variation in terms of the quality of the produce. Conclusively the evolving market called for changes in all fronts and hence changes in 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 recent market structure and interactions between European supermarkets and other agents in FFV with the producers in Sub-Saharan Africa. Later, issues regarding market drivers for the expansion of domestic production and global demand of FFV are discussed.

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 consolidation in 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, bypassing intermediaries and terminal wholesale markets. In today's shipper/retailer transaction, price may be just 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 wholesale markets have been declining in relative importance 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 weather and other shocks. Short-term market clearing prices can vary greatly with perishable commodities where storage potential is generally limited, and availability in alternative production regions may be either substantially above or below normal in any given week. Relatively inelastic demand may quickly drive prices below total costs for markets to clear (down to the variable cost level) or drive prices 10 times above the norm. However, despite the challenges to both buyer and seller posed by these conditions, 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 produces 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 marketing. This trend has been led by new entrants to the grocery retailing industry, such as the value -oriented mass merchandiser, with its Super center 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, now 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 embarked on the same consolidation trend and these larger foodservice firms are also

increasingly purchasing directly from shippers based in production regions. This poses further challenges to wholesale markets since as retailers shifted procurement from wholesale markets to shippers, wholesalers focused much more on foodservice accounts. Year-round availability of consistent, high quality, large volume supplies of fresh produce is now a necessity for both foodservice and retail buyers and more shippers are willing to source in diverse regions (domestic and international) to supply them. Many large foodservice buyers are also requesting forward contracts from shippers. The incentives for foodservice firms to contract are even greater than for retailers since the predictability of ingredient costs is a critical factor for them.

Streamlining of marketing channels poses both challenges and opportunities for horticultural producers. The quality of the fresh produce is one of the key differentiation tools used by retailers to gain a greater market share in increasingly competitive retail food markets. Retailers have greatly expanded their fresh produce offerings and the size of produce, thus enabling producers to sell more. Intense competition in 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 affecting expected weekly pricing and risk for any given commodity. For example, fixed seasonal prices might be used for some items, whereas for others with more stable supplies even 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 not only affected the producers alone but also the sellers in the global market because of non uniformity of the produces and collection costs. In the process of striving to maximize profit and minimizes 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 quantity supply and thereby maximizing profit. Reduction of producers means amalgamation of smallholder producers to form few but capable suppliers for timely shipping the produces 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 nontraditional crops in Africa are produced for export to the European market. During 1990s, imports of fresh fruits and vegetables by European Union (EU) countries have surpassed all other nontraditional crops for export by volume exported from Africa to Europe (Watts 1994). A number of African countries have taken advantage of this opportunity by diversifying their agriculture into production of crops desired by the EU. South Africa, Cote d'Ivoire, and Kenya are leaders in non-traditional crop export, while Zambia and Zimbabwe have achieved rapid growth in export recently. Growth of Egyptian export of fresh vegetables has also been impressive. In 1994, African nations supplied 92% of EU imports of green beans from non-EU countries. Kenya was the largest supplier, accounting for 29% of these imports, followed by Egypt (24%), Morocco (13%), Senegal (7%), Burkina Faso (7%), and Ethiopia (5%). The export of fresh vegetables from sub-Saharan Africa to European Union climbed by 150% between 1989 and 1997. 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, Brussels sprouts, broccoli, chilies, and globe artichoke. Avocado, mango, passion fruit, and pineapple just mention a few; make up the bulk of the fruit export. Considerable amounts of Asian vegetables are imported into the United Kingdom from Kenya. 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; Malter *et al.,* 1999). Trade agreements such as the Cotonou give preferential treatment to African exports in the European market. African governments have recently engaged in privatization of government enterprises, enacted less restrictive business laws, and provided incentives for export. International corporations have tied up with African counterparts and transferred

technology, provided logistics, and created market identity and penetration for African products. 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 marketplace. 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), beginning in 2008 (Stevens and Kennan 2000). Fresh produce consumption in Europe is expected to grow at a relatively slow because of limited population growth and the current high level of consumption. The consumers, on the other hand, will increasingly look for more variety and hazard free (organic) produce. 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 of high value agricultural products growth for the past decades includes: urbanization; change in dietary preferences; increased awareness about the health benefits of FFV; and general income growth in some countries. For the export market key drivers seem to be the increase in Foreign Direct Investments (FDI) following market liberalization, and increased competitive pressure and escalating production cost in industrial countries. In addition there are signs of a "quite consumer revolution" (Temu and Temu, 2005); i.e. the tendency for the consumer to continuously demand more from the supplier for example demands for continuous supply of fresh fruits and vegetables through out the year forcing supermarket and larger retailers chain to source from multiple producing countries. In doing so, such market agents exploit opportunities provided by differences in the climate and growing seasons around the world. Stiff completion between few large supermarket chains in developed world due to small margins; have forced the chains to look for cheaper sources elsewhere (Dolan *et al*, 1999).

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

For domestic market in SSA urbanization is one amongst the strongest drivers of the development process of FFV coupled with increase in cash income and higher dependence on the market as a source for rather than subsistence. In addition urban people happen to be more informed and, have more access to information, and are better educated than rural dwellers. Access to information and education have raised awareness about health benefits of high values products including FFV, leading to a changing in dietary preference. Temu and Temu, 2005 pointed out that this increase in the number of better informed consumers in the market has generated enough pressure for change in production of High Value Agricultural Products (HVAPs) in sub-Saharan Region. South Eastern Africa countries showed a clear contrasting population growth trend between rural and urban areas .For example during 1980 to 2000, the trend showed a decline in rural population and 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 rural and urban areas.

- ***Exports drivers***

There are many factors which are influencing the growth of FFV production in developing countries in relation to the corresponding factors in the developed countries as the one of the key players in FFV value chain. These include:

(a) Agro-ecological and agricultural Labour difference

According to Temu and Temu (2005) differences in climatic patterns, agro-ecologies and agricultural labour between Europe and Sub Saharan countries and other tropical country 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 between Africa with 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 form Sub-Saharan African to Europe is the difference in agricultural labour cost .It is far cheaper to employ agricultural labour cost in Sub-Saharan Africa as compared to Europe; this rendered the produce of FFV from sub-Saharan cheaper. Singh (2002) reported that greenhouse heating the labour costs, coupled with pricing pressure in an increasing global economy have made tropical countries a favored alternative for producing greenhouse crops. This has made an important milestone in the global demand of the FFV from SSA.

(b) Social Capital and market links

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

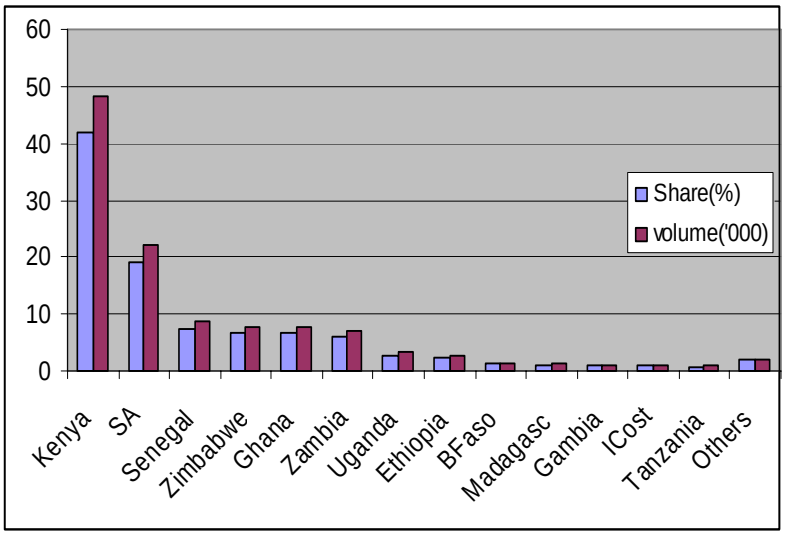

Figure 1.The SSA vegetables export to EU in 2003
Source: Original data extracted from IFT, 2005
Key: SA –South Africa; BFaso-Bukina Faso; Madagascar;
ICost - Ivory Cost

These statistics may be linked to the importance of long-term market linkages and social capital built over time between exporters and importers for not-traditional crops as exemplified by large shares of Kenyan and South African Exports in some niche markets, exporters and importers work closely 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 neighboring countries. For example, in 2004 customs recorded 7,000 tons of onions, tomatoes, potatoes and oranges worth US$424,000 exports from Tanzania to Kenya. This is believed to be an underestimate of actual trade .Records on “within –the- region” export values of horticultural produces are highly limited and mostly depends 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 others of the like provide preferential treatment to African exports to the North. SSA countries has also enjoyed a new technology because of international co-operation forged by international corporations between African countries and collaborating countries in the North; 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 influence on the growth of FFV sector in SSA .Currently most of the supermarket and large retailers in European market are concentrating their effort on their core retailing activities and to look for alternative ways to reduce risk by distributing the risk of procurement, processing and quality to other actors in the chain. Much of such responsibilities plus storage, distribution etc has been pushed up the – chain implying that now the global values 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 imports of HVAPs including fish and fishery products to EU is less than 8% of European imports in volume, it suggests that, this sector has tremendous potential for growth .However as has been pointed out earlier and will be followed by further discussion later, the challenges are in different policy such as those posed by European Union related to health and, sanitary and environmental condition, plus other individual or group based policies like EUREPGAP.

(d) Foreign direct investments

Economic liberalization that begun in early 1990s influenced SSA countries to open their markets and have been encouraging foreign investments (Temu and Temu 2005) in a broad range of sectors including agriculture. Temu and Temu (2005) further argue that liberalization of SSA economies has also provided a private sector a conducive environment to spur investment in horticultural products .Policy environment in SSA are no longer exclusively favoring parastatals; laws governing business now are less restrictive, taxation regime have been reformed and tax rates rationalized with 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 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. Concerns exist regarding how poor farmers and traders can effectively participate in retail chain, especially since such investors are introducing 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 such example. In this case a relationship is drawn between the developments of the tourism industry in Africa and the growth of horticultural produce in Kenya and other neighboring countries like Tanzania and Uganda. First the tourism increased the access of and reduced the air freight to European 1980; Kenya was receiving 372,000 international tourists per year, more than any other African country after South Africa. Because fresh produce depends generally on air freight, and because low volumes would not justify hiring a charter for agricultural produce, a lucrative alternative was to use cargo capacity of passenger jets. Later as volume rose, more use was made of cargo freight. In a different dimensions, tourism increased local demand of high quality fruits and vegetables by hotel restaurants giving Kenyan farmers more experience in 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 who can have a say in the market. In so doing, small producers will be coordinated at one point. This, will also motivate local quality control because all other small producers will be under one umbrella, consequently they will be able to maintain the supply chain in a well coordinated marketing system, because all producers will be inspected locally, urged to have steady supply in terms of quantity with common assemblage point before the produce is exported. The system should be organized such that every member is kept well informed about the marketing trend of FFV market internationally so that they can be able to adjust whatever needed timely according to the need.

Product innovation, "partnering" (improved vertical coordination), of supermarkets with key suppliers by offering those specialized services and is likely to yield improved and quality products. On the other hand, they should try to keep abreast with the recent advancement production and become 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 has been away from a commodity (undifferentiated) marketing approach where suppliers offered the same product to buyers on an untailored spot market basis. Today, buyers increasingly seek to concentrate their purchases with a few number of larger, preferred suppliers which they can partner with them 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, increasing both potential risks and 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 competing effectively with 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, later eroding 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 International trade of FFV shows that FFV products will be handled by fewer, larger firms. 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 phased out completely consists of many participants ranging from producers in developing countries to intermediaries who have to sell to exporters in the developing countries. From the producers in developing countries the FFV after arriving at the global market they just go into the hands of the brokers who sell to supermarkets which ultimately sell to the consumers. The effect of this chain is on the reduction of profit margin of the retailers as well as reduced price for producers in the developing countries. On the other hand 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 2001). However the inconvenience and inefficiency stated above has led to the explicit coordinated global values chains which trades 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: (1) traditional greengrocers and vegetable markets, and (2) supermarkets and major retail chains (multiples). The market share of traditional outlets has steadily declined and the major portion of fruits and vegetables is now sold through multiples. They 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 dealing with large volumes, they bypass the wholesalers and deal directly with the suppliers and importers in developing countries.

Functions of multiples[2] in the supply chain are as follows: (1) make produce available for consumer use, (2) advertise the product to increase sales, (3) supply value added products, (4) keep track of consumer preference, (5) monitor suppliers, and (6) set the retail price for the 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 purchased the best quality produce and items finally left on the shelves by customers allows stores to judge the quality standard of their supply source. Multiples try to maintain consistent 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 nudging customers toward fresh value added products which 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 favorably 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 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 labor and environment standards in the supply chain, they also monitor compliance by their suppliers 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 items, quantity and delivery schedule of imports, procurement orders are placed with appropriate importers. The European importers in turn contact Africa based exporters to source produce on the ordered schedule. Importers obtain produce 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 exporters from Kenya buying fresh fruits and vegetables from Tanzania (especially from Arusha

[2] Multiples means supermarkets and major retails chains

,Tanga and Kilimanjaro), then the later exports as a unit consignments . Importers share in the responsibility of enforcement of standards established by the retailers. For this purpose they 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. A number of importers also have equity stakes in African export companies.

IV.1.3 Exporters

Until the early 1990s, importers bought 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 and the volume of import surged, the preference shifted in favor of large exporters. They 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 also the primary party in Africa responsible for meeting the supply chain requirements set by retailers. These firms need the capability to work closely with European importers, organization 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 production of high quality produce and compliance with European standards of food safety and labor practices. In some occasions they provide training to farmers in safety, labor 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 depends to a great extent 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 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. 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 labor intensive and can be carried out more economically in Africa because of the availability of cheaper labor. 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 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 becomes a core competence needed by exporters and 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 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 venture with freight forwarding companies which enables them to consolidate their shipments with other cargo and take advantage of reduced airfreight rates for large volume.

IV.1.4 Growers

Entities producing export commodities can be grouped into three types: (1) exporter owned or leased farms, (2) large commercial farms, and (3) 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 small holders (Harris 1992). African fresh produce were 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 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% from exporter owned or leased land (Dolan and Humphrey 2001).

Exporter Owned or Leased Farms. To increase the profit margin exporters have gotten into on-farm crop production (Janick and Whipkey, 2002).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 oversight on labor laws, pesticide regulations, and safety compliance is easier. Growing crops on their own farms guarantees continuity of supply and reduces risk of losing suppliers 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 are managed professionally. It is also not very difficult to monitor their compliance with various regulations. As the number of exporters has shrunk, the number of commercial farms growing fresh produce has grown (Janick and Whipkey, 2002).

Small Farms. According to Janick *et al* 2002 the number of small farms producing crops for export has been steadily declining. Exporters find it convenient to deal with a few large commercial farms than with many small holders. Variations in crop quality due to non-uniform agronomic practices from farm to farm, logistic problems of overseeing compliance with pesticide use, child labor, and 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 small holders into export oriented crop production. But in order to enable small farmers to make prudent decisions, they should be given full facts about the benefits and risks of export crop enterprises including: (1) average income in good growing seasons and amount of loss from crop failure, (2) market price variability over time, (3) marketing institutions and their weaknesses and strengths, (4) higher input requirements and the need for credit, and (5) special production skills and quality control requirements.

Labor intensive crops that require staking and picking of individual pods are suitable for production by small growers. While large farms have to hire outside labor and supervise them, small farmers use family labor which is both low-cost and self supervising (Collins 1995). Small holders

compete favorably also in organic crop production in terms of labour cost but in terms of marketing and other requirements like reliable and year around supply seems to be a big hurdle to them. For small holder operations to be successful it is essential to have an adequate number of willing growers in close proximity which 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 the different farms and set up post-harvest processing centers.

IV.2 Changes in the Governance of FFV Value Chain

In the recent decades there have been major changes in the governance of global values chain from the traditional one which was market based to more Sophisticated forms including hierarchy on the extreme end .In the later, governance form is usually driven by the need to exchange tacit knowledge between value chain activities as well as 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 are continuum modular, relational and captive based global value chain (Gerreffi, *et al*, 2005). Recent publication from "Global value chain initiative" and studies from a range of disciplines shows that the value chains where by the activities are divided among multiple firms and spread across wide swaths of geographic space has became 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 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 ongoing process of trade liberalization and globalization the process of economic development cannot be isolated from these global systems. This means that firms and workers in widely separated locations affect one another more than they have in the past. Some of these effects are quite straightforward, as when a firm from one country establishes a new factory or engineering center in another country, and some are more complex, as when a firm in one country contracts with a firm in another country to coordinate production in plants owned by yet another firm in a third country, and so on. A typical example in FFV is the recent trend whereby the supermarkets in Europe especially UK contract some selected major exporter of FFV from developing Africa like Kenya to supply them with FFV conditional on compliance with the specified standards and set other environmental and labor conditions imposed by the supermarket and other private and national/regional agencies like EUREPGAP.

In its basic form the Global values chain implies the 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 divided among different firms. Value chain activities can be contained within a single geographical location or spread over wider areas. Thus when we are talking about the changes in the global value chain we refer to the change in the way those activities are coordinated and if possible owned by different player in the entire business network of FFV.

A paper authored by the GVC Initiative, entitled Governance in Global Value Chains: An Analytic Framework, major changes and pattern of the global governance presents a detailed discussion on the five major patterns changes in the global value chain. These are: Markets based GVC governance, Modular base, Relational based, Captive based and Hierarchy based GVC governance from the detailed information is available in Gereffi *et al* (2005).

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 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 in Africa countries to European market in 1960s as demonstrated by Kenya experience. In late 1960s 90% of the FFV produce in Kenya were traded by the wholesale market in the UK, 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 UK during early 1970s ,these, too, were sold through wholesale markets.

During this era majority of exporters purchased vegetables through spot markets in rural areas (Harris, 1992 and 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 for producers were also low, 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 fruit (Jaffee, 1995).

Many smallholders are now entering into contracts with exporters who provided them with inputs and technical assistance, but a larger number sold through intermediaries such as brokers or middlemen. Smallholder production of horticultural crops continued throughout the 1980s with close to 75% of fruit 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 product from the wholesale market, employing wholesale agents working on a commission basis. However, this placed certain constraints on the supermarkets. The mixing of produce by exporters and importers meant that they had little or no information about precise product origin and could not exercise any control over how products were produced. Further, the supermarkets could only purchase standardized products, having no control over the type or quality of product in wholesale markets. Finally, production could not be scheduled in advance. Each retailer competed for the same pool of produce as it arrived in the UK.

According to one 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 with cash as much produce as possible from the various wholesalers. 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 product, process or logistics parameters along the chain. This began to change as the UK supermarkets began to reorganize supply channels.

The recognition of the supply channels by the supermarkets in UK and other European countries drastically influenced and induced a lot of changes in the Global value chain governance, hence the shift from market based to GVC governance to other Sophisticated governance system which afford the supermarkets higher degree . The recent publication of Dolan et al, 2004 reports the continued growth of fresh fruits and vegetables. In 1990s for example in 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, 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 by-passed the wholesale markets and worked directly with 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 attached to improved efficiency and cost reduction by the supermarkets and other major sellers in Europe. And secondary increased ownership and control of the process to ensure the reliable and consistent supply of quality and standardized horticultural produces. More details on 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 competition view point, the effects of changes in the global value chain governance on fresh fruits and vegetables has drastically transformed both competition and market structures of the fresh fruits and vegetable 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 rivaling in the effort for buying enough produces for the export. This had a positive significant effect on the accrued profit margin for poor producers and allows them to enjoy a considerable amount of the proportion of the rent distribution in the global value chains. On the other side for developed countries, supermarket, greengrocers and other large retailers were competing on the open auction market of fresh fruits and vegetables by using agents. Trying to rival, some times raising the price to make sure they get enough produces 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 developed countries, small farmers and larger farmers in Sub Saharan countries were having direct benefits and more power in controlling the FFV trade. But supermarkets and large retailers in developed countries were vulnerable and have to take what the market offers (design taker), also their profit margin highly dependent on the competition on the wholesale market and the willingness of the customers to pay high price for 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 both small holder farmers and medium size and large farmers. Some of these opportunities have been mentioned earlier including difference agro-ecological zones which favor SSA to have a competitive advantage to produce and supply off season agricultural produce to European market, increased awareness by consumers on the nutritional value of FFV. However there are also a number of challenges which are facing producers in SSA with regard to 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- and medium-sized enterprises, face a number of constraints that affect their ability to be competitive in European markets, or act as barriers to entry facing newly formed companies. These constraints are common to exporters in most developing countries but several are particularly serious in Africa. Most of the findings are from the technical paper on innovative approach to agribusiness development in Sub-Saharan Africa by Maxwell et al 1997.

(a) 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 lead to reduced number of players in the value chain which imply that most of the rent will be distributed to the supermarket owners and African exporters. But unfortunately due to stringent condition set by the supermarket and the implied cost for coordination and monitoring of produces from small holder farmers. There is increasing trend in exclusion of smallholder farmers in the value chain and more inclusion of the medium and large African farmers and exporters. The later groups' form a small portion in population wise, but handle more than 70% of FFV trade. This is very big challenge for small holder farmers, policy markers and government s of the respective countries. This leaves behind some unanswered questions 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.

(b) High Transaction Costs

There is high transaction cost associated with production and marketing of horticultural produces 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 bargaining over prices, quality, delivery times, and resolution of disputes. The importer may also incur transaction costs associated with dealing with suppliers at 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 in the buyers demands quality, reliable and consistent supply of fresh fruits and vegetables directly implies that, for farmer or an enterprises to get entry to the market and be able to maintain its status to needs to meet at least the minimum cost requirement which most of time the threshold is relatively high for smallholder farmers to afford.

(c) Costly Access to Market and Technical Information

Access to market and technical of 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 suspect. The most effective market intelligence is obtained by actually visiting wholesale markets, supermarkets, shops selling fruits and vegetables, and importers in foreign markets. This form of market Research is very costly, however.

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 is a problem. However with the current trend of

mushrooming of mobile and cellular phone service provider it is common for these farmers to be reachable by phone which 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 a danger of resulting into information asymmetry, whereby few exporters have better information about the current market situation and prices that smallholder producers know little about. This poses a potential threat of opportunistic behaviors among exporter to exploit the smallholder producers by paying them very low price for their products.

(d) Private-sector standards

Private-sector standards like 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 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 that in Kenya in 2006 there were 60 per cent fewer smallholders (less than 1 ha) exporting to the United Kingdom than in 2002 (Graffham and Vorley, 2005). The situation found in Kenya can be generalized to most SSA because of similarity in the production and resource characteristics of the smallholder producers within the region.

Even though private standards are said to be non mandatory standards i.e. compliance is voluntary but impliedly they are in a way must do 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 or otherwise you don't sell. Since most of the producers especially from SSA, they target the EU market for FFV they have only one option, if they have to remain in the business they should comply with both government (mandatory) standards and the private standards.

(e) Inadequate Infrastructure

The emerging infrastructural requirement due to the current changes in global governance of values chain of FFV like 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 has made it difficult for small holder 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 Peru's asparagus sector (O'Brien and Díaz Rodríguez, 2004).

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

(f) 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 channeling of available debt to inefficient state enterprises. Limited commercial credit may be available only to large enterprises that can meet the collateral requirements of banks, such as urban real estate. Government credit schemes benefiting small farmers and businesses, have proven costly to run and difficult to sustain, requiring ongoing subsidies. Clearly, innovative financing schemes are needed.

However recently some countries like Tanzania most of her financial institutions and banking sector has been privatized. But experience shows that, the privatization of the banking sector has made the accessibility of the credit facilities even more badly to smallholder farmers. Since private sector is entirely after profit maximizations, this makes them very sensitive to who is legible and who is not legible for the credit. Since small holder farmers have poor record management and formal entrepreneurial skills, it is very difficult for them to qualify for the credit. Even when they qualify the amount they need is meager according to the value of their collateral which makes the exercise of credit management extremely expensive. Generally speaking small farmers they are not attractive before the formal financial institutions (Personal discussions with Loan Recovery manager of CRDB Bank, Tanzania). The alternative option was to source fund via informal financial institutions like FINCA, PRIDE and SELF for the case of Tanzania, but then these institutions they charge them very high interest rates which may results to low profit margin and lender the farming business unprofitable.

By considering the current changes in global values chain governance whereas of some stated requirements like certification costs is relatively high for individual/group of middle or lower incomes individuals to afford ,it poses a big challenge to the smallholder to cope with 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, plus additional costs that depend on the farmland extension, 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-$300 per producer. In addition, there are general administration and registration fees as well as traveling costs of the inspector (WTO, 2007). This estimated cost may be used as a good benchmark for SSA where most of countries per capita income is less US$ 1000.

IV.5.2 Opportunities for horticultural Exports from SSA to Europe

Despite of the challenges mentioned above and the increasing competition for FFV trade from other developing countries from Latin America and Asia, still there is promising potential from SSA to gain from FFV trade exemplified by successful cases like Kenya and South Africa in exporting reasonable share of FFV in term of both volume and values see figure 1 above FFV to EU market is South. More there are some possible opportunities which worth the trade. These opportunities for FFV exports from SSA to Europe include:

(a) High export potential due regional and international preferential market access
Geographic proximity, counter-seasonality, preferential access to most attractive markets:

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 USA (AGOA - African Growth and Opportunity Act), provides the region a huge opportunity for FFV market compared to other developing countries like South America and some South Asian countries.

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

(b) Agro-climatic conditions
Agro-climatic conditions are perfect for growing tropical crops with high market potential worldwide (ex. banana, mango, chilli, pepper, papaya, pineapple, litchi) but also high-value intermediate crops

(ex. paprika, flowers, oranges, tangerine, lemon, grapefruit, kiwi).For example in the "Beira corridor in Mozambique (with one of the best range of microclimates), 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). At the moment, 74,000 ha are under this kind of cultivation. Also agro-climatic condition SSA ensure year around production and supply of FFV which is one of the important conditions set by the supermarkets in Europe.

(c) EU Market Trends

The EU market for fresh horticulture products has expanded, as part of the general trend toward healthier diets. There is increasing demand for "exotics" or tropical fruit, such as mangoes, papayas, and avocados, as consumers seek to diversify their diet with new and interesting fruit. 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 in recent years and are 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 pulse a doubt and need further investigation due to 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?

(d) Exporters' Management of Market Channels

Few African exporters have knowledge about or control over the marketing of their exports and cannot be truly said to "manage" market channels in Europe. The EU market for off-season fruit and vegetables, ethnic crops, "exotic" fruit, 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 which reduce the risks and enhance the returns relative to 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 values chain in FFV were based on arm-length relationship among the smallholders producers in 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 weakness including a number of players which was huge, leading 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, trace the originality of the produces and the cost entailed by the exporters in by monitoring large numbers of farmers.

These conditions among others lead to the transformation of the global value chain from the market based approach (arm-length relationship) to explicit coordination which is a special form of hierarchy based global governance of values chain in FFV. This approach has substantially reduced the number of players to almost two or in some special case one. The supermarkets and large retailers have bypassed the wholesalers and now they are directly working with the exporters from Africa. This entails the increased profit margin and increased share of the rent among the players in the value chain .But on the other hand it entails the exclusion of the some players including small holders 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 a way towards 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 number of supermarkets in Europe specialized food retailing which exercise a decisive influence over all 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, despite the fact that they do not take ownership of produces until it is delivered to their regional distribution centers. Supermarket requirements for increased processing of products and product differentiation, combined with increasing external pressure to meet food safety, environmental and labour standards has led to a radical restructuring of the fresh vegetables business.

The changes in the FFV global values chains has opened some opportunities to medium and large scale farmers and exporters in Africa and the supermarkets and large retailers in Europe while leaving the small holders farmers (which forms the majority of the population in developing countries) in the worst economic state, a good example is demonstrated by Kenyan example whereas more than 60% of small holders producers of FFV has been excluded from FFV value chain (WTO, 2007). For Europe the most affected are the wholesalers of FFV, agents and smaller retailers who were depending much on wholesalers.

In way the trading of FFV from SSA has increased and the enforcement of the standards and coordination and issues like traceability has been made possible but at the expenses of the small holders farmers in Sub Saharan Africa and other developing countries. Also the capacity to meet food safety requirements has become an important factor of competitiveness in the international trade of food horticultural products. As has been demonstrated by the a 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 law 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 is plausible that the experiences from the UK exports will be generalized in the near future to include all EU member countries. An important question is whether the experiences of Kenyan fresh produce exports can be generalized for other countries as well as for other products.

Marginalization of smallholders farmers from FFV value chain another observed constrains includes: 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 others sides, the opportunities available for African producers includes favorable regional and international protocols like regional and international preferential market access, favorable agro-ecological conditions and the EU market trends and increased consumer demands for tropical produces like fruits.

VI. RECOMMENDATIONS

The policy geared to address and mitigate the exclusion of the small holders farmers from the chain should be addressed with a due concern. The likely possible solution is through the collaboration of the government and other stakeholders like NGOs to help the small farmers to form cooperative union for fresh fruits productions for easy access to capital, technical and technological support from the donors, government, training institutions and financial institutions. More specifically and based on the findings from various literature, the following recommendations may be useful specific target.

Governments for Sub-Saharan Africa

Governments of SSA countries with a significant export interest in the EU market should make a realistic assessment of the implications of chances taking place in FFV trade in the light of the requirements of domestic and foreign markets 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.

With regard to EurepGAP certification, larger producers/exporters could seek individual certification whereas smaller producers which 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 are seeking group certification, with donor assistance). Countries that have a national GAP scheme could seek benchmarking of their scheme against 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

- Creating or enhancing awareness of the benefits of GAP among producers.
- Supporting training.
- Elaborating criteria for assessing new sites for FFV production.
- Addressing problems with the registration of crop protection products.
- Assuring 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.
- Providing 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 to help the market information accessible and readily available for producers in fresh fruits and vegetables .This will help them in making important decisions concerning 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).

- Improvement of infrastructure including roads and utilities like water and electricity which seems to be of vital importance 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 production of FFV in developing countries.

The Private Sector in Developing Countries

- 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 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 Industrial Countries (especially supermarket)

- Should look forward for an alternative to include the small holder farmers in Sub-Saharan Africa in the value chain without comprising their interest but also by considering the interest of this vital group which highly volatile economically and vulnerable to the current global value chain.
- To 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 own and supplier costs while enlarging and diversifying the base of potential supplier countries.
- 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

- 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 equitable across all major players.
- Advice the policy makers and propose relevance evidence based policy emanating from the research output.

Bilateral and Multilateral Development Agencies

- Funds more research funds and project on the sustainability and of the current global values chains in fresh fruits and vegetable with emphasis on equitable distribution of the rents accrued.
- UK 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) to 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; 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 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 good to use other possible opportunities for FFV trade to support the survival and wellbeing of small-scale growers in exporting FFV, for example:

- The domestic market
- Regional African market
- Other markets (e.g. the middle-east where requirements are less stringent)
- The European wholesale market
- 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