**ÇUKUROVA UNIVERSITY**
**INSTITUTE OF NATURAL AND APPLIED SCIENCES**

**MSc. THESIS**

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# AN EVALUATION OF AFRICAN AGRICULTURE IN THE GLOBAL VALUE CHAINS

**DEPARTMENT OF AGRICULTURAL ECONOMICS**

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# ÖZ

## YÜKSEK LİSANS TEZİ

**KÜRESEL DEĞER ZİNCİRİNDE AFRİKA TARIMI ÜZERİNE BİR DEĞERLENDİRME**

**SEBIT YOUNIS MAYEK DENG**

**ÇUKUROVA ÜNİVERSİTESİ**
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Küresel Değer Zincirleri (KDZ) Afrikalı küçük çiftçilerin dünya pazarlarına girmesi için fırsatlar yaratabileceği gibi onların dünya pazarlarından dışlanması riskini de yaratabilir. Bu çalışmada, seçilmiş Afrika ülkeleriyle ilgili mevcut veriler ve literatür gözden geçirilerek Afrika tarımının KDZ içerisindeki rolü irdelenmiştir. Dünyanın diğer bölgelerine nazaran Afrika KDZ ile daha derin ilişkiler içerisine girmiştir. Bununla birlikte tüm bulgular Afrika tarımının KDZ içindeki yerinin hâlâ zincirin başlarında, dünyaya hammadde temin eden bir konumda donup kaldığını, katma değerin ise kıta dışında gerçekleştirildiği bilgisini pekiştirmektedir. Benzer şekilde piyasalar baskın bir şekilde, doğrudan veya dolaylı olarak, hâlâ büyük firmalar veya onların yerel temsilcileri tarafından yönetilmektedir. Afrika'nın karşılaştığı yetersiz altyapı ve yatırımlar, mali imkânsızlıklar, düşük girdi kullanımı ve düşük verimlilikler gibi problemler nedeniyle zincirde daha ileri noktalara yükselme olanakları kısıtlıdır. Afrika ülkeleri uzun vadede bu güçlüklerin üstesinden gelmek zorundadır. Fakat yine de bu ülkeler kısa vadede organik ve niş piyasalara ürünler üreterek bazı dezavantajlarını (yoğun emek kullanımı, az girdi kullanımı ve henüz tarıma açılmamış geniş alanlar vb.) KDZ içerisinde avantajlara dönüştürebilirler.

**Anahtar kelimeler:** Afrika, Küresel Değer Zincirleri, Küçük çiftlik sahipleri, Yükseltme, Yönetişim, Tarım.

## ABSTRACT

**MSc. THESIS**

**AN EVALUATION OF AFRICAN AGRICULTURE IN THE GLOBAL VALUE CHAINS**

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Global Value Chains (GVCs) may create opportunities for African small farmers to enter international markets but also risks of being excluded from the world markets. This study evaluates African agriculture within the GVCs by reviewing available agricultural data and GVC literature on selected African countries. Africa is deeply involved in GVCs more than many regions around the world. However, the overall finding of this study consolidates the fact that African agriculture in the GVCs is still stagnated in the upstream role providing raw agricultural products to the world where value addition is being carried out outside the continent. Similarly, markets are still dominated by big companies and firms either directly or through their local agents in Africa. Upgrading within GVCs is limited due to multiple problems facing Africa, such as lack of infrastructure, financial deficiencies, insufficient investments, low input use and low efficiencies. African countries should overcome these difficulties in the long run. However, they may manage to turn some of the disadvantages (labor use intensity, less chemical use and large areas yet not opened to agriculture, etc.) into advantages in the GVCs by producing organic products and addressing niche markets in the short run.



**Key words:** Africa, Global Value Chains, Small farm-holders, Upgrading, Governance, Agriculture.

## GENİŞLETİLMİŞ ÖZET

Yirminci yüzyılın sonuna yaklaşırken, bilgi teknolojilerinin yaygınlaşması, ulaştırma ve haberleşme maliyetlerinin düşmesi, üretim süreç kontrollerinin gelişmesi, tedarik zincirlerinde yoğunlaşma, küreselleşme ve piyasalarda serbestleşme sonucunda dünya, geleneksel üretim ve dağıtım sistemlerinin yapısını değiştiren önemli gelişmelere sahne olmuştur. Tüm bu gelişmeler üretim sürecinin alt bölümlere ayrılıp dünyanın çeşitli bölgelerine yayılabilmesine olanak sağlamıştır. Böylelikle gelişmiş ülkeler kendi ülkelerindeki üretim süreçlerinin bazı parçalarını gelişmekte olan ülkelere kaydırmışlardır. Bu yolla, birçok ürün küresel bir nitelik kazanmıştır. Yeni oluşumda yeni bir iş bölümü ortaya çıkmış olup, değer zincirinde yer alan aktörler değer zincirinde ürettikleri miktara göre değil de zincirde bulundukları konum ve üstlendikleri işleve göre pay almaktadır. Birçok firma ve ülkeyi kapsayan bu oluşumlar küresel değer zincirleri (KDZ) adıyla anılmaya başlamıştır. Yeni yapılanma modüler bir yapıya sahip olduğundan, istendiğinde belirli bir ülke, belirli bir firma ve belirli bir parçanın başka bir ülke, başka bir firma ve başka bir parçayla değiştirilmesi mümkün hale gelmiştir. Her zincir üretim ve pazarlamada yer alan bazı aktörlerin denetimi altında olduğundan piyasa sinyallerinin yerini zincirde yer alan aktörler arasındaki bilgi akışı ve uyarıcı sinyaller almıştır.

Küresel değer zincirleri örgütlenmesi birçok firma ve ülke için yeni fırsatlar ve tehditler doğurmuştur. Ülkeler dünya pazarlarında yer alabilmek için bu zincirlere eklemlenme çabasına girişmektedir. Birçok Afrika ülkesi de bu çaba içerisine girmiş bulunmaktadır. Bu gelişime paralel olarak Afrika'nın pek çok ülkesinde özellikle küçük üreticilerin küresel değer zincirlerine nasıl katılacakları, katılımlarının nasıl arttırılacağı konularında araştırmalar yapılmaya başlanmıştır. Dünya genelinde hızlı artan dikey bütünleşmeler ve üretim sürecinin parçalara ayrılarak her bir parçasının

farklı ülkeler ve bölgelere yayılması, bu süreci analiz eden çalışmalar için yeni yaklaşımlara ihtiyaç doğurmuştur.

Küresel değer zincirlerinin analiz edilmesinde geleneksel olarak ulusal düzeyde derlenen üretim ve dış ticaret istatistikleri ve bunlara dayanan analiz yöntemleri yetersiz kalmaktadır. Bunun en önemli nedenlerinden birisi, söz konusu istatistiklerde bir ülkenin ithal ettiği ara malları içeren bir malı ihraç etmesi durumunda, söz konusu ithal girdilerin ülkenin hem ithalatında hem de ihracatında iki kere hesaplamaya dâhil edilmiş olmasıdır. Dolayısıyla, bir ülkeden ihraç edilmiş gibi görünen birçok mal, aslında o ülkenin başka ülkelerden ithal ettiği ara malların değerini yani yabancı katma değeri de içermektedir. Bu çifte hesaplama hatası yerli katma değer katkısının ne kadar olduğunun görülmesini güçleştirmektedir.

Bu tür analizlerin sağlıklı bir şekilde yapılabilmesi için küresel değer zincirinde yer alan bir malın hammadde temininden nihai ürüne kadarki üretim ve dağıtım sürecinin her aşamasında ülkelerin karşılaştırmalı üstünlüğünün tespit edilmesi ve ekledikleri katma değerin ayrıştırılması gerekmektedir. Bu amaçla çeşitli veri tabanları geliştirilmiş ve çeşitli araştırmacılar ve araştırma merkezleri tarafından birçok çalışma yapılmıştır.

Tüm bu gelişmeler Afrika kıtası ve ülkeleri için de büyük önem taşımaktadır. Bu çalışmada Afrika tarımının küresel değer zincirleri içerisindeki yeri ve rolünün, karşılaştığı sorunların belirlenmesi ve bu sorunlara çözüm önerileri geliştirilmesini amaçlanmaktadır. Bu amaçla önce küresel değer zincirleri ve ilgili kavramlar tanımlanmıştır. Çalışma bir literatür tarama ve sentez çalışması niteliğindedir. Seçilmiş bazı Afrika ülkelerinin küresel değer zincirleri içindeki rolünü irdeleyen çok sayıda çalışma gözden geçirilmiş, bu çalışmalarda ortaya konan bulgular birleştirilerek bir senteze varılmaya çalışılmıştır. Varılan sonuçlar tartışılmış ve Afrika tarımı için önerilerde bulunulmuştur. Ülke seçimlerinde, veri ve yapılmış araştırmaların varlığı ve erişilebilirliği, ülke tarafından üretilen ürünlerin önem düzeyleri ve ilgili ülkenin dünya ekonomisine katkısı gibi faktörler esas alınmıştır.

Seçilen ülkeler şunlardır: Kamerun, Fildişi Sahili, Mısır, Gana, Kenya, Malawi, Fas, Nijerya, Güney Afrika ve Tanzanya. Ayrıca uluslararası kuruluşlardan toplanan veriler de değerlendirilmiştir.

Yapılan çalışmalar göstermektedir ki Afrika ülkeleri, küresel değer zincirleri ile diğer gelişmekte olan ülkelerden daha hızlı ve daha derin bir şekilde bütünleşmişlerdir. Bunun temel nedeni Afrika ülkelerinin sahip olduğu bazı avantajlardır. Özellikle tarımsal üretimde Afrika ülkeleri kahve, kakao, yaş sebze ve meyve gibi emek yoğun tarımsal ürünler üretmektedir. Bu ürünlerin çoğunun dünyadaki en büyük üreticileri Afrika kıtasında bulunmaktadır. Afrika ülkeleri dünya genelinde görülen bazı hastalık ve zararlılardan aridirler. Ancak Afrika ülkelerinin sahip oldukları avantajların yanında pek çok dezavantajları da vardır. Afrika genelinde tarım işletmeleri oldukça küçük olup ortalama tarımsal işletme büyüklüğü 20-30 dekar arasında değişmektedir. Tarımsal işletmeler finansman ve organizasyon sorunları yaşamaktadırlar. İşletmecilerin girişimcilik becerileri zayıftır.

Bu araştırmada günümüzde Afrika tarımının karşılaştığı sorunlar, potansiyeller ve de geleceğe dair beklentiler, küresel değer zinciri analizi yaklaşımı ile değerlendirilmiştir. Analizlerde küresel değer zincirlerinde büyük önem taşıyan yönetişim, yükselme, yoğunlaşma, katma değer payları, piyasa yapıları gibi konulara odaklanılmıştır.

Küresel değer zincirlerinin gelişimi Afrika tarımı için dünya pazarlarında yer alma konusunda birçok gelişme fırsatı sunuyor olsa da, küresel rekabetin, artan standartlaşmanın gereklerini yerine getirmede zorlanan Afrika'daki küçük tarımsal üreticilerin dünya pazarlarından dışlanması tehlikesini de doğurabilecektir.

Araştırma sonucunda, daha önceden yapılmış araştırmaların bulgularına dayanılarak şu sonuçlara varılmıştır.

Zayıf bürokrasisi ve finansal yapısı, yetersiz kurumsallaşması, zayıf altyapısı ile Afrika giderek artan ve çoğalan gıda güvenliği ve standartları koşullarını

sağlamada güçlükler yaşamaktadır. Bunun sonucunda Afrika küresel değer zincirleri içerisinde hammadde üreticisi bir konumda kalmıştır. Bu konum Afrika'nın zincirde yaratılan değerden oldukça düşük bir pay almasıyla sonuçlanmaktadır. Küçük işletmeler Afrika tarımının itici gücünü oluşturmasına rağmen, uluslararası sistemin gerektirdiklerini karşılamada oldukça zayıf durumdadırlar.

Öte yandan zincirde yer alan Afrika ülkeleri arasında benzerliklerin yanı sıra farklılıklar da bulunmaktadır. Güney Afrika, Mısır ve Nijerya daha çok petrol üzerine yoğunlaşmışken, Malawi, Kenya ve Fildişi Sahili gibi ülkeler büyük ölçüde tarıma dayalı bir ekonomiye sahiptir.

Tüm bu sorunlar karşısında Afrika ülkeleri, çiftçilerinin uluslararası standartlara uygun üretim yapmasını teşvik etmeli, çiftçileri yayım hizmetleri yoluyla bilgilendirmeli, bölgesel iş birliğini geliştirecek örgütlenmeler yaratmalı ve bu örgütleri güçlendirmeli, özel sektörün büyümesini teşvik etmelidir. Afrika ülkeleri ayrıca, uluslararası yatırımcıları ülkeye çekecek bir ortam yaratarak bundan ülkelerinin yarar sağlamasını garanti altına alacak önlemler almalı ve uluslararası marka yaratma çalışmalarına girişmelidir. Bunların hepsi uzun vadede gerçekleştirilebilecek hedeflerdir.

Kısa vadede ise Afrika ülkeleri bugün dezavantaj gibi görünen bazı hususları avantaja çevirebilir. Örneğin; Afrika'da hâlâ tarıma açılmamış çok geniş alanlar bulunmaktadır. Bunların çiftçilere dağıtılması ve işletmelerin genişletilmesi sağlanabilir. Birçok gelişmiş ülkenin aksine Afrika emek yoğun ürünler yetiştirmektedir. Bu ürünlerin yetiştirilmesinde kimyasal kullanılmaması veya çok az kullanılması bir avantaj teşkil etmektedir. Afrika ülkeleri, gıda güvenliği konusunda duyarlılığı artan bir dünyada örneğin, organik üretime yönelerek ve bazı niş piyasalara hitap ederek bu durumdan yarar sağlayabilir.

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**LIST OF ABBREVIATIONS**

| | |
|---|---|
| ADM | : Archer Daniel Midland |
| COMESA | : Common Market for Eastern & Southern Africa |
| EAC | : East Africa Community |
| ECOWAS | : Economic Community of West African States |
| EU | : European Union |
| FAO | : United Nations Food and Agriculture Organization |
| FAO STAT | : Food and Agriculture Organization Statistics |
| FDI | : Foreign Direct Investment |
| GCI | : Global Competitive Index |
| GDP | : Gross Domestic Production |
| GVC | : Global Value chain |
| IMF | : International Monetary Fund |
| OECD | : Organization for Economic Cooperation and Development |
| SADC | : Southern African Development Community |
| TIVA | : Trade in Value Added |
| UNCTAD | : United Nations Conference on Trade and Development |
| UN | : United Nations |
| USD | : Unite State Dollar |
| WTO | : World Trade Organization |

# 1. INTRODUCTION

This chapter encompasses the background of global value chains and an overview of African agriculture in the global value chains. The chapter also highlights the importance of the global value chains to the continent. Lastly, the chapter concludes by the main objectives of the dissertation.

## 1.1. Background

In the last three decades of the twentieth century, the world has witnessed a new conjuncture in the world trade that has changed the rules and regulations of the global economy, particularly after the breakdown of the international commodity agreements that had regulated trade of various tropical agricultural products.

These conjunctures and changes have been derived by globalization, which changed the way goods and services are produced globally and the traditional trade methods no longer reflect the reality of the current trade situation. Instead, bunches of networks and companies are engaged in the production process even for a single product, many countries and often the entire world are involved in production, these networks are currently referred as Global Value Chains.

This concept embedded the emergence of a new group of leading agents in the global economy such as retailers, branded marketers and the result was transformation of old trade linkages into a more decentralized but privately controlled production networks of firms and companies. All these occurred within a context of the elaboration and propagation of new definitions of quality.

However, these changes have been accelerated by the innovation and technology in communication, rapid falling of trade cost, market liberalization and advanced transportation system, which result in a combination of growing corporate concentration, and the complementary rise of outsourcing and more significantly appearance of standardization of the products toward product differentiation.

Global value chains offer an opportunity to many African countries to undergo several structural transformations where countries can be integrated at specific segments in the chain. This is usually achieved by assembling in the manufacture and upgrading of the agricultural products through value addition at certain stages.

African Economic-Outlook (2015), has revealed that Africa as a continent only captures a small share of value added in the global trade. This lower percentage of participation exists while the continent plays a major role as a provider of the raw agricultural materials, which is relatively encouraging compared with other parts around the world.

Balié et al. (2017), found that Africa is more integrated in the global value chains especially in the upstream production activities, specializing in providing primary inputs to many countries around the world. This position has placed Africa for example to gain less than 2% out of $100 billion revenue obtained by chocolate companies globally.

Therefore, the success of any country in the global value chains depends on the country's ability to respond to the external demand as well as on the nature of the value chains and lead companies in the chains.

### 1.2. Definitions of some Concepts

**Value chains:** It defines as full range of activities that are required to bring agricultural products from its conception to the final use by the consumers as a final product. These activities involve designing, production, marketing and distribution of the final product.

**Supply chains:** It can be referred to the process of coordinating all the activities of parties in the chains in order to fulfill customer's demand and requirements. These activities do not necessarily involve physical transformation of the agricultural products.

**Upgrading**: Porter (1995), defined the concept as "Companies achieve competitive advantage through act of innovation. They approach innovation in its broadest sense, including both new technologies and new ways of doing things". However, some scholars in GVC use a holistic perspective as they view the role of other firms in the chain.

**Global value chains:** Global value chains can also be understood as networks of functionally interrelated producers and buyers that are engaged on a global scale in processes of value creation as products pass across borders and between different actors in the chain.

**Governance:** The concept in GVC literature underscores the role played by powerful and big companies, especially those that exert 'buyer power' by placing large orders and conditions on the farmers and small producers in the value chain.

**Concentration**: Some scholars in the GVC have linked the concept to intellectual property right particularly in the field of plant varieties protection**.** However, the scope of the concept varies to include elements such as production, designing, marketing which at the end of the chains lead to monopoly on a certain area.

### 1.3. Importance of the Global Value Chains.

Global value chains (GVCs) have changed the nature of production process and specialization around the world. While these changes occurred at the international level and mainly concentrated in the manufacture and services sectors, similar transformations have been applied to agriculture and food (agro-commodities) sector. This could be observed in the increased demand for raw materials and some agricultural products.

OECD and FAO (2016), has found that trade in agro-commodities globally could generate an average of 20-26% employment opportunities in the agricultural sector. This could be a chance for Africa as a continent to capitalize on since the

unemployment rate is estimated to be around 8.84 percent with the highest percentage in Lesotho and lowest rate in Niger, 28.48 and 0.36 percent respectively.

Therefore, participation in the global value chains and particularly in the agricultural sector is linked to stronger growth of job opportunities, maximization of export products shaped by value-added, improvement of domestic trade, governance, political stability as well as effective participation in the global market, which in return could improve the overall situation of the continent and the world economy (Bellemare,2010; Swinnen,2014; Montalbano et al.,2018).

Lee et al. (2012), has highlighted that participations in the global value chains may stimulate public and private investment in various sectors such as infrastructures, companies, storage facilities and transportations, this would be more profitable and provide a golden opportunity to aid the current-ongoing transformations in Africa, particularly in agriculture and food market.

DeVries et al. (2016), has illustrated that global value chains can provide a competitive market structure that could not only benefit the GVC suppliers but also non-participants to GVCs, by providing a decent and stable income, food security and maximization of the profits, particularly to the small farm-holders.

Gereffi (2014), provides another advantage for the engagement in the GVCs, when he argues that, the development in the global value chains is linked to the advancement in the technological communication which facilitates offshoring of the good and services over large distances. Therefore, participating in the GVCs, is associated with obtaining technology which the continent is in dare need for.

Therefore, assessing the available agricultural potential of the continent is paramount for the effective participation in the global value chains and improvement of the production processes either by joining forward or backward linkages in the global value chains.

Evaluating African agriculture in the GVCs, means assessing the overall

performance of the countries in different phases of the production processes to determine the amount of value-added in the chains. This exercise is extremely research and data demanding, thus this dissertation aims primarily to assess African participation in GVCs using previous studies conducted in the field of agriculture.

Furthermore, the spectrum of the policies and factors that influenced agriculture and food sectors in the global value chains is wide, ranging from the policies of countries to increase competitiveness in the market. Additionally, the production environment for wholesaler and retailer combined with the export activities complicate the assessment process which makes it a tedious task to be covered by this dissertation.

### 1.4. African Participation in the Global Value Chains

Since the beginning of the 20th century and the appearance of the agri-food global value chains, manufacturing of agricultural products and services has become strategically distributed across the globe with many countries relying more on assembling imported products for their own export.

Banga (2014), provides in his study that value addition in the primary agricultural products is mainly concentrated in three regional blocks namely, Asia, Europe and America, which accounts for 85% of the value addition globally while Africa obtained 2.2 %. This small share is attributed to the continent playing the role of supplier of unprocessed agricultural products while the transformation is being carried-out in the other regions in the world.

Organization for Economic Cooperation and Development and World Trade Organization has estimated that OECD countries capture 67% of the value -created in GVCs (Brazil, Russia, India, China and South Africa), while the East and Southern Asia account for 25% leaving more than 100 countries to share the remaining 8% in the value added globally (OECD, 2014).

Many scholars and analysts argue that the emergence of global value chains provides an opportunity to support the current ongoing transformation in Africa,

particularly in the field of agriculture and food market by transforming the subsistence-oriented farming system to a more commercialized system.

Therefore, the primary objective of this dissertation is to investigate the major problems African agriculture products are facing in the global market and recommend some practical approaches on how to improve and develop African agriculture.

### 1.5. Objectives of the Research

In view of the importance of the agricultural sector for economic growth, governments need to determine what policies are best suited to stimulate agricultural production in order to maximize the country's contribution in the global market. The information on agriculture products are crucial for government planning as well as for the decision-making process.

The basic parameters required to evaluate the impact of the country's role in the global market vary from assessing the challenges country encountered to the chances and opportunities which are available. These parameters quantify the ability of the country to meet the basic requirements needed by the producers and consumers both at domestic and the international market. However, such basic parameters could help to forecast production, consumption, changes induced by the giant players in the global market.

Food and Agricultural Organization have estimated that Africa has approximately 60 million hectares of arable land that are unexploited (Lopes, 2015). This figure represents about 60% of the world arable land, which could be an opportunity for Africa to capitalize on since the world population have been projected to increase up to 9 billion by 2050, but such movement is conditioned by providing better infrastructural services, storage and transport facilities as well as a good financial system.

Therefore, this thesis aims primarily to evaluate African agriculture in the

global value chains, basically by assessing the major challenges that the continent has been facing during the last two decades, in addition to the available opportunities and future prospects of agriculture in Africa.

Furthermore, the research intends implicitly to help states governments, business actors, policy-makers and stake-holders to make and take accurate paths and approaches that could improve Africa's agricultural producers in the world trade. In view of the above considerations, explicitly the following specific objectives are investigated too.

Objective-1: to define the term global value chains and related concepts to their operation

Objective-2: to identify the causes of major problems and explore the available opportunities that African agriculture possesses in terms of agricultural potential that could help Africa secure a better position in the global value chains.

Objective-3: to map-out and analyze the relationship between actors in the global value chain with the main focus on African agriculture at the international level to strengthen and improve the continent role globally.

Objective-4: to determine and specify some practical methods and mechanisms that could help to scale-up effectively and facilitate active participation of the small farm-holders in the global value chains.

Objective-5: to delve and evaluate previous findings of the researchers and some institutions, that have been carried out on the subject

.

## 2. PREVIOUS STUDIES

Global value chains started to draw attention of many researchers and scholars in the mid of 1990, where most of the study cases focused on manufacture field, with rear cases such as on tourism Clancy, (1998), and food-wears (Schmitz,1999), on electronic products (Kenney and Florida, 1994), and on auto-mobiles and auto-components (Barnes and Kaplinsky, 2000).

Gereffi et al. (2005), carried-out a study on governance in the global value chains while on upgrading (Porter et al. 1995) and (Cattaneo et al. 2013) and (Phillips et al.1997). However, Fernandez and Gereffi (2011), conducted a study on the methodology and some techniques on how to quantify value addition in the global value chains, on evolution and on the history and evolution of the global value chains (Baldwin and Martin, 1999), (Bairoch, 1989), (Knick,1980) and (Gereffi, 1994).

However, this chapter covers the previous studies conducted on global value chains at state or country level with main emphasis on the agriculture and small farm-holders in Africa. Also, the chapter encompasses relevant studies around the world on the global value chains in the agriculture sector.

### 2.1. African Agriculture and the Global Value Chains

Balié. et al (2017), found in their study that the Africa is highly integrated in the global value chains more than many other regions in the world, asserting that global linkages have been increasing over time while Africa's participation in the global value chains is only in upstream activities specializing in providing primary agricultural inputs to the firms in countries further the chains. Also, they revealed that most of the value-added demand for African agricultural products originated from EU and emerging countries rather than the regional countries, insisting that bilateral trade policies are the key determinants for Africa to engage in both forward and backward GVCs participation.

Adewole (2019), argued that Africa has been unable to take advantage of the massive benefits generated by the global value chains because Africa's participation in the global trade is low and limited to unprocessed agricultural products with a little value addition and sometimes no value. Therefore, the continent only participates in forward linkages, as a result African merchandise trade has kept growth of 5.2% globally which is below the average rate compared with 8.8% and 7.8% for Asia and other developed economies respectively. This average rate makes Africa the least successful trading region in the world.

Bamber et al. (2014), in their article "Burundi in the Coffee Global Value Chains", provided that the agriculture sector is heavily dominated by the small farmers that represent about 80% of the country's coffee export. However, over the last decade, the sector is facing severe declines in production due to various factors ranging from insufficient water, poor maintenance of plantation, climate change, insufficient knowledge of regulating agricultural products to inadequate use of mulching and other technical assistance. All these factors have significantly influenced the production which implicitly hinders the country's participation in the global value chain. Despite the country's involvement in washing operations for processing the coffee beans to improve competitiveness and met some international rules yet the country's role in global value chains is still marginal.

Daly et al. (2016), in a study titled "Maize Value Chains in East Africa" revealed that major constraints in maize global chains in East Africa Community are inferior seeds, lower use of fertilizers, lack of liquidity and access to credit, absence of coordination, lack of storage facilities, lack of certification capacity and adherence to international rules and regulations that govern the agricultural products at the international market. These challenges have impeded the region's participation in the global value chains, allowing Archer Daniels Midland, Bunge Group, Cargill and Louis Dreyfus to control over 90 % of globally grains trade, the percentage that many scholars and researchers considered critical and risky to Africa and world trade.

African Economic Outlook Report (2015), revealed that manufacturing sector especially petroleum, chemical and non-metallic minerals has the highest value added in Africa compared to agricultural sector that showed the lowest level of value addition and in some parts the sector remained below its potential by exporting agricultural products as raw materials to Europe and Asia and America. Therefore, this overdependency on non-agricultural products has negatively hampered African agricultural participation in the global value chains.

Taylor (2016), in his article attempting to answer why Africa is not rising, suggests that Africa should undergo structural transformation to avoid export of raw agricultural materials by improving the industrial sector to increase value addition, which will improve intra-African trade in agricultural products and implicitly provides an opportunity for infrastructure and other sectors to flourish, which will eventually help Africa to gain a better segment in the global value chains.

Catteneo et al. (2013), asserts for African agriculture to participate fully in the global value chains, the continent should engage fully in maximizing the productivity, comply with international rules and regulations beside the use of available Africa's resources coupled with upgrade and value addition to the primary agricultural products. This can help Africa to join the global value chain and resolve some of the continent's challenges including poverty alleviation and provide employment opportunities to many youths in Africa.

Lopes (2015), has illustrated the importance of Africa to transform the agricultural sector into higher forms of capital and more preferably industry sector by giving priorities to economic development, expanding production particularly in the agriculture sector and value addition to most of the agricultural products to respond to the increased demand for more sophisticated consumption of goods and meet the capacity of the world market that gains momentum after the emergence of the global value chains in the last decade of the century.

Ponte (2002), provided in his study that African economy has been substantially fueled by primary agriculture products and absolute de-industrialization of agriculture sector combined with poor backward-linkage participation. This situation has prevented Africa to efficiently utilize the abundant agricultural resources and narrowed the potential of Africa to upgrade and add value on agricultural products to secure a better position in the global value chains.

Wiggins et al. (2010), argued in their work that value addition should take place close to where primary resources and raw materials are available. Africa is the major supplier of unprocessed agricultural products and produce approximately 61% of the cocoa globally but only gained 2% out of $100 billion revenue generated by Cargill and Archer Daniels and Midlands, all these are attributed to the continent's playing an insignificant role in the global value chains.

Wang & Brown (2013), found that Africa has not successfully integrated itself into the world economy characterized by the current global value chains, due to the fact that the continent imports over 60% of manufactured goods and agricultural products that are highly value added at the same time export natural resources and raw materials with lower value. This imbalance between export and import has positioned Africa not to capture the opportunities to add value locally and export the products unprocessed to the world market, as a result the continent is still at the bottom of the chains.

De Vries et al. (2016), have reached to the similar conclusion in a separate study on the Northern African countries in GVSs, that the region has been unable to fully enter in global value production networks, because the region plays a marginal role at the global level and is mostly participating in upstream phase which involves low value-added activities particularly for the agricultural products.

Wang & Brown (2013), provide another finding, that African countries have displayed a polarized pattern of the global value chains participation as some countries have shown significant economic growth by adding value to their primary

agricultural products (South Africa) on contrary other countries are relatively engaged in global economy with small economic size, underdevelopment, lack of innovation and technology. This paradoxical situation has placed Africa in the lower segment in the global value chains.

Raikes & Gibbon (2000), reached a conclusion that Africa has become increasingly marginalized in the global economy, exporting only agricultural products to western world due to regulations, stocks control and combination of complex production and distribution system and more extremely uneven distribution of physical infrastructure have placed many African countries not to participate fully in the global value chains.

Raikes et al. (2016), provided a similar finding of African agriculture facing increased marginalization within the current global economy and reaffirmed the benefits associated with African agriculture to be upgraded and add some value in order to participate fully in the global value chains not only as supplier but also as a major player in the international market.

Staritz and Reis (2013), revealed that increase of non- traditional agricultural products such as horticulture products in some African countries and Latin America has resulted in the emergence of modern agricultural waged labor where women are overwhelmingly preferred source of labor. This has increased employment opportunities for women in the export-oriented sector, where women are concentrated at specific segments of agricultural production. This finding provides a great opportunity for Africa to capitalize on to employ more works in the sectors to boost production and enhance the continent's participation in the global value chains.

Swinnen, (2014), found that increased demand for high value products and increased price in the international food market create an opportunity for developing countries and Africa in particular to realize their economic growth through expanding and diversifying their agricultural exports because high value agricultural

products generate and increase rural people's income and reduce poverty. Therefore, agricultural export and value chains addition are fundamental components for Africa's development and participation in the global market.

Fernandez-Stark et al. (2011) emphasized that Kenyan horticultural sector accounts for approximately $1 billion in export revenue specially after the country has embarked in upgrading and value addition in some agricultural products such as fruits and vegetables with concentration on the products with lightweight to minimize the cost of transportation. This finding resonates with the previous studies conducted by (Goger. et al, 2014) when they found that single largest category in the global agricultural trade in horticulture sector is accounting for 20% of world agriculture export. This provides an opportunity to many small farm-holders to integrate in the horticultural global value chain. Therefore, increasing agricultural export and extension services could help the Africa be integrated fully in the global value chains.

Catteneo et al. (2013), emphasized that after market liberalization and dissolution of many agricultural boards in Africa, that used to market most of the agricultural products to the international market, power in the global value chains has been consolidated largely to big company and firms, where coordination and determination of agricultural product prices are decided at upper level of the chains. This situation has placed many African producers and small farm holders at the risk of overexploitation by the big companies since most of these firms request the suppliers to comply with their conditions and demand irrespective of the production scale and condition of the farmers.

Lagerkvist et al. (2013), in their study provided a future prospective for the African agriculture as the population of the continent is expected to increase due to urbanization and tendency of many people to move toward the big cities. This increase will generate high demand for higher quality food and agricultural commodities, which in general will change the consumption patterns by increasing

demand for the processed agricultural products. They stressed that this could be an opportunity for Africa to enhance and improve intra-African trade that will boost the continent's participation in the global value chains.

Badiane et al. (2014), provided that the value of some African agricultural products and agri-business will reach to one trillion dollars by 2030 comparing to 313 billion dollars in 2010, but they conditioned such progresses are to be achieved if the continent pays more attention to the small farm-holders that represent the major source of primary agricultural products coupled with effective participation in the GVCs through upgrading and value addition.

Foster-Mcgregor et al. (2015), in their working paper on Global Value Chains in Africa, reached a conclusion that participation in GVCs across many African countries is high and heterogenous because the overall evidences prove that African participation in the global value chains and the extend of upgrading are limited to the upstream production. However, they found that many African countries have been able to move into downstream production within the chains acting as assembly hubs for the motor vehicles and other manufacturing output but not in agriculture sector.

Swinnen (2014), in a joint working paper on agriculture and trade reaffirms the importance of the current benefits of the global value chains to domestic value addition and employment, particularly in Africa and some Asian countries where wages are very low comparing to those of the northern hemisphere. As a result, most of the outsourcing activities happened to take place where wages of the workers are very low.

### 2.2. General Studies on Agriculture in Global Value Chains

Danny et al. (2015), in a study on Philippines in the cocoa global value chains, concluded that the country needs to improve its agricultural production because aging trees and inefficient agricultural operations have undermined the

productivity of the sector. Therefore, building the capacity of small farm-holders and adoption of the modern technology are paramount for the country to participate fully in the global value chains.

Nello (2014), in his article the on winners and losers in the global value chains found that over the last decade the share of developed countries in the global agricultural export had increased while that of the developing countries had declined significantly. Conversely, the share of developing countries in the world import of agricultural product rose. This situation has been described by the United Nation Food and Agricultural Organization in 2016 as the gradual marginalization of Africa in the global economy (FAO, 2016).

Alemdar (2008), in his article on the status of Turkish food sector within the global value chains, reached a conclusion that the world agro-food market have become more complicated due to increased importance of food safety and standards, information flow, coordination between leading firms in the global value chains, widespread use of technology and concentration and asymmetric form of power in the chains, cautioning these structural change in the global market will have profound effect on Turkish food sector.

Tozanli & Gauthier (2007), in their article “Gouvernance de la chaîne globale de valeur et coordination des acteurs locaux: La filière d'exportation des tomates fraîches au Maroc et en Turquie” , provided an approach for the local player and small producer in the global value chains to adopt collective strategies by upgrading their agricultural product through improving hygiene and standard in order to get bargaining power in the global value chains as most of the leading firms continue to impose restriction and regulations on agricultural products.

The next chapter covers the materials and the methodology that have been used to evaluate African agriculture in the global value chains.

# 3. MATERIALS AND METHODS

This chapter will provide an explanation to the materials and the scientific method that has been used to analyze the data collected for the research purpose. The chapter commences with a brief description of the research area (Africa), the criteria for selecting the countries that will be included in the analysis process, research methodology, type and source of the data that have been used in the research. The chapter also provides some techniques and measures that are commonly used to quantify value addition in the global value chains.

## 3.1. Materials

### 3.1.1. Description of the Research Area

Africa is the world's second largest and second most populous continent in the world after Asia in both categories, the continent is large enough having an area of about 30.3 million $km^2$ (11.7 million square miles) including the adjacent islands, it covers nearly 6% of the world's total surface and this is about 20 percent of the world's total land area.

Africa, is surrounded by the Mediterranean Sea from the north, Isthmus of Suez and Red Sea to the North East, the Indian Ocean to the Southeast and the Atlantic Ocean to the West. The continent includes Madagascar and various archipelagos, while it has 54 fully recognized sovereign countries there are nine territories and two *de facto* independent states with limited recognition. Majority of the continent and the countries are in the Northern Hemisphere of the earth, with substantial portion and number of countries are in the Southern Hemisphere.

The climate of Africa ranges from tropical to subarctic on its highest peaks. The Northern part of the continent is completely desert or arid, meanwhile the central and the northern regions contain both savanna plains and dense jungle (rain forest).

Africa is considered as one of the hottest continents on the earth. The highest temperature was recorded in the desert of Libya in 1922 to be 58 °C (136 °F)).

The continent has the world's largest combination of density and free range of wild animals in terms of population and diversity ranging from carnivores such as lions, hyenas and cheetahs to herbivores such as buffalos, elephants, camels, and giraffes in addition to huge potential of agricultural resources and different types of plant.

Figure 3.1. Africa Map

### 3.1.2. Criteria for Selecting the Countries Used in the Study

Global value chain is a wide and limitless topic, due to the fact that the topic covers the movement of the agricultural products from the farming stage until its final use by the consumers. Africa alone as a continent consists of more than 50 countries. Therefore, covering all these states has been one of the challenges for this study, thus the selection of the countries for the study will be based on the availability

of the country's data and the contribution of the country to the world economy. Also, participation of these countries in the global value chains through the agricultural products they produce such as cocoa, tobacco, coffee and horticultural crops from Kenya was another criterion considered for the selection.

Secondly, since the global value chains lack a clear theoretical framework for the critical analysis of the data, one of the criteria for selecting the country was considering the previous studies carried-out in the Africa such as Burundi in the coffee global value chains a study done by (Bamber et al. 2014) and (Gibbon, 2008), on globalization and African export crop agriculture. However, to ensure inclusivity of the whole continent ten countries have been selected randomly to represent the continent and these countries are Cameron, Cote d'Ivoire, Egypt, Ghana, Kenya, Malawi, Morocco, Nigeria, South Africa and Tanzania.

### 3.1.3. Method

There are many methods to analyze and evaluate value addition in the chains. The analysis in most cases stems from the research of secondary information mainly collected from the government or industry databases or interviews with industry participants. However, the information or the materials can be derived from market assessment and market observations. Once the information has been collected numerous tools and techniques can be used to interpret the information and obtain the result that could be explained accordingly.

Therefore, the materials and data used for this study have been collected from secondary sources specifically the materials that exist in some statistics institute such as United Nation Conference on Trade and Development (UNCTAD), Food and Agricultural Organization Statistics (FAOSTAT), International Monetary Fund (IMF), World Bank (WB) and Eora G.V.C database, which are mainly production, export and import data.

Furthermore, other materials used in this dissertation cover reports such as

African Economic Outlook, OECD-FAO Agricultural Outlook 2017-2026, FAO Annual reports, publications such as Logistic and Global Value Chains in Africa, Duke Global Value chains center, OECD annual publications, UNCTAD publications, AgEcon research on agricultural and applied economics, all these materials have been intensively reviewed to achieve the objective of the study.

### 3.2. Methods

The value chains approach is mainly a descriptive tool that studies the interaction between different actors in the chains. Therefore, the approach is merely associated with various advantages because it forces the analyst to consider both micro and macro aspects involved in the production and exchange of the activities along the chains.

Global value chains (GVCs) framework focuses on the sequences of the value added within an industry or firms in the chains from the conception to production to the final use by the consumer, generally it examines the job descriptions, assessment of the technologies used, regulations and production processes. Therefore, the approach provides a holistic view of global industries both from the top down and bottom up.

Fernandez-Stark and Gereffi (2011), has identified four basic dimension that can be used to examine the global value chains. These dimensions can be summarized as follows:

1. Input-output structure: This dimension describes the process of transforming the raw materials into final products where they can be used by the consumer, generally it uses arrow boxes to show the flow of the goods and services and the value added across different stages.
2. Geographical scope: This involves the distribution of industry globally and which country is active in the global value chains.

3. Governance structure: This structure examines how value chains are being controlled by some giant companies and firms in the chains.
4. Institutional context and this is where the industry carries-out value addition. Generally, the four fundamental dimensions focus on economic competitiveness among actors in the value chains.

The value of a given product represents the combination of several inputs some of which have been sourced locally such as labor and local production and others are been imported from outside such as intermediate inputs and their embodied labor and capital.

Therefore, understanding GVC requires unpacking of these various elements, so that for any given product traded the amount of transformation that occurred locally can be identified by this approach allowing value added to be estimated.

Figure 3.2. Illustration of Global Value Chain of Cocoa.

The information on how the country participates in the value addition along the chains is very important because it helps in estimating the trade value added, from the above example country B depends heavily on country A for its export (Figure 3.2) This kind of relationship in the global value addition reveals that there are two ways of participation in the GVCs namely:

A. Forward linkages: This shows the amount of the country's exports from domestic production to another country and the contribution to that country's export before the final products are reached.
B. Backward linkages: This reflects the extent to which imports from other countries are used in the production of a country's export.

Several methodologies have been used to estimate the forward and backward linkages in the global value chains, but the most common approach is to calculate an indicator of the vertical specialization as described by Nomura et al. (2004) and has been redefined by Borin & Mancini,(2019) and Koopman et al. (2010).

This approach defines value chain participation in terms of the origin of value added embodied in export both in forward and backward linkages from a reference country, thus backward refers to foreign value added embodied in the export and forward implies the domestic value added used as inputs to produce export in a specific country.

However, such indicators have been calculated by using harmonized system of the inter-country input-output tables (ICIOS) (De Backer et al. 2014) and (Miroudot et al. 2013) using OECD -WTO trade data in value added which will be also used as the base for the purpose of this study.

Similarly, the backward participation index is measured as the share of foreign value added that is included in the total export value of a country while the forward global value chains participation index is measured as the share of a country's value added arising from its own export.

Therefore, a country that is predominately assembling product to the final products and exports them will have strong backward participation index but weak forward linkage participation while the country which predominately supplies intermediates to an assembler will have strong forward linkage and weak backward participation. These participation measures give us a metric of engagement in form of buying from (backward participation) and selling to forward participation in global value chains or in other words demand and supply side of the value chain activities.

After measuring forward and backward participation, this will not capture all the effects of the agricultural products in the global value chains because the nature of some products makes the chains very short and sometimes without any

value addition, particularly products that are consumed directly such as fruits and vegetables.

Therefore, for better understanding of the effect of participation in the global value chains, the analysis of the agricultural product value chains need be complemented with broader indicators to capture the important domestic economic indicators such as value added obtained from domestic upgrading, role of the small farm holders and the employment generated through the participation in the global value chains.

However, due to scarcity of the relevant data and complexity of the agriculture global value chains, the analysis of the thesis has been concentrated on the previous research and work of some scholars as the main methodology to achieve the objective of this study with more emphasis on the country with available data on the continent.

The literature review has been applied through the systematic review of the materials related to the area of the global value chains to determine the theoretical differences in various areas, particularly in the areas related to value added, upgrading, governance in the context of agriculture in Africa continent. Articles, books, reports from various organizations, and any source related to GVCs have been intensively reviewed to achieve the objective of this study.

# 4. RESULTS AND DISCUSSION

This chapter presents the results and discusses major problems and challenges that African agriculture is facing in the global value chains in forms of governance, upgrading and value addition, concentration and share as well as difficulties encountered by the small farm-holders and the available opportunities for the integration in the global value chains.

## 4.1. Cotton-to-Garment Value Chains in Kenya

The garment value chains are dominated by swing/ assembly and administration cost which accounts for 34% of the total cost of the production. This percentage is relatively high compared to the cost of manufacturing in other countries such as South Africa which on average cost 1.5-2.7% of the total cost. Therefore, this suggests that improving these two sectors can improve the efficiency of the value chains (Figure 4.1)

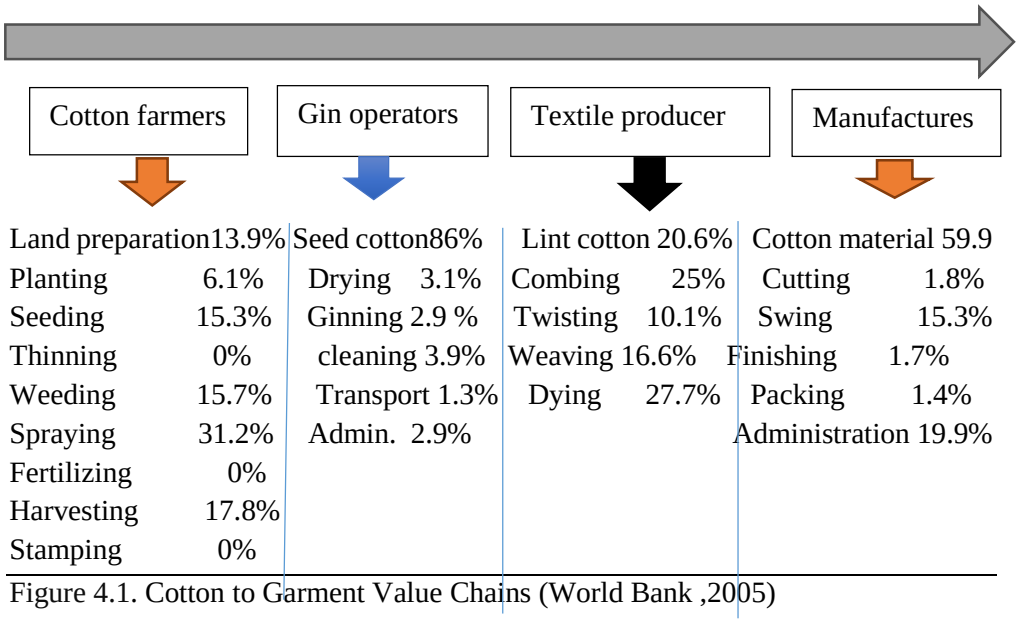



Figure 4.1. Cotton to Garment Value Chains (World Bank ,2005)

Therefore, a value chain consists of five steps that enable the companies or firms to create a value that could exceed the cost of providing good or services to customers as final products in a better form possible. These, five steps are: inbound logistics; operations; outbound logistics; marketing and sales; and service. Inbound logistics include receiving, warehousing and inventory control.

However, mapping value chains seems easy and simple as it always been illustrated as a process that follows A to B and C sequence but in reality, value chains are more complicated process as the product passes through various stages until it reaches the consumers as a final product (Figure 4.2).

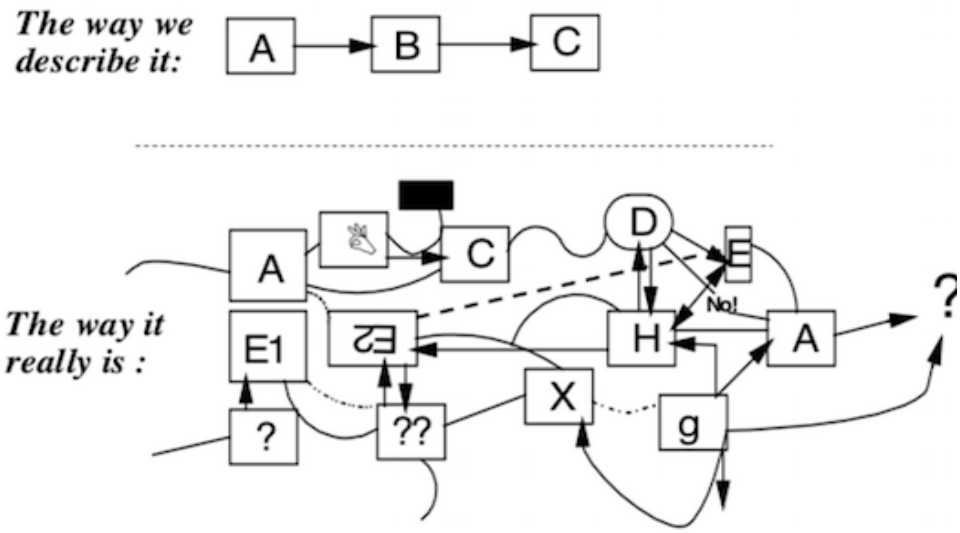



Figure 4.2. Mapping Value Chains (Kaplinsky& Morris 2001)

Therefore, identifying an entry point for the value chains analysis is very crucial for the final result. Normally, in agricultural sector a farmer is considered as an entry point then followed by processor, buyers and the customers after packaging and categorizing the buyers in the market.

Table 4.1. Breakdown of the Canned Peaches Value Chains in South Africa. (Kaplinsky& Morris 2001)

| **Stage in value chain** | **Contribution to final product value (%)** |
|---|---|
| **Within South Africa** | |
| Peaches | 12.4 |
| Cans | 11.6 |
| Sugar | 4.2 |
| Canning | 14.7 |
| Labor | 7.4 |
| Other "depreciation, utilities, profit, internal transport" | 7.3 |
| **Total inside South Africa** | **42.9** |
| Outside South Africa | |
| Shipping, duties, insurance, landing charge | 24.2 |
| Importer's margin | 6.3 |
| Supermarket margin | 26.7 |
| **Total outside of South Africa** | **57.1** |

Table 4.1. illustrates peaches value chains in South Africa, it can be realized the chains involve different steps addition of various factors inside South Africa and outside South Africa. For instance, the value added with South Africa, the value of peaches has a share of 12.4 % while canning and addition of sugar have 11.6 and 4.2 % respectively out of the final value of the product. However, the cost of labor and other stages cost more than 15% in share making the total Inside South Africa about 42.9 %. In contrast the cost outside, South Africa is relatively high about 57.1 out the total value added to the final products.

**Global value chains:** Global value chains can also be understood as networks of functionally interrelated producers and buyers that are engaged on a global scale in processes of value creation as products pass across borders and between different actors in the chain

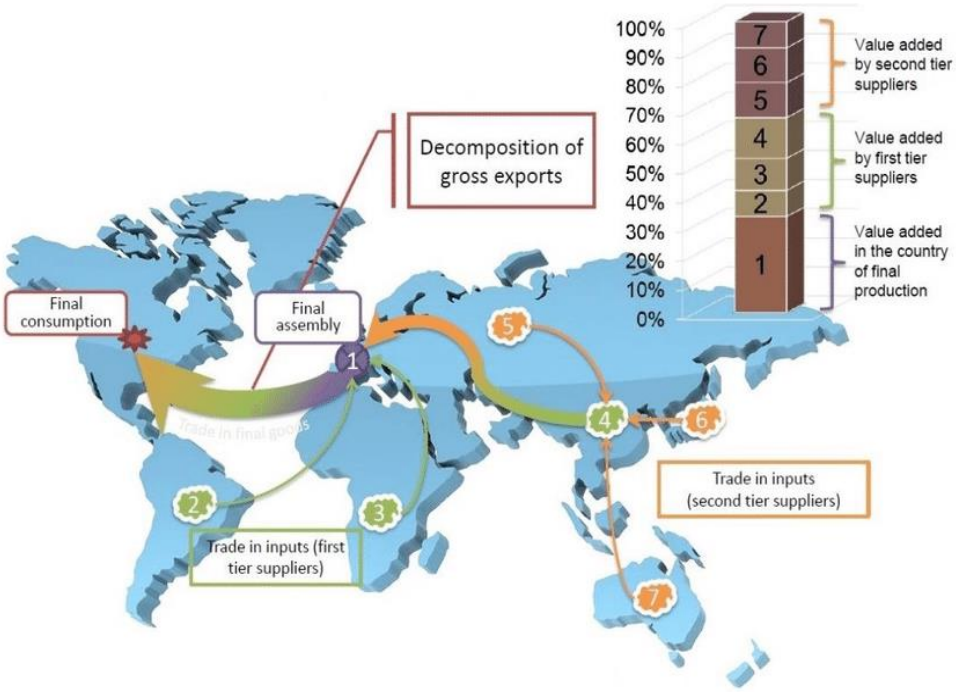



Figure 4.3. Illustrates the Definition of Global Value Chains, (OECD,2014)

Figure 4.3 Illustrates the definition of the global value, where the production of a single product no longer exists in one region but instead bunches of networks and companies are involved in the production process

**4.2. Governance in the Global Value Chains**

Governance in the global value chains is viewed by some analysts as the process of exercising control over a certain type of product along the chain through the specific conditions such as what type of product should be supplied, what quantity and how it should be produced and when, and at what price.

Gereffi (1999), refers the term governance to the issue of authority and power relationship within the global value chains. Therefore, when a group of firms in a particular functional position in a value chain manages to shape who will meet the above-mentioned conditions and standards, these groups of firms are termed lead firms in the value chains, thus the approach focuses on inter-firm relationships and institutional techniques through which non-market coordination of activities in the chain could be achieved mutually.

However, global value chains were classified into two categories based on the nature of the lead as producer- driven chains which characterized by production to order and usually they exist at the end of the production site, while buyer-driven chains and this type is characterized by lower barriers to enter the production cycle and often they are subordinate to the lead firms which control design, marketing distribution and majority of this types exist in Africa and other developing countries.

This classification of the governance in the global value chains into the producer-driven chains and buyer-driven chains has ignited serious debate on the scope and major factors driving governance in the global value chains, (Gibbon, 2005) argued that governance in GVCs is beyond the dichotomy of the producer-driven chains and buyer-driven chains citing the appearance of outsourcing that gain the momentum in agriculture sector (i.e. chocolate companies) due to lower cost of production which is peculiar to buyer-driven chains and producer driven chains, Gereffi (1999), elaborated furthermore that the dichotomy no longer reflects the reality of the governance in GVC as the e- commerce has engulfed the global market.

However, scholars such as (Humphrey and Schmitz 2002), have distinguished between three types of governance: a) network (firm cooperation), b) quasi-hierarchy (top down, but legally independent), c) hierarchy (direct ownership). The criticism and the debate on governance in the GVC culminated into reviewing the scope of the concept by Gereffi et al. (2005), when they formulated a new framework of the governance in the global value chains that goes beyond the indigenous common types of global value chains of buyer-driven and producer-driven chains.

They have developed a matrix that composes of three independent variables, and each variable could take two values (high and low). The variables were (1) the complexity of the information and knowledge required to sustain a particular transaction (2) the ability to codify and transmit efficiently this information between the parties and (3) the capabilities of the supply base on relation to the requirements of the transaction. The matrix yields eight combinations in total where three of them have been ruled out improbable practically, thus the remaining types of governance can be illustrated as follows:

**1. Market**: This type of governance, an interfirm link is characterized by having low informational complexity, easy codification of information, and high supplier capabilities and the costs of switching to new partners are low.

**2. Modular:** Interfirm links involved in this category have to some extent, more specialized suppliers who can finance part of production on the side of the customer, and the technology is sufficiently generic to allow its use by a broad customer base. Therefore, this type of governance is characterized by high informational complexity, ease of codification, and high supplier capabilities.

**3. Relational:** Interfirm links involve many interdependencies, sometimes underwritten by close social relationship; the main characteristics of this type are high informational complexity, low ability to codify information, and high supplier

capabilities.

**4. Captive:** Interfirm linkages involving one-way dependency of suppliers, high levels of supplier monitoring, and high costs of switching for suppliers; characterized by high informational complexity and simple codification, but low supplier capabilities.

**5. Hierarchy:** This type is characterized by classic vertical integration, shaped by high informational complexity, difficult codification and low capabilities among independent suppliers.

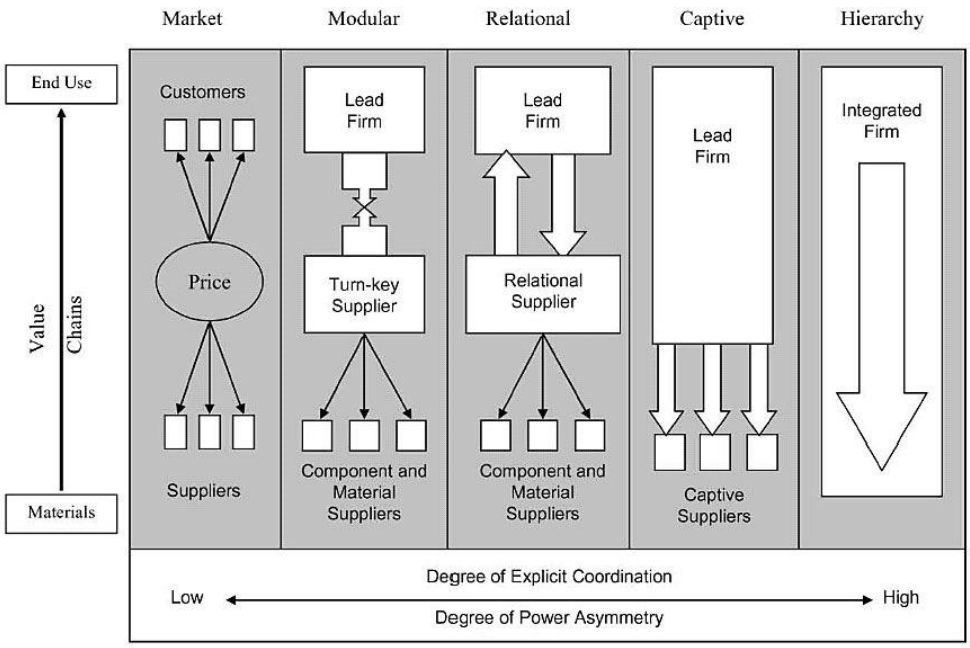



Figure 4.4. Governance Structures in Global Value Chains, (Gereffi et al. 2005)

Gereffi et al. (2005), identified three factors that influenced the choice of governance by the lead firm: the complexity of information and knowledge required for transactions, the extent to which it is possible to codify the information, and the capabilities of potential suppliers in the value chain. Therefore, a supplier in a captive

value chain could improve its capability and may move up to a reach a better position in the value chains.

Gibbon (2005), found that governance in the global value chains is not only determined by different combinations of the three variables highlighted by Gereffi et al. (2005), but also by the global and local environment that govern the relationship between the firms and companies in the global market.

Gereffi and Gibbon built their argument on two principles, transaction and institutional environment surrounding the firms questioning "If the concerned transaction is highly complex while its codifiability is low" then outsourcing firms have little choice but to engage with their suppliers through relational linkages or internalize the linkages within boundaries of the corporate hierarchy. This eliminates the feasibility of learning strategies that focus on modular linkages. Thus, they concluded that complexity of transactions and the ability to codify determine the scope and characteristics of out-sourcing and supplying activities along the chains.

Also, the strategies of the lead companies and suppliers are influenced by institutional environments and other specificities surrounding the local setting. This involved inefficient physical infrastructure, weak market, corruption as well as low levels of trust that may result in prohibitively high transaction costs. In such an institutional environment, lead firms find it extremely difficult to outsource to local firms, even if the codifiability of transactions is high and the capabilities of the local supply base are high enough for the job concerned.

### 4.2.1. Identifying Key Governor in the Chain

Table 4.2. Key Governor in Chain (Kaplinsky and Morris, 2001)

| Indicator | Strengths and weaknesses |
|---|---|
| Share of chain sales | Not a strong indicator as may only be a reseller of bought-in materials and may lack influence |
| Share of chain value added | A better indicator for measuring size since it reflects the share of the chain's activities. |
| Share of chain profits | May be a good reflection of chain power, but may also arise from monopoly control over scarce raw materials (e.g. platinum) and may have little influence over downstream processing |
| Rate of profit | A poor indicator since minor players in the chain may be relatively profitable but have little influence |
| Share of chain buying power | A good indicator of power, particularly if there are asymmetries, that is its dependence on its suppliers is less than their dependence on the lead firm |
| Control over a key technology (e.g. drive- train in autos) and holder of distinctive competence | A good indicator in producer-driven chains such as autos since this defines the distinctive competence of a chain (BMW's image as a quality, refined car) while the smaller firms 'fill in the gaps' in the chain. |
| Holder of chain "market identity" | May be critical in markets where brand image is very important |

Table 4.2 shows the key governor that are commonly used to estimate various factors involved in the value chains analysis their weakness and strengths.

The power which any party may have in the chains can paradoxically be reflected in two different ways. The first arises from the power to force other parties to take a particular action and the second to be deaf to the demand of others.

These contradictory effects emerge from the facts that parties are often involved in different chains and this may result in cross-cutting power between the

actor in the chains with one dominating and other with determinantal effects down the chains.

Therefore, the issue of governance and power in the chains may be complicated and relatively depend on the size of a particular firm in the chains. In general, the larger the firm, the more influenced its role, but in relation to what? (Table 4.2) provides a number of possibilities and to which extent they are important. Which indictors is important will be contingent on the internal characteristics of a particular chain and the territorial scope weather the firm share's is at the global or local level.

### 4.2.2. Mapping Global Value Chains

Since the emergence of the global value chain in the last decade of the century, agri-food industry has been increasingly structured around global value chains led by food processors and market retailers. Also, the emergence of supermarket that works with the importers and exporters to control the agricultural products have accelerated globalization of the production.

However, some scholars attribute the increase in agri-food industry to trade liberalization and the high pace of technology that has engulfed the world in the last century. Therefore, production of a single product involves various actors and different countries until it reaches the consumer as a final product

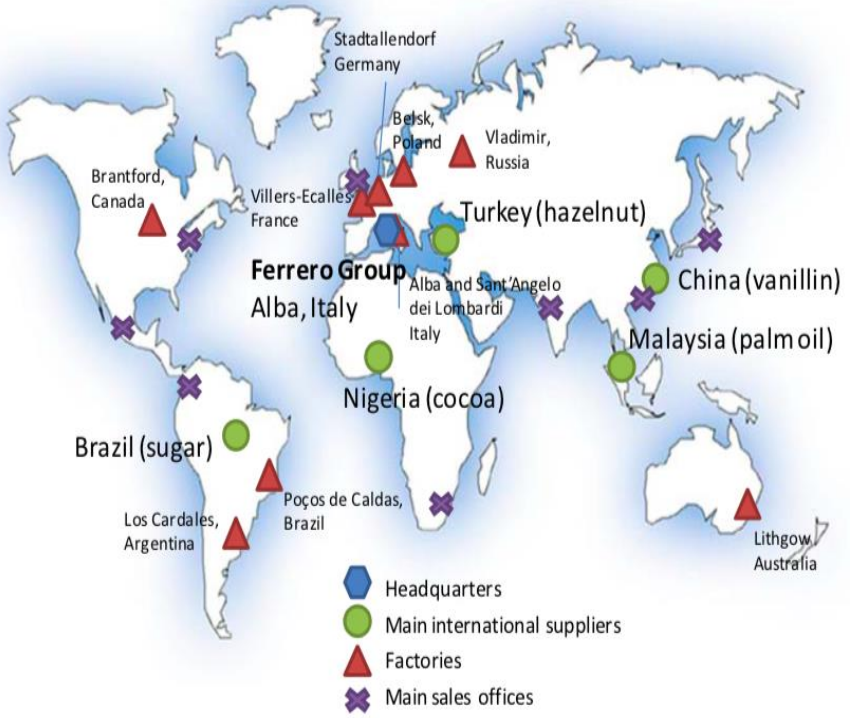



Figure 4.5. Nutella Global Value Chain (OECD, 2012)

For example, Nutella is produced by Ferrero international SA with headquarters based in Italy and more producing factories that are scattered around the world. However, production of Nutella involves different actors where some ingredients are supplied locally such as skimmed milk and packaging materials while other ingredients are supplied globally such as Hazelnut from Turkey, palm oil from Malaysia, cocoa from Nigeria, sugar from Brazil and other European countries and the vanillin flavor which comes from China. The final product (Nutella) is sold in more than 70 sale points globally (OECD, 2012).

Furthermore, for marketing purpose the location of production has been placed close to the final market where demand is high for Nutella in regions like North America, South America, Oceania and Europe, while in some regions where

demand for the product is lower have witnessed absence of the comply region like Asia and Africa.

However, with the increase of population and consumer's preferences changes are to take place and the selling points will reach these regions in the future.

Agriculture and food products can have value chains that are global in the nature as shown in the figure 4.5 above and it can be regional between countries in the same continent as shown in the (Figure 4.6) below.

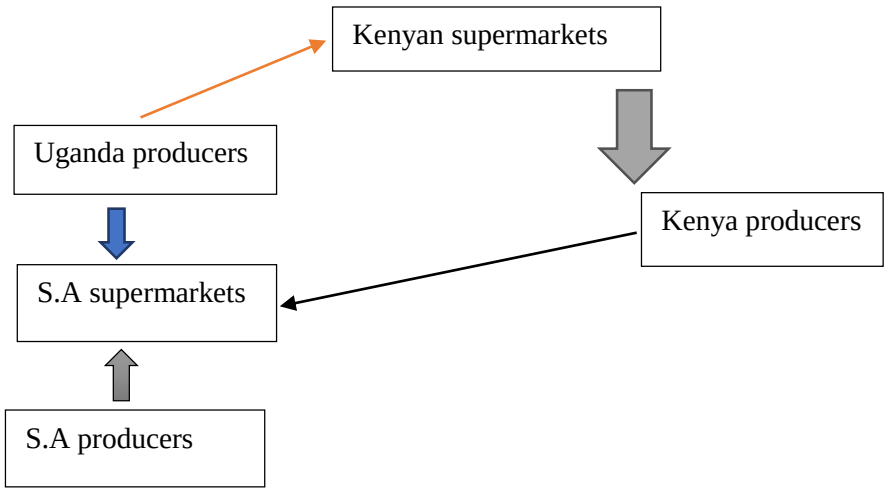
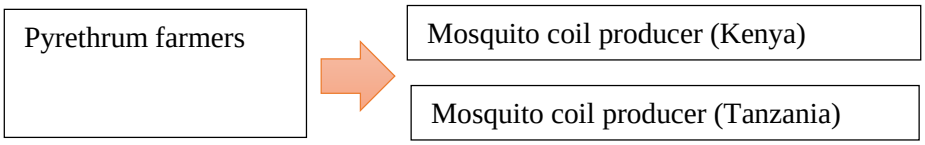



Figure 4. 6. Regional Value Chains.




| | | | Kenya | Tanzania |
|---|---|---|---|---|
| Land preparation | 6.1% | Mixing | 57.5% | 40.7 % |
| Planting | 16.2% | Kneading | 1.1 % | 1.6% |
| Plant maintenance | 22.2% | Extrusion | 1.1 % | 1.6% |
| Harvesting | 21.8% | Stamping | 5.6% | 7.8% |
| Drying | 0 % | Drying | 2.9 % | 4.1% |
| Admin. Cost | 33.7% | Packing | 31.7% | 44.2% |

Figure 4.7. Value Chains of Pyrethrum in Kenya and Tanzania (World Bank, 2005)

Pyrethrum is a flower cultivated mainly in Kenya and Tanzania for its insecticide properties, it is considered as Kenya's fourth largest cash crop. The figure 4.7 shows value chains of the Pyrethrum crop in both countries and it can be observed that the cost of producing the final product differs significantly between two countries, for instance in Kenya mixing cost accounts for 57.5 % of total cost while

in Tanzania is more than 40% in contrast packing cost is higher in Tanzania than that of Kenya (Figure 4.7)

Therefore, it would be better for both countries if they are engaged in regional value chains, where Kenya can pack the final product since the cost of packing is relatively lower compared to that of Tanzania and on the other hand Tanzania mixes and produces the final products as it has advantage and capabilities of producing the mosquito coil at lower prices.

However, such a move is contingent on the interest of both countries to enter into mutual trade relationship where both benefits from the final product.

### 4.2.3. Governance and Factors Influencing African Agriculture in GVCs.

Producer- driven value chains are always dominated by large manufacturing companies which capitalized on competitive advantages in a specific segment in the global value chains. This advantage is not available for many African countries because the continent depends heavily on exporting unprocessed agricultural products while the processing and value addition are carried-out by big firms which exist out of the Africa.

Table 4.3. Indices of Agricultural Trade Export Volume (2010=100) (World bank, 2017)

| Region | 2010 | 2012 | 2014 | 2016 |
|---|---|---|---|---|
| **World** | 100 | 235 | 95 | 68 |
| **East Asia &pacific** | **100** | **222** | **133** | **92** |
| **Europe** | 100 | 257 | 80 | 38 |
| **Latin America** | 100 | 376 | 19 | 6 |
| **South Asia** | **100** | **233** | **105** | **211** |
| **Africa** | **100** | **121** | **133** | **140** |

The volume of Africa's agricultural export is relatively similar to East Asia and pacific in 2014, and higher than that of Latin America and Europe at the same year, while in 2016 Africa has witnessed increase in the volume of export (Table 4.3).

This finding resonates with Raikes and Gibbon findings (2000), when they argued that Africa is engaged mostly in upstream activities, exporting only unprocessed agricultural products to other countries.

Mutambara (2013), in his article on African trade with Asia found that historically Africa's major trading partner in raw agricultural product was Europe, but over the last decade the market shifted to Asia. This increase in trade share with Asian countries many scholars referred it to the increase restriction imposed on African agricultural products by most of the European countries. Stressing furthermore that increased standards and complying with hygiene and Phyto-hygiene on agricultural products allowed East and Southern Asia countries to seize the opportunity and improve their trade share with Africa

Table 4.4. Common Agricultural Products in Selected African Countries (FAO, 2019)

| | **Etho** | **Uga** | **Cote** | **Ken** | **Nigr** | **Gha** | **Sa** | **Mal** |
|---|---|---|---|---|---|---|---|---|
| **Coffee** | *** | ** | - | * | - | - | - | - |
| **Tea** | * | ** | - | *** | - | - | - | - |
| **Horticulture** | - | - | - | *** | - | - | - | * |
| **Fruits and vegetables** | * | ** | * | * | - | - | *** | * |
| **Cotton** | * | * | - | - | * | - | - | ** |
| **Cocoa** | - | - | * | - | ** | ** | - | *** |
| **Tobacco** | * | ** | - | - | * | * | - | ** |
| | | | | | | | | |

*** =leading in production ** Moderate * lower production and – implies insignificant

From Table 4.4 can be realized that the continent is heterogeneous in terms of the agricultural products. This is attributed to the environmental characteristics that shape the continent as climate and weather favor growth of some products over other. Ethiopia is leading in production of coffee, Kenya in tea and horticulture while cotton exist across the region. West Africa specially Cote d'Ivoire and Nigeria followed by Ghana complement the role of producing Cocoa globally. While tobacco production varies cross the region.

African Economic Outlook (2015), found that most of the agricultural products produced by African countries particularly cash crops such as cotton, coffee, sugar, tea, cocoa and tobacco tend to be under producer-driven chains which typically fall under categories of captive or hierarchical governance of global value chains defined by Gereffi et al. (2005).

These crops fall under captive or hierarchal type of the GVCs, because the producing companies have the ability to perform most of the activities and value addition processes outside the continent. This situation gives these firms an advantage to codify complex product specifications with high degree of monitoring and intervention leaving the suppliers and producing countries (Africa) to participate only in the niche market share.

Table 4.5. Market Share of Top Five Global Food Retailers (1999) (Gibbon, 2008)

| | **Market leader** | **Share of top 5** | **Origin** |
|---|---|---|---|
| **1** | Billa, Bewe, Hofer, Metro | 59.9 % | Austria |
| **2** | Gib, Delaizele lion, Aldi | 64.0 % | Belgium |
| **3** | Dansak Supermarket, Dargrofa | 77.6 % | Denmark |
| **4** | Tesco, Wal-mark, Asda | 49.9 % | UK |
| **5** | Marko, Dirk van der Broek | 86.1 % | Netherlands |

Daly et al. (2016 ), in their article on maize value chains in East Africa found that the largest grain traders, Archer Daniels Midland Co (ADM), Bunge Group, Cargill, and Louis Dreyfus to have collectively controlled around 70-90 % of the global trade in gains and of none of these companies was an African firm, but rather they were all originated mainly from Europe, having the brand, technology and skillful workers, giving them the advantage to control the world market and the whole value chains which critical is to the world food trade (Table.4.5).

Therefore, it is very important for Africa as the continent to develop and build its own retailer companies, branders, market distributers that will deal with the final products that are ready for sale and used by the consumer, other than depending

on these leading companies. Also, this could be an opportunity for African companies operating in agriculture sector to incorporate additional stages along the chains such as making flower bouquets, cutting and packaging the fresh fruits and washing operation for coffee crop before exporting them as raw materials.

Gereffi (1999), argued that it is better for the producing countries to narrow the gap between the producer and consumers by upgrading the agriculture products because the closer the gap between the producer and consumers the better the chances of obtaining a good position along the chains, as most of these leading companies dictate specific criteria for supplying the primary agricultural products to the market.

Lee et al. (2012), confirmed that governance in the global value chains plays pivotal role upon which farmers, producers, regulators and government depend on because it determines the structure of the market as well as the commodity position in the chains. Therefore, it is important for Africa to secure a better position in the chains.

The main aim of the global value chain is to produce value-added products or services for the global market, by transforming the raw-resources and agricultural products through the use of infrastructure, available telecommunication facilities, rules and regulations, institutional environment and human skills. Therefore, African Economic Outlook, (2015), and Dolan , (2004) and (OECD, 2014) have summarized the major problems and constraints for African agricultural in the global value chain as follows:

**Lack of Infrastructure:** is one of the most significant constraints to economic development in many developing countries, and nowhere is this more apparent and obvious except in Africa. Weak and poor infrastructure creates inefficiencies and leads to a high cost of doing business as it increases not only production costs, but also international transport costs. Although international

transport costs as a portion of imports value, have been falling over the last two decades of the century yet Africa has the highest transport cost globally.

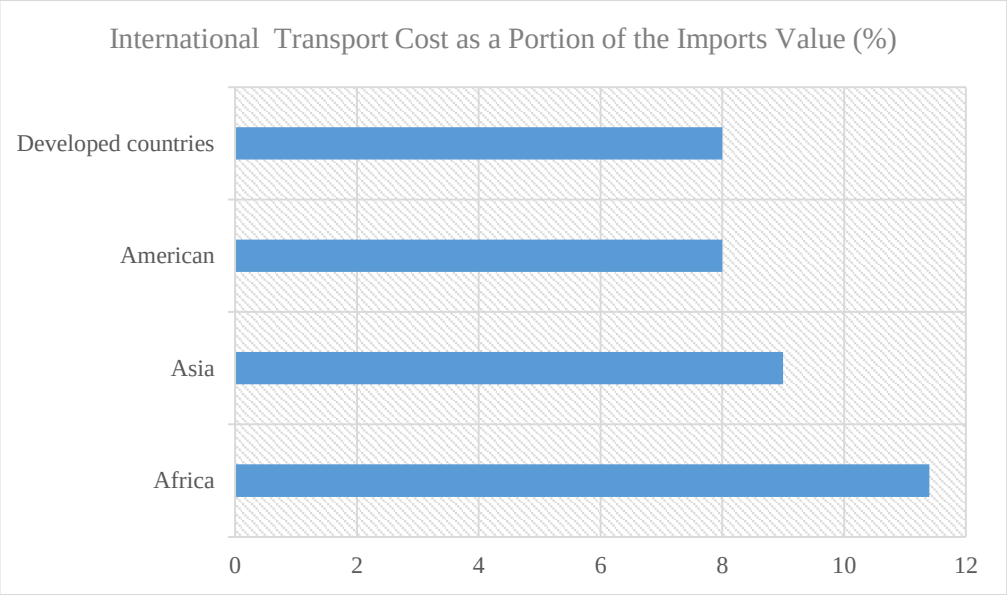



Figure 4.8. International Transport Cost as a portion of Imports Value Between 2005-2014 (UNCTAD, 2015).

The cost of international transport has witnessed significant drop over the last decade except in Africa where the cost of transportation as a portion of imports value has increased significantly as illustrated by the (Figure 4.8). This increase in the transportation cost can be attributed to many factors such as weak physical infrastructures, weak institutional system, barriers on many ports in Africa and above all considerable number of African countries are land lock which generally double the transport cost.

Table 4.6. Infrastructre Indicators in Sub-Sharan Africa (FAO, 2019)

| | **Electric consumption per-capita/ killowat** | **Telephone mainlines per1000 people** | **$ Cost of 3 minutes to USA** | **Percentage of paved Road** |
|---|---|---|---|---|
| **Sub-Sharan Africa** | 439 | 16 | 8.11 | 16 |
| **Sub-Sharan Exc-S A** | 146 | 10 | 8.65 | 9 |

Knick (1980), have estimated that the cost of shipping a bushel of wheat from New York to Liverpool have been lowered by 50% between the year of 1830-1880 and again by 50% at the end of year 1914. This reduction has been exacerbated by the technological innovation and improvement of transportation system which improves trade between America and Europe at that time. However, in Sub-Saharan region the cost of three minutes calls can reach up to 8.11 $ in 2002 as shown in (Table 4.6), which is 5 times higher compared to the cost of one-minute call from New York to Liverpool in 1980.

Adewole (2019), found that the average cost of importing single container of goods to Africa costs more that USD 1000, while exporting the same container from Africa to other region costs less than USD 900 and concluded that Africa have the highest average port and terminal handling fees to export and import products. Africa comprised of more than 50 countries and out of them around 15 counties are landlock countries which is the highest proportion of the landlock countries in the developing countries. This has influenced these countries massively as they pay double prices compared to the rest of the world.

The overall influence of weak physical infrastructure is the imbalance in trade flow of African agricultural trade with the world, where the price of importing agricultural products are higher than exporting them Nello, (2014), in her article “Winners and Losers from World Agricultural Trade Liberalization” refers this

dramatic decrease in agricultural export in the developing countries particularly sub-Saharan Africa as (*the gradual marginalization*) in the global market.

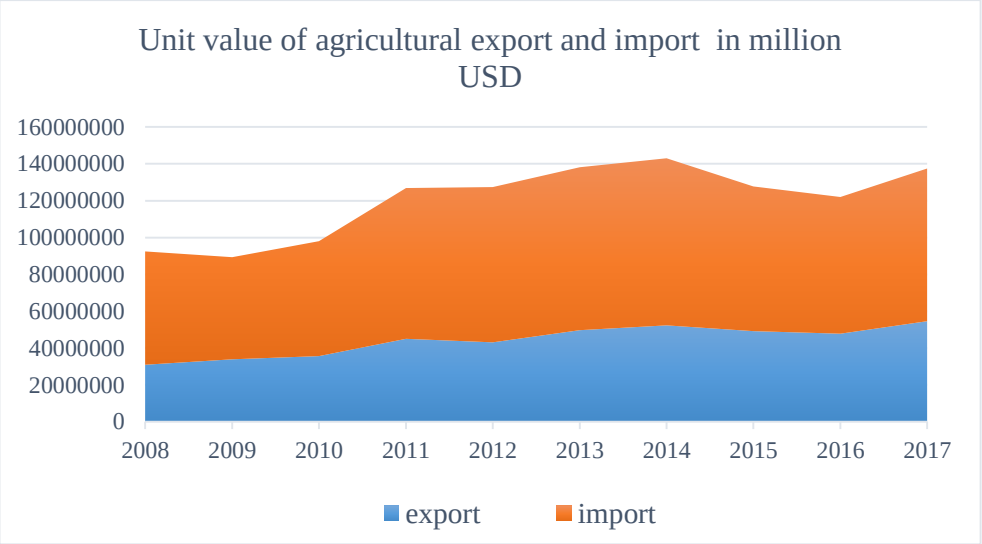



Figure 4.9. Unit Value of African Agriculture Export and Import (FAO, 2019)

Figure 4.9 illustrates the finding of Nello (2014), where the unit value of importing raw agricultural products is higher comparing to export rate which is attributed to many barriers and restrictions imposed on the import of agricultural products in addition to weak physical infrastructure in the continent

However, some researchers attribute this increase to the region gross domestic production coupled with increased population during the last decade. However, it has been estimated that sub-Saharan Africa has imported not less than $48.5 billion in 2014 of food and agricultural products, mainly from United State of America and European countries (Adewole, 2019)

Table 4.7. Top Sub-Saharan African Agricultural Import in 2014 (World Bank, 2015)

| Agricultural products | Percentage |
|---|---|
| **Wheat** | 9 |
| **Palm oil** | 9 |
| **Rice** | 12 |
| **Prepared food** | 8 |
| **Sugar** | 7 |
| **Dairy products** | 6 |
| **Poultry meat and eggs** | 5 |
| **Other products** | 44 |

Africa and Sub-Saharan region particularly over the last 5 years have witnessed substantial increase in imported food products, forcing many to refer it as consumer-oriented continent consuming mainly prepared food, poultry, wine, beer and other vegetables. This, situation has raised the food imports to around 70% constituting approximately 46% of the region total import in 2014 (Table 4.7).

The uniqueness and internal characteristics of each country in Africa contribute to how the country imports these agricultural products. South Africa and Nigeria for example have the highest agricultural imports from USA and mainly consuming wheat, rice and other intermediate products such as oil and palm oil. In contrast Angola, Benin and Ghana concentrate their imports on poultry and prepared food while Kenya depends heavily on cereal crops from USA and EU countries respectively.

This situation is mainly attributed to farmer's inability to produce enough food that could meet the demand of the growing population in addition to around 80% of Africa's agricultural products are produced by the small producers that lack the advance tools of production such as modified seed varieties, traditional irrigation system, lack of technology and prevalence of drought this situation has forces some African countries to spend billions of dollars on food imports (Table 4.8).

Table 4.8. Top Six African Countries that Account 50% of Food Imports in 2014 (World Bank 2015)

| ***Country*** | **Ghana** | **Benin** | **Nigeria** | **Angola** | **Kenya** | **S. Africa** |
|---|---|---|---|---|---|---|
| *Import $ B* | 1.8 | 2.2 | 5.8 | 4.1 | 1.7 | 5.91 |

Moreover, the continent also suffers from the absence of available and reliable complementary infrastructure services such as electricity and telecommunication which further forced many experts to call that situation "bring your own infrastructure" for potential investors who want to invest in Africa. Nevertheless, the current development and improvement in Africa is being attributed to the investment in the infrastructure sector generating 30-40 % of the electricity and construction of around 40 to 80 percent of paved road in Africa.

**Weak Institutional Framework:** With the exception of a few African countries the general institutional framework of Africa is very weak and the regulatory system is not functioning well. According to the World Bank report (2017), on doing business in Africa, they found that there is a strong correlation between transparent and weak bureaucratic administration, legal and judicial procedures and the positive opinion of the investors in a country. African institution is characterized by these problems making it one of the greatest challenges for the continent to participate fully in the global value chains.

Therefore, well-functioning institutions are very important for the growth and development of agricultural sector, because it boosts investment in human capital as well as in goods and services Selwyn (2016), and Johnson et al. (2010) have estimated that improving the institutional sector in sub-Saharan African countries from its current status to the one in Asia could boost per-capita income up to 80%.

**Political Instability:** Until recently most of the African countries have witnessed force overthrew of democratic regime in several countries that has deteriorated into civil war. This has created unstable political environment which is

not conducive for involvement in the global value chains. However, it remains too early to judge the situation of the continent that it has improved or not, even if some regional bodies are reporting on enhancement of the political situation yet the reality on the ground is absolutely different.

**Macro-economic Policy Environment:** Many African countries have weak and unstable macroeconomic environment while others are heavily inflicted with large fiscal deficit and high inflation rate shaped by overvalued currency exchange rate. This has hampered the development of regions and hinder many opportunities to improve agricultural sector through export of processed agro-commodities products and engage actively in the global value chains.

**Insufficient Workforce:** The developmental institutions in Africa tend to be poorly connected with industry demand of qualified workers and their preferences, particularly the midlevel workforce and managers. This has hindered the competitiveness and quality of agricultural products produced in Africa, for instance, currently many African youth are not interested in pursuing careers in agricultural sector or at the training institution. In retrospect most of the African countries have outdated curricula that teach only the history and evolution of agriculture creating disparities in many vacancies in various agricultural sector.

**Gender Disparities:** Gender incorporation into GVCs makes the distribution of gains from upgrading and GVC participation uneven along gender lines. Although there are exceptions, typically women are disproportionately concentrated in 'lower skill', lower paid positions within the chain and they often face discrimination in various forms, despite the fact women are majority in the agriculture field in Africa as shown in (Table 4.9)

According to the African Development Bank agriculture sector employed around 65% of the workforce in the continent which account for 17% of the growth in Africa. Therefore, agricultural global value chains in Africa will have profound effect on large number of people in the continent

Table 4.9. Some Indicators of Africa as Continent (FAO, 2019)

| **Africa** | **2005** | **2016** |
|---|---|---|
| Population (million) | 924.8 | 1256.3 |
| Rural population (million) | 580.8 | 718.0 |
| Area harvested million (ha) | 213.2 | 255.3 |
| Employment in agriculture (%) | 58.6 | 53.2 |
| Female employment in agriculture (%) | **63.0** | **55.9** |
| Agriculture value added (% GDP) | 14 | 16 |

These challenges have been amplified by trade liberalization, deregulation and dissolution of many agricultural boards that used to govern and regulate marketing of the agricultural products in the global market. Conversely, some writers like Gibbon (2008), Keane (2012) and Kaplinsky (2001), argued that market liberalization has improved the quality of agriculture produce but yet it only serves interest of lead firms in the global value chains and Africa was trading down unable to take advantage of the benefits associated with the global value chains.

Struthers (2019), found another challenge that Africa fails to cope up with the challenges in global value chains and at the international market and it's the shift of power in the chains from suppliers to the producers that kept most of the agricultural products in a captive or hierarchical form of governance. Generally, this has positioned the continent in marginal segments of the global value chains leaving the overall control of the chains to the big producing companies and firms in the international market.

Therefore, governance structure in the global value chains determines upgrading opportunities which always vary by chains rather than the sector with buyer and producer driven present in all sectors. Africa over the decade has witnessed increased number of supermarkets which have greatly influenced the agriculture value chains in the continent. This influence can be seen in the recent increase of supermarkets in Africa.

### 4.3. African Foreign Investment in Agriculture

Foreign direct investment (FDI) in agriculture is more likely related to search of the resource opportunities rather than market seeking. Resources like purchasing of the land and other natural resources are among the main target of FDI in agricultural sector which in most cases are influenced by the government policy.

However, in agriculture sector FDI can play a critical role by increasing fragmentations of the production processes along the chains, which in general is influenced by backward and forward participation of the country because acquisition of long-term agricultural land for the production of crops without any controversy can foster and improve forward linkages for the country with abundant arable land.

Recent research in GVC found a significant and positive correlation between FDI openness and forward participation in the GVC, as FDI inflow positively influenced backward linkage and FDI outflow influenced the forward linkage participation, and the overall linkage was associated with policy setting that influenced the outcome within the sector. Therefore, looking closely into the factors that influenced investment is the key solution to overcome these hurdles.

Over the last five years some African countries that have made progress in physical infrastructure sector and managed to attract some foreign direct investment and participated actively in the global value chains countries like Ethiopia and Kenya have supplied cut flowers to Dutch auction houses or what they are referred as flying geese phenomenon. Therefore, attracting foreign investment is associated with multiple benefits to the country.

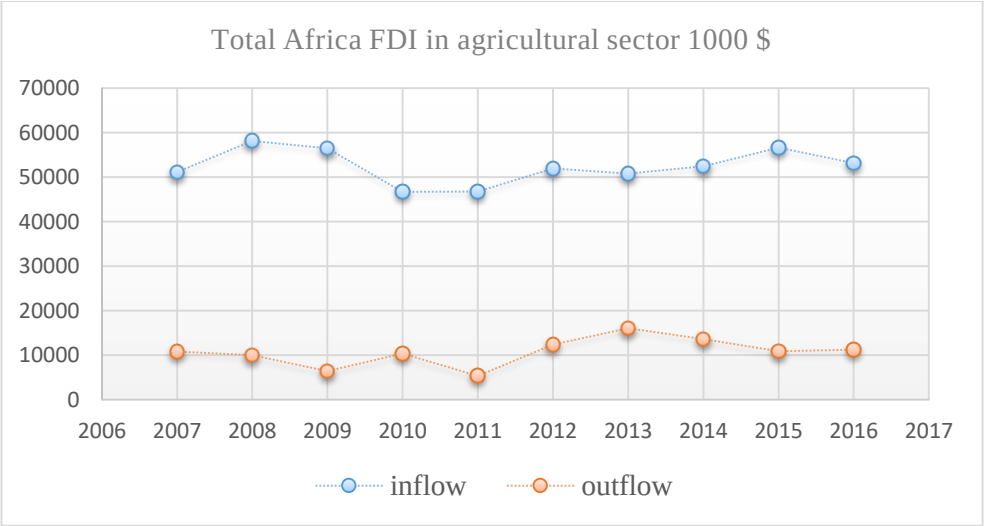



Figure 4.10. Total Africa Foreign Direct Investment in Agriculture (FAO, 2019)

Figure 4.10 illustrates the total inflow and outflow in agricultural sector over the last decade in Africa, it can be realized that FDI inflow in agricultural sector is very low comparing to total outflow and this is due to the above-mentioned reasons namely lack of physical infrastructures, absence of functioning institutions and above all weak financial system that have hindered Africa's potential to attract foreign investment in the agriculture sector.

However, many referred this situation to developing countries being bias toward the countries with large natural resources particularly oil, gas and minerals-rich countries placing Nigeria, Angola and South Africa among the top investor's countries in Africa. This, peculiar characteristics of FDI in Africa has denied the continent's opportunities to the employment, skills development and transfer of knowledge and technology which culminated in the continent's weak participation to the global value chains and huge deficit in agricultural trade in the global market.

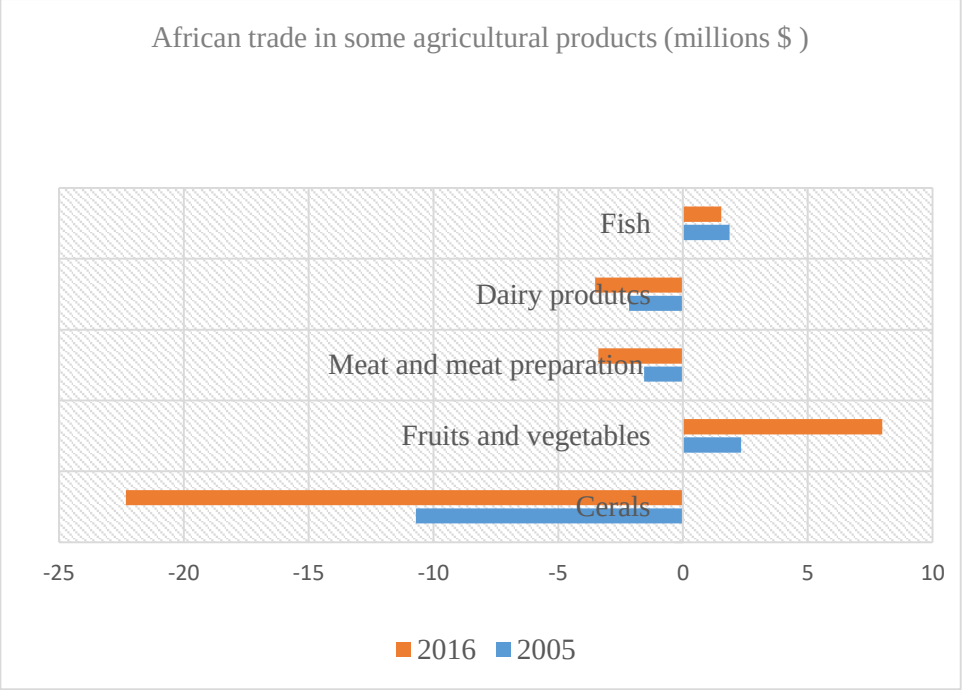



Figure 4.11. African Trade in Some Agricultural Products (FAO, 2019)

The overall influences of lack of foreign investment, absence of qualified workforce, weak physical infrastructures and other complementary services and lack of primary agricultural inputs such as seed, tools and fertilizers, improved variety of seed, traditional method of irrigation and other environmental factors has resulted in the trade imbalance where the continent have deficit of more $20 million in cereal crops, and more than $5 million in meat and dairy products (Figure 4.11). Therefore, it is significantly paramount for Africa to radically address the above-mentioned problems in order to improve the trade in agricultural sector and meet the demand of the growing population in the continent.

### 4.4. Upgrading within Global Value Chains

The concept of upgrading in the GVCs literature has been used in a broader context and mainly to describe the possibility for producers or the farmers to move

up the value chain, either by shifting to more rewarding functional positions or by adding value to the agricultural products which in return will generate a better income to the farmers.

However, the concept can be referred to the process of placing innovation in a relative context compared to competitor, thus the process is measured through competences which generally provide new value to the final consumer where products are relatively different from other products and sometimes is difficult to copy.

Cattaneo et al. (2013), have linked the appearance of this concept to the new paradigm in political economy and industrial economics which occurred in the early 1980. Theoretically, this paradigm was based on the notion that capitalist economic systems were in the process of shifting from a “Fordist” to a “post-Fordist” basis.

Therefore, Fordism was designated on mass production of undifferentiated commodity products for mass consumption. Comparatively the concept was associated with large-scale production and relatively inflexible technological skills in the factories, while companies were characterized with high degrees of functional specialization.

Under Fordist system, upgrading is said to have occurred on the basis of maximizing the physical capital and technological innovation which resulted in a great development in the economic sector and improvement of the product as well as strengthening of the manufacturing processes. Therefore, Fordism has developed mankind skills and capabilities particularly in the area of designing and marketing.

Gereffi (2014), has identified clearly how the upgrading process is examined the in GVCs literature, and he mentioned the flow of knowledge and information within the value chains from lead companies to their suppliers and buyers as the best means of examining the upgrading process in the global value chains.

Therefore, value chains development required continuous attention to the technical and social innovation at the farm level thus “upgrading in agricultural

context" can be referred to the ability of farmers to acquire technologies or management skills to increase productivity and improved competitiveness which eventually will enhance the position of farmers in the global value chains.

### 4.4.1. Types of Upgrading the GVCs

Commonly four categories of upgrading can be distinguished in the agricultural global value chains.

1. *Process* upgrading: This is referred to improving efficiency by transforming agricultural inputs into outputs through the reorganization of production activities using technology and innovation.
2. *Product* upgrading: This type deals with enhancing the qualitative characteristic of agricultural products by adding new traits or moving into more sophisticated products by increasing unit value.
3. *Functional* upgrading: It is always associated with acquiring new functions in the global value chains such as designing, marketing or branding of agricultural products or abandoning old ones mainly to increase the skill content of activities.
4. *Inter-sectoral* upgrading: This type deals with applying the knowledge and competency acquired in one function of the chain to move horizontally into more than one chain or better segment within the GVCs.

### 4.4.2. Upgrading and Major Problems Affecting African Agriculture in GVCs.

The main factors driving and affecting participation in the GVCs range from country specific characters to the characteristics of the value added to the agricultural products. Africa is facing huge problems and obstacles to upgrade and participate

fully in GVC and these factors have been discussed in the section of governance in the GVCs. These factors have hindered Africa's potentials and capabilities to upgrade and move into a better segment in the global value chains.

According to many scholars and researchers, value addition to agricultural products in Africa take place outside the continent with slight activities such as washing and packing in some countries around Africa, but most of upgrading activities are carried out in the western world

Table 4.10. Indices of African Agricultural Production US$/m (all products as based) (World Bank, 2017)

| | 2010 | 2012 | 2014 | 2016 |
|---|---|---|---|---|
| **All products** | 100 | 100 | 100 | 100 |
| **Raw materials** | 58.1 | 62.2 | 57.6 | 43.1 |
| **Animals** | 1.4 | 1.3 | 1.3 | 2.4 |
| **Food products** | 4.9 | 4.9 | 4.7 | 6.5 |
| **Wood** | 1.7 | 0.9 | 1.7 | 2.1 |
| **Vegetables** | 4.2 | 3.3 | 4.5 | 6.8 |

From the Table 4.10 it can be realized that Africa is heavily engaged in the production of raw agricultural materials with $ 58.1million in 2010 and $ 57.7 million in 2014 out of the total agricultural products produced in the last five years.

This finding proved the previous studies and conclusions that most of the African countries has anchored their development economy on primary agricultural products which in view of many global value experts bear profound consequences due to price fluctuation and lower price of unprocessed agricultural products in the global market. African involvement in global agricultural value chains is only on primary production of raw materials while agricultural value added occurs predominately downstream or outside of the Africa.

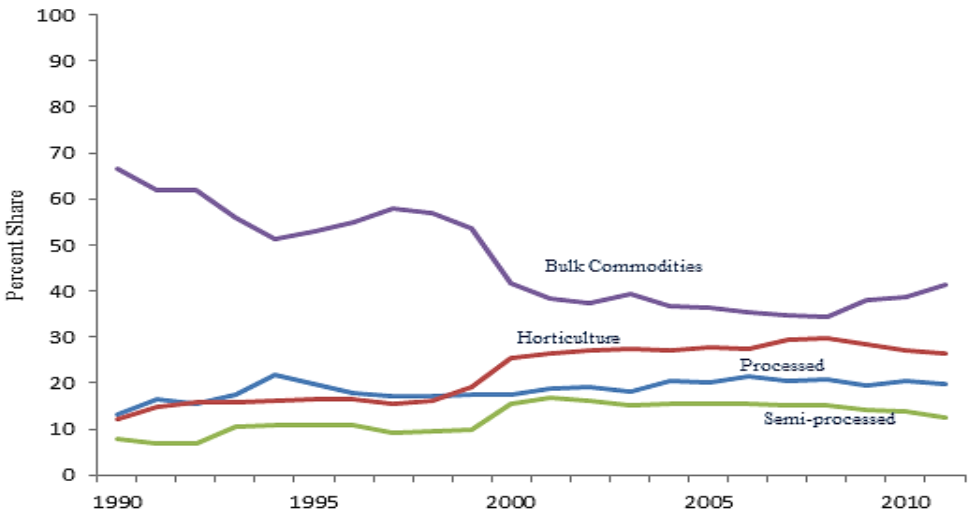



Figure 4.12. Percent Share of Value in Africa's Agro-Food Exports by Product Group (1990 – 2011) (Ajmal, 2013)

Upgrading of agricultural products are linked to private standards and consumer preferences. Africa in the decade has provided substantial value-added opportunity for the agriculture sector in Africa. With the changing patterns of consumer demand, the value composition of Africa's agri-food exports has dramatically shifted away from bulk commodities towards higher value products as shown in (Figure 4.12).

However, recent empirical evidence indicates that urban consumers in large cities of Africa are willing to pay higher premium for food safety and the convenience of daily grocery shopping at modern retail stores. This, could be a major advantage in African markets where most of the buyers are less stringent to purchase agricultural products.

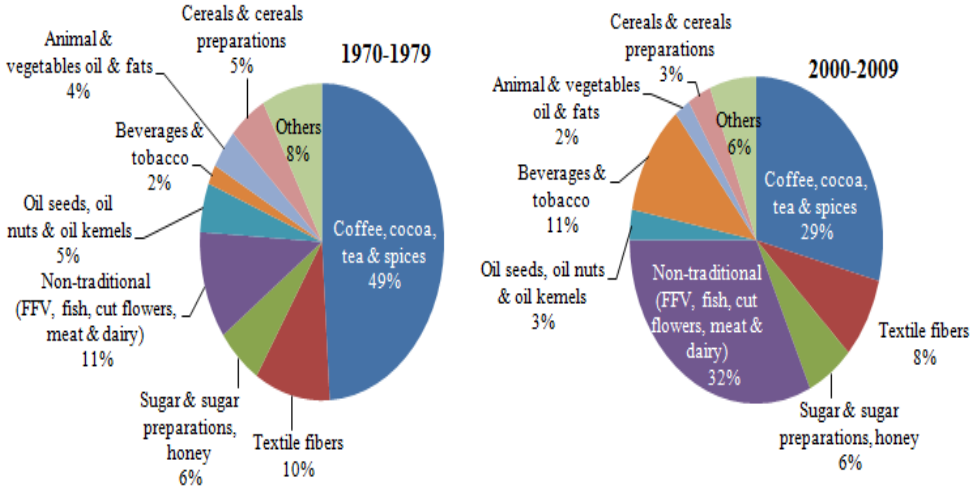



Figure 4.13. Value Composition of Sub-Saharan Africa's Agro-food Exports by Product Type (1970 – 2009). (Ajmal 2013)

Vertical coordination has become an essential instrument to facilitate innovation and upgrading through the uninterrupted flow of information and knowledge along value chains. Therefore, Africa needs to upgrade the primary agricultural products it produces. Figure 4.13 shows that over the last two decades Africa has witnessed a significant change from bulk export product to export of agricultural products with high value.

### 4.5. Value Addition in Agriculture Sector

Gereffi (2018), argued that most of the African countries are largely integrated in agricultural global value chains only through the export of raw agricultural material of forward integration but the value that is been added to the export product is very lower as shown in the (Figure 4.14).

Banga (2014), provides another disadvantage of such kind of integration, as it is associated with the less production of knowledge assets at the production process, and in Africa and other developing countries where the rate of innovation is

low it is more likely associated with the production of raw materials and other basic inputs to production, which may have little scope for upgrading.

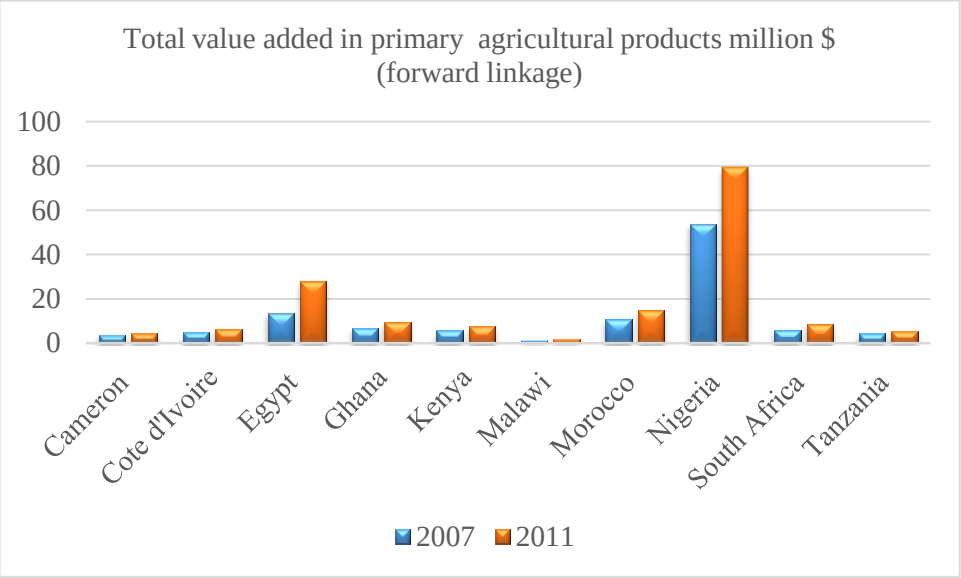



Figure 4.14. Total Value Added in Primary Agricultural Products (Forward Linkage) in Selected African Countries (World Bank, 2017)

Figure 4.14 illustrates and proves the previous findings of Fernandez-Stark and Gereffi (2011), that most of the African countries are involved in the GVC through upstream participation while addition of value to the primary agricultural product is very lower, only a few countries with physical infrastructure and other complementary services managed to add tiny value such as Nigeria, Egypt and Morocco.

Organization for Economic Cooperation and Development (2016), World Trade Organization, trade in value added (TIVA) concluded that OECD members in the GVCs account for 67 % of value created in the GVCs, while Brazil, Russia, China and South Africa account for 25 % leaving 100+ countries to share the remaining 8 percent. This finding has forced many analysts and researchers to

question the criteria and the mechanisms used to distribute the benefits in the GVCs (Adwole, 2019).

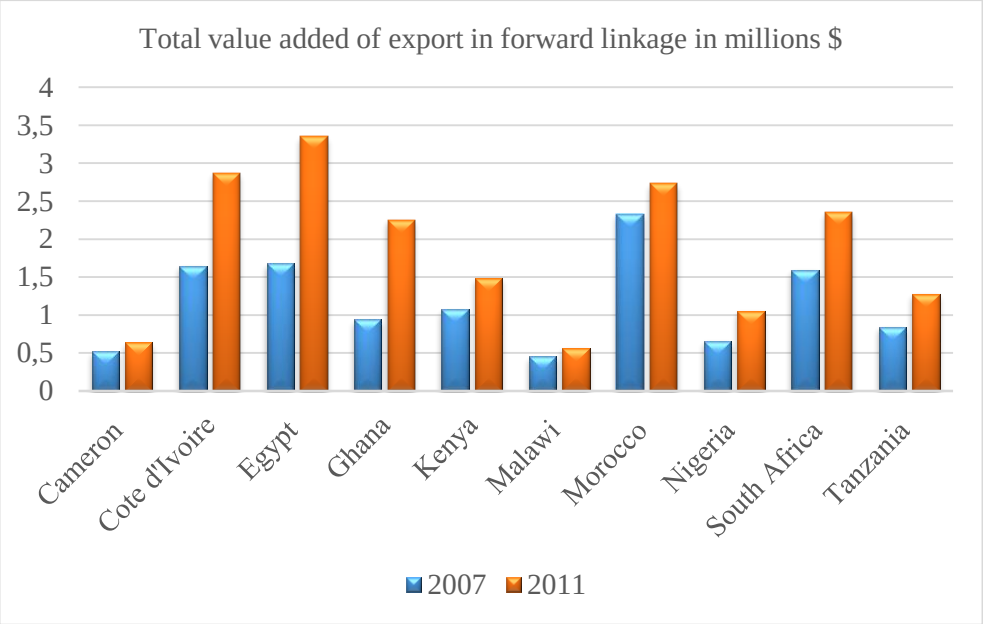



Figure 4.15. Total Value Added to Export (Forward Linkage) in Selected African Countries (World Bank, 2017)

However, as it has been provided by Banga (2014), that forward integration is always associated by lower addition of value which is reflected in the total value added in export (Figure 4.15), where countable number of countries such as Egypt and Morocco and South Africa in addition to Cote d'Ivoire collectively managed to add less than $ 3.5 million in total to their primary agricultural products in 2011. This amount is lower compared to other countries and companies that are fully involved in the GVCs such as Cargill, Mars and Nestle that gained billions of dollars in the GVCs.

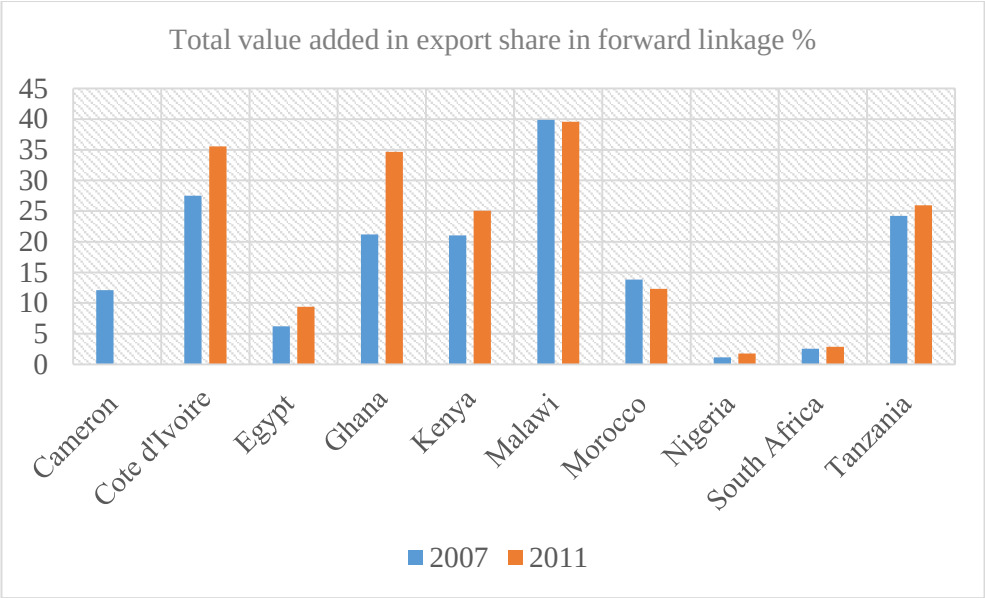



Figure 4.16. Total Value Added in Export (Forward linkage%) (World Bank, 2017)

The heterogeneity of African economy has contributed significantly to the African lower participation in the GVCs. Because some countries depend heavily on nonagricultural products, for example Nigeria and South Africa that concentrate their export on oil and mining respectively, while countries like Malawi and Kenya depend totally on horticulture and other agriculture products (Figure 4.16).

This disparity in the economy has affected Africa's position in the global value chains and the amount of value added to the agricultural products. Therefore, the countries that depend on agriculture such as Malawi, Ghana and Tanzania managed to add considerable percentage to their export share which is close to the half in total in year 2011 compared to other countries that has shown insignificant addition to their export in agriculture sector, as illustrated by the (Figure 4.16).

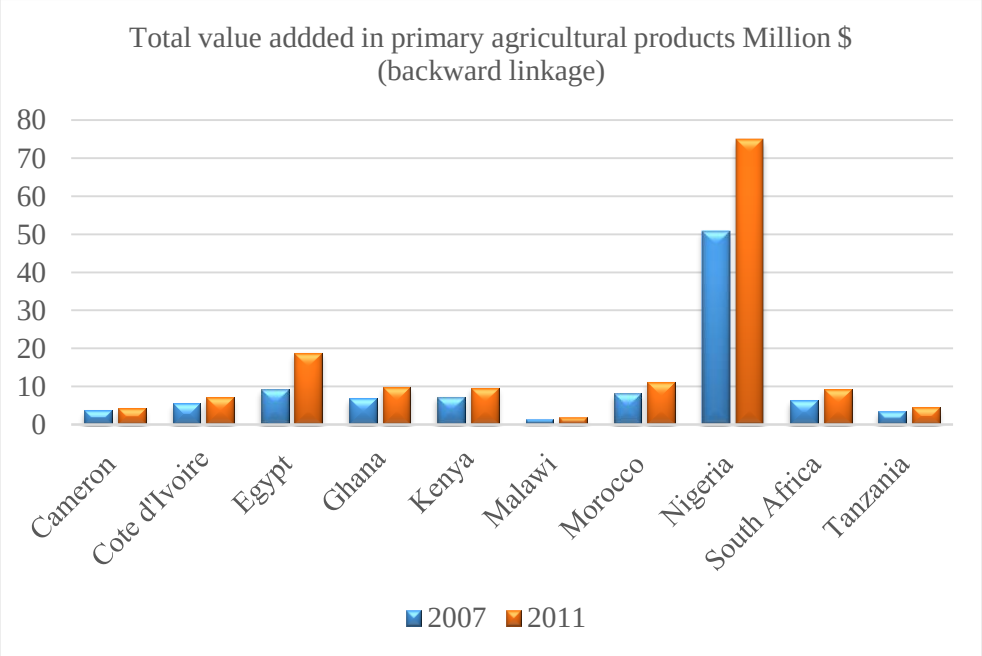



Figure 4.17. Total value Added in Primary Agricultural Products (Backward linkage) in Selected African Countries (World Bank, 2017)

Africa's involvement in backward linkage is very low and this is attributed to the fact that the linkage is based on innovation, research and development, design and significantly availability of the pronounced trade marker that is well known to all players in the global market. Lack of these pre-requirements has affected the industrial sector in the continent.

Furthermore, deficiencies of those pre-requirements have given a few countries such as Egypt and Ghana, Nigeria to have slight progress in the backward linkage, with Nigeria having more than $70 million value added in primary agricultural products in 2011, while other countries lacking the basic preconditions have remained below the average in their ability to add value in backward integration (Figure 4.17).

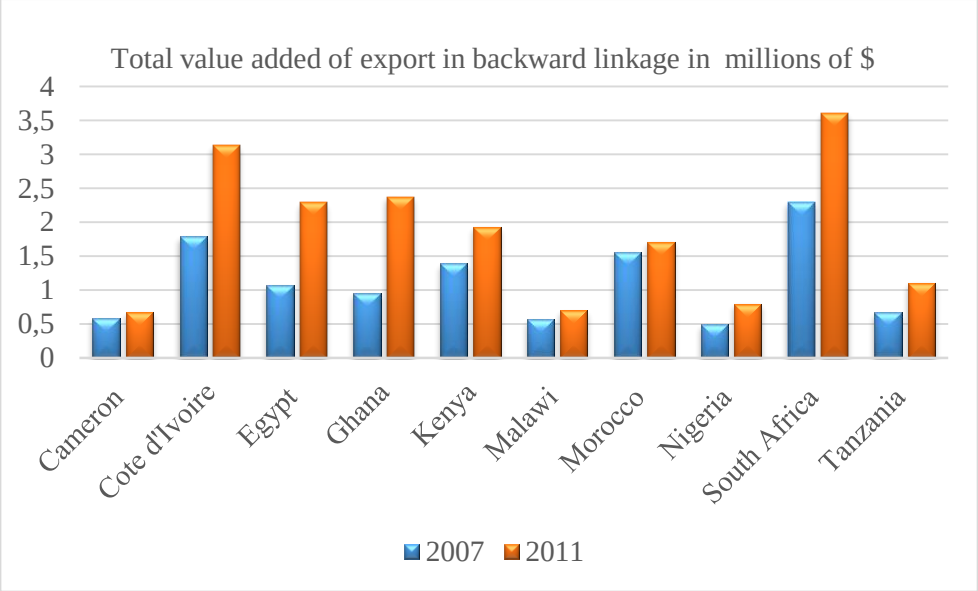



Figure 4.18. Total Value Added to Export in Backward Linkage (World Bank, 2017)

Participation in the global value chains particularly in backward linkage is contingent on various factors. Therefore, a few countries that have an advantage to meet these conditions manage to contribute marginally to their export value. Countries like South Africa, Egypt and Cote d'Ivoire that are characterized by having basic infrastructures added a significant amount to backward linkage (Figure 4.18). However, the overall continent participation is very weak due to the lack of industrial sectors, tariffs rate, competitiveness, lack of skillful workforce that can contribute to add value to the primary agricultural products.

Foster-Mcgregor et al. (2015) and (Gibbon, 2005), argued that the successful stories from African countries did not include upgrading in more advanced and remuneration activities but only on the marginal role of the global market or niche market, asserting that instead the continent was trading down to simple labor intensive that serves the interest of the leading companies in the GVCs.

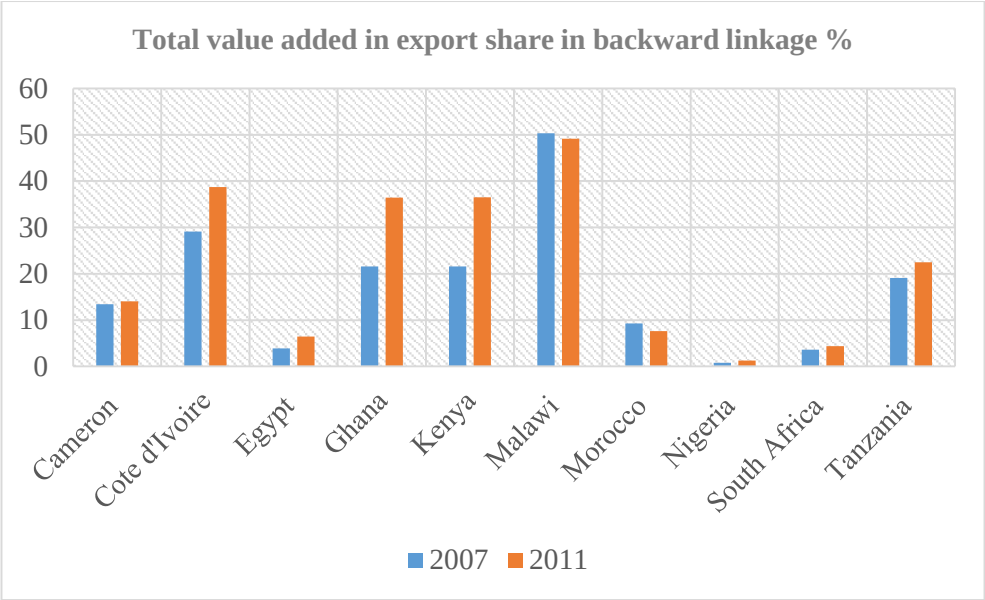



Figure 4.19.Total Value Added in Export Share (Backward linkage, %) (World Bank, 2017)

Similarly, the disparities in African economy have affected the percentage of countries share in backward linkage similar to forward participation. Therefore, where the countries depend heavily on nonagricultural products such as in Nigeria and South Africa, they have the lowest percentage in total value added to their export.

Conversely, countries like Malawi, Ghana, Cote d'Ivoire and Kenya managed to have considerable percentage in their total export in backward linkage and this is due to heavy dependency on agriculture as the major source of export (Figure 4.19).

Therefore, the internal economic situation of the country plays a significant role of how much the countries can contribute to their economic development and participation, as a result country should capitalize on the available resources they have to participate actively in the global value chains since the participation is not only contingent on the agricultural sector.

### 4.6. Conditions for Upgrading in Agricultural Sector

**Access to Knowledge and Technology:** Most of the African countries lack research centers and institutes to carry out study in the agricultural sector but instead most of the work is left to the small farmers to carry out work based on their inherited field experiences, which is extremely far from the contemporary agriculture that based on technology.

Therefore, access to knowledge and technology in agricultural sector is very important as some big firms require specific type of agricultural products. This can be rendered by agricultural extension service-providers and some NGOs working in the field of agriculture.

**Access to Affordable Credit:** Some countries in Africa have created partnerships with farmers to facilitate accessibility to credit and loan to the farmers such as Agricultural Development Bank and some commercial banks provide support and credit to farmer to purchase their primary inputs which are crucial and very important for production process.

Dijk et al. (2013) elaborated that Ghana, Uganda and Zambia provided credits to sorghum producers through financial agencies which later can be taped from the government fund. Such activities encouraged farmers to produce agricultural products, which in return enhanced upgrading in and the level of participation GVCs.

**Market Opportunities:** Marketing of agricultural products is one of the riskiest business in the global market and this fact is attributed to the reality that most of the agricultural products are highly perishable. Therefore, majority of them tend to secure market as early as they can to avoid damage and lost caused by biotic or abiotic factors.

Lead firms and some organizations working with the farmers usually develop their budget according to the latest input price in the market. This budget will act as the base for negotiation with farmer on the table countries like Sierra

Leone and Uganda, Ghana and Zambia have applied this technique to help farmers secure market for their products and upgrade their position in the GVCs

**Farmers Organization:** Africa is dominated by small farm-holders. Therefore, farmer organizations following hierarchical model or certain administration system are very important for upgrading in the global value chains because registration and organization of the farmers facilitate marketing, supplying and distribution of the agricultural products to the big firms or supermarkets, Uganda Eagle has adopted the methodology to improve production and monitor quality of the agricultural products by organizing the farmers.

Many scholars and researchers in their studies have identified very important trends across agricultural sector in Africa, as fundamental drivers of upgrading in the global value chains these trends can be simplified as follows:

***Concentration*:** Concentration of suppliers in the countries with basic infrastructures such as South Africa, Kenya and Uganda has given these countries advantage to resist pressure exposed by supermarkets on prices and quality, and has economically upgrade in the global value chains. In contrary small farm-holders were unable to access GVCs except as external growers.

***Casualization*:** The performance of workers in the global value chains diverge between the actors in the chains, ranges from the producers to the countries with potential to employ workers in the chains for example in South African fruit broker work as casual-workers while in Kenya and Uganda they work as permanent labor. This difference in the employment capacity across countries influence the upgrading in the global value chains.

***Regionalization Expansion:*** Regional value chains (RVCs) in many African countries can improve the upgrading in the global value chains regionally, by adopting successful stories from South Africa and Kenya in agriculture sector. Also, the emergence of supermarkets and retailers that gains momentum in Africa can be

used to drive the change necessary that can provide an opportunity for the farmers upgrade in the global value chains.

***Increase standards:*** The role of standards in the GVC as a way to strategically promote economic and upgrading of the agricultural products at different levels within global and regional agricultural value chains is contingent on the availability of skillful-workforces but it also possesses a challenge and threat for participation of uneducated workers that dominated the agriculture sector in Africa.

Therefore, navigating these trends in the global value chains creates an opportunity for the agricultural products producers and workers in the agricultural sector to upgrade their products and climb the global value chain ladder for a better segment in the chains.

Nonetheless, numerous and multiple challenges at the global both at meso and micro levels thwart possibilities for the upgrading in the GVCs. This signifies the necessity to take concrete and robust public-private-social strategies as a complementary policy measure to promote sustainable upgrading in African agriculture in the global value chains.

In addition to that, it is paramountly crucial for Africa as a continent to have pronounced trade mark that can help the continent or the countries that are involved in the global value chains to compete and sell their agricultural products to the global market, since trade mark has become part of the contemporary trade policies, that generates considerable amount of revenue to the owners.

### 4.7. Concentration and Market Share

**Concentration**: The current changes in the global market are driving food supply to be more closely coordinated in terms of production and retailer chains, and the intention is to meet the demand of the consumer. However, as food industry becomes more globalized, food markets are responding to consumer preferences at local level and are catering to specific segments along the chains.

Therefore, the ability to supply a specific market segment and compete successfully requires full knowledge of the market, consumer habits and preferences in addition to the complex models that can project future growth and preference changes.

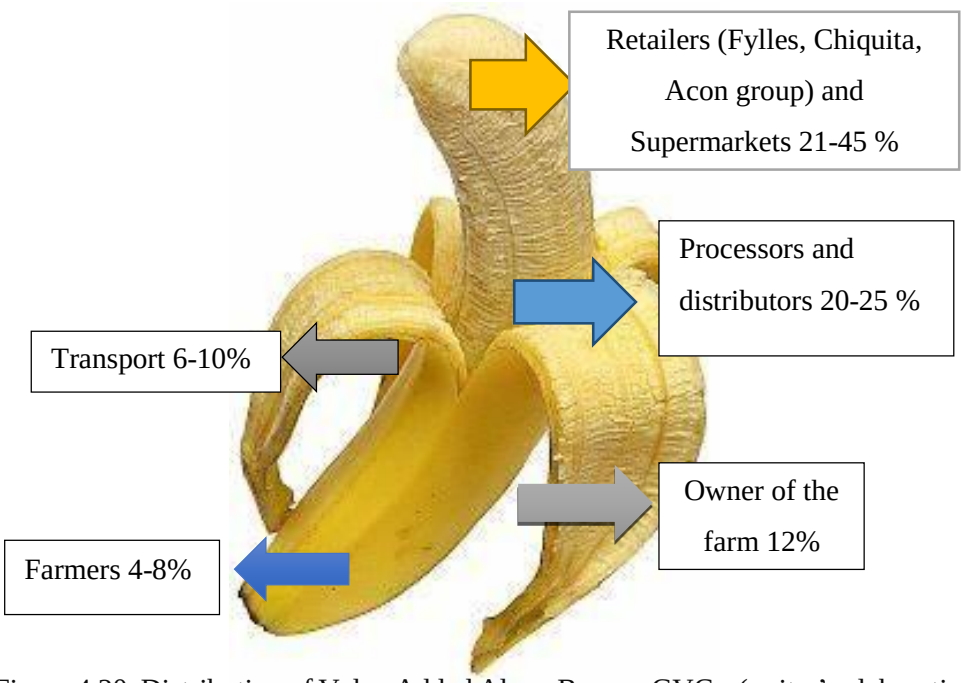



Figure 4.20. Distribution of Value Added Along Banana GVCs. (writer's elaboration based on Oomes et al. 2016)

**Dominance**: The stakeholders and big companies that are situated downstream in the GVCs particularly the processors and traders, are increasingly dominating the chains as illustrated by the (Figure 4.20) above, processors and supermarkets have approximately 21- 45 % share of the total in the chains.

Therefore, they always decide on the improvements of the production process along the chains and also dictate the new rules and regulations to followers, particularly the private standards and who will establish new distributions and who may relocate part of the production and transformation process.

Furthermore, heavy pressure imposed on retail prices by the large dominant firms always tries to oust other actors from the chains and the market. This act tantamount to isolation and corresponds less and less to the model of perfect competition and often increases tendency toward oligopoly type of market which aims mainly to supply to the final market.

However, dominance and concentration along the chains take different forms and shapes as it can be summarized bellows:

**Input supplier concentration**: This type of concentration is vivid in agro-chemical and seed sector, where countable number of companies account for 90 % of the global sale, three different phases of this type can be identified:

| 1960 | 1970 | 1980 |
|---|---|---|
| Hybrid seeds | Increases interest from agro-chemical companies | Seed companies dominate the chains and develop GMO products, this brought Du Pont, ICI and Unilever |

Figure 4.21. Phases of Seed Concentration (OECD, 2018)

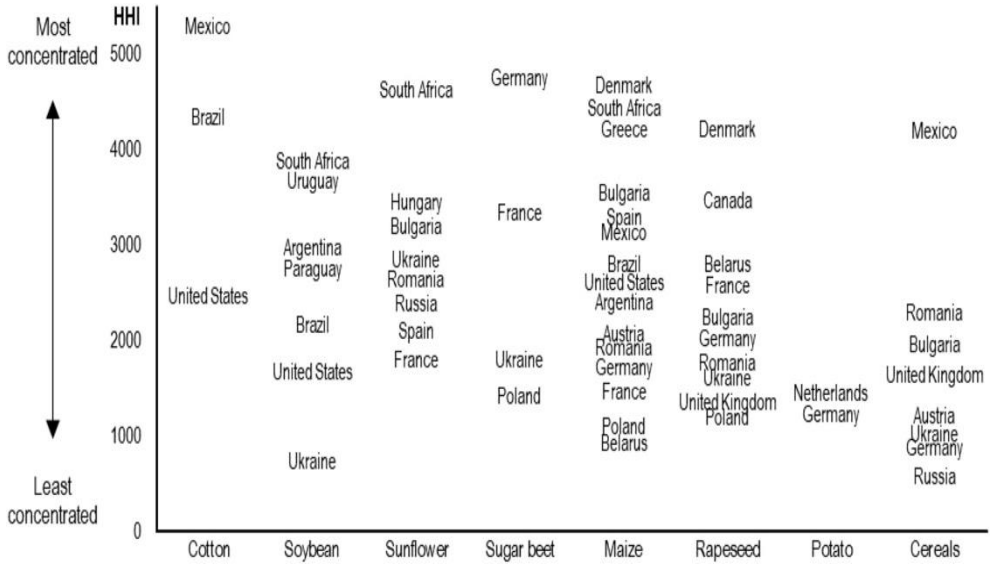


Figure 4.22. Market Concentration Across Seed Markets 2016 (OECD, 2018)

Global concentration in seed markets have been continuing for several years, driven mainly by fixed cost of research and development, technological activities and complementary services in the seed companies. However, the concentration in global seed markets varies considerably across different countries. Figure 4.22 shows the concentration tends to be high in sugar beet, cotton, sunflower, maize and rape crop this could be attributed to high demand for these crops in the market, in contrast potato, soybean, wheat and barley have lower concentration.

Furthermore, the concentration and consolidation in the global seed market shaped by merger and acquisition have negatively impacted farmers and crop producers due to high prices, reduced competition and lower rate of innovation on seed sector because of the few numbers of players in the market. This occurred while some researchers argued that well-functioning, competitive, innovative seed markets are crucial for agricultural development and global food security.

**Production concentration:** This type of concentration has not been well documented in agricultural sector, but some researchers such as Martinez (1999), argued that the scale of pig production in USA has increased from 37% to 71 % due to vertical coordination between production units and processing plant.

**Processing concentration**: Normally, this type of concentration covers wide range of activities such as processing of fresh produces and adding some value through packing, preparation and innovation as it is happening in Kenya or transforming raw agricultural products into a variety of processed products.

Table 4. 11. Increasing Concentration in Meat- Processing Industry in United States: Four firm Concentration Rations (Humphrey, 2016)

| | **1986-1987** | **1990** | **1994-1995** | **1998** | **2000-2001** |
|---|---|---|---|---|---|
| Pork packers | 37 | 40 | - | - | **59** |
| Beef | | 72 | 76 | 79 | **81** |
| Broilers | 35 | 44 | 46 | 49 | **50** |

Table 4.11 it can be realized that the four-firm concentration ratio for beef packers increased from 72 % to 81% between 1990 to 2001. The four-firm concentration ratio for pork packers increased from 37 % in 1987 to 59 % by 2001, while the ratio for broilers concentration increased from 35 % in 1986 to 50 % in 2000.

**Consumer outlet concentration**: This concentration occurs at the sale point to the consumer and it is commonly found at the end of the market where retailers and super markets have the largest share in the market (Figure 4.23).

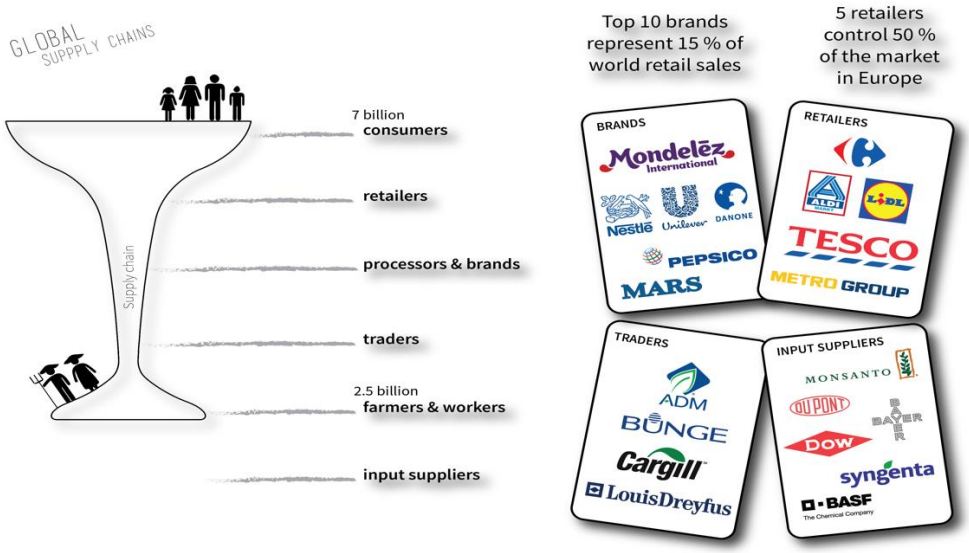



Figure 4.23. Consumer Concentration (Oomes et al. 2016).

Global agricultural markets have become increasingly complex because of concentration at all points in the value chain and the increasing scope and complexity of food standards, particularly those relating to hygiene and food safety. Therefore, realizing the potential benefits of agricultural export growth for poverty reduction requires careful analysis of trends in global markets and the policies that will unlock the potential for growth and poverty reduction.

Therefore, concentration matters for two reasons. First it leads to concentration at the other levels, secondly it creates oligopolies and inequalities in the market power which tends to reduce the profits made by other firms.

### 4.7.1 Concentration and Market Share of Cocoa

Concentration in the market exists in two dimensions horizontal concentration which occurs in case of mergers or take over by some companies in the same activities and the same market and vertical concentration and this type exist

when companies in a certain segment in the value chain integrate in other segment of production process in the chains.

However, concentration in the regional and global market has been traditionally measured by two common methods

1. **The Herfindahl-Hirschman index** (HHI). The HHI takes the sum of the squared market size of all companies in a certain market, which gives a number between zero (perfect competition) and 10,000 (perfect monopoly), generally, an HHI value below 1000 indicates that concentration is low; a value between 1000 and 1800 indicates that a market is moderately concentrated. HHI values above 1800 are an indication that the market is highly concentrated to such an extent that it raises competitive concerns.
2. **The concentration ratio**. The concentration ratio x (CRx) is the sum of the market share of the x largest firms in a market, which gives a number between 0 percent (perfect competition) and 100 (market with only one seller in the market)

Africa remains one of the largest cocoa producers globally, it has been estimated that the continent has produced around 3.2 million tons of cocoa in 2013-2014, accounting for 73% of the global production (Gayi and Tsowoa, 2016)

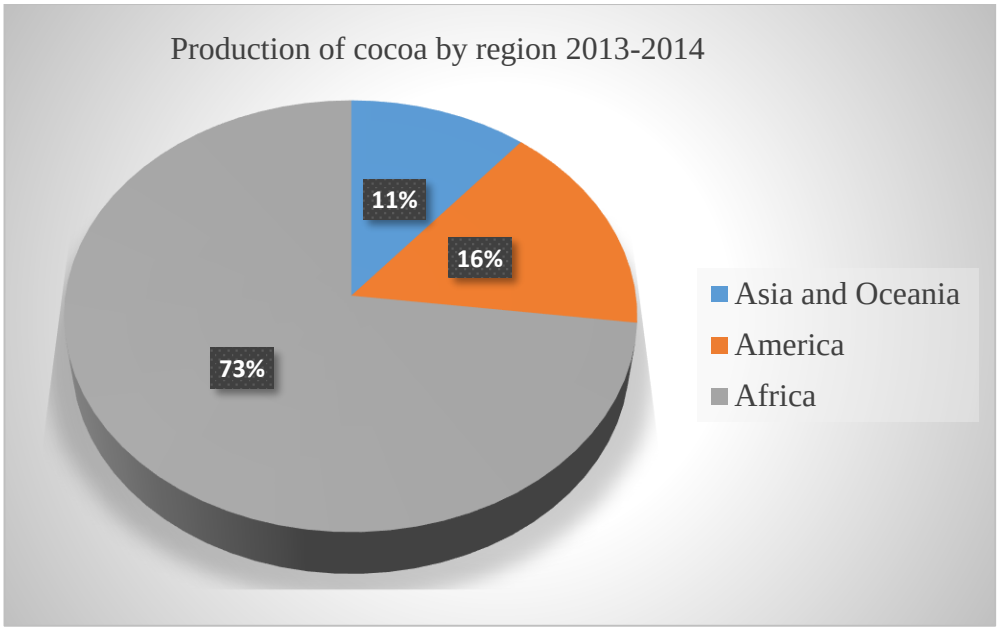



Figure 4.24. Production of Cocoa by Region (Gayi and Tsowoa, 2016)

Historically, cocoa beans have been exported to Europe as raw material where most of production activities are been carried out, but over the last decade of the century many producing countries have decided to conduct the initial stages of the production process by grinding cocoa locally. As a result, Ghana and Cote d'Ivoire have grinded around 519,400 tons of cocoa in the 2013-2014.

Concentration in cocoa global value chains can be interpreted within the context of governance and upgrading in the chains, as most of the big companies always attempt to control the chains. For instance, in early 2003 number of cocoa companies has decreased from 30 to less than 10 players in the global market, companies such as Cargill and ADM took over the role of other companies.

Therefore, the concentration pattern has accelerated in the last seven years, giving advantage to the biggest cocoa trading and processing companies such as Barry Callebaut, Cargill and ADM to control around 50-60 % of the world global production by 2013.

However, the major drivers of these transformation and concentration in the global market is the trade liberalization reforms that have increased the competition in domestic intermediation and export of the cocoa beans by increasing the number of players in the market.

Horizontal integration of the cocoa in the global value chains has not only consolidated trade concentration but also processing concentration. It has been reported that in 2006 a few companies, namely Barry Callebault, Cargill, ADM and Blommer Chocolate Company to control around 50% of the world cocoa grinding but it is expected that these companies now control around 60% or more in the same market (Figure 4.25)

Furthermore, high prices of processing combined with the high prices of inputs have increased production costs for processing companies, promoting merge and acquisition strategies by some companies that fail to meet the cost of production. This has encouraged the big companies to increase efficiency cost and attain higher scale economics.

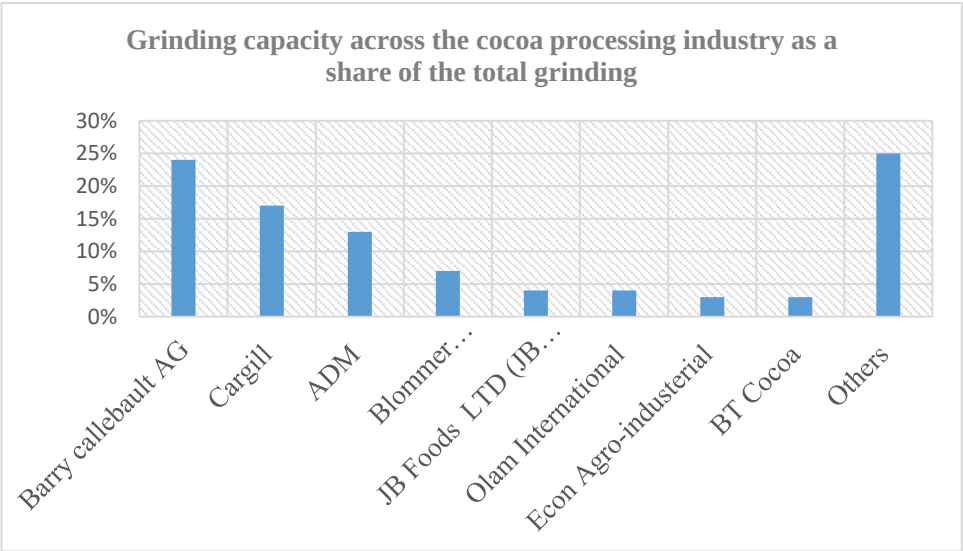



Figure 4.25. Grinding Capacity Across the Cocoa Processing Industry as Share of the Total Grinding (Oomes et al, 2016)

In addition to vertical integration global cocoa industries have witnessed a significant vertical integration encouraging countless number of companies to expand their activities from sourcing the raw material to producing chocolate within the same company. This integration has given big firms advantage to control large portion of the chains from purchasing of the beans to processing cocoa butter and powder to the final products.

Moreover, increased number of mergers and acquisition along the chains has resulted in a high degree of vertical integration, encouraged furthermore by the ambition of the big companies to control production process in order to meet the consumer's demand in terms of quality, quantity and traceability.

Table 4.12. Market Shares of the Four Largest Cocoa Processing Companies (Oomes et al, 2016).

| **Company** | **2006** | **2014** |
|---|---|---|
| Barry Callebaut | 13 % | 24% |
| Cargill | 14% | 17% |
| ADM | 14% | 13% |
| Blommer | 6% | 7% |
| Other | 53% | 39% |

Processing is the most concentrated market segment of the value chains, as shown in the (Table 4.12). In 2006, these companies together sold around 47 percent of the world's processed cocoa. In 2014, their combined market share increased to 61 percent, with only 39 percent of the world's cocoa processed by other market players.

Therefore, this increases in the concentration of the global cocoa processing industry between 2006 and 2014 have increased the HHI index in the processing sector from 724 in 2006 to 1208 in 2014 which is above the 1,000 benchmarks, (Table 4.13).

Meaning that the market could be classified as moderately concentrated in 2014. Similarly, all the concentration ratios have increased as well making the sector more concentrated and it is expected that the concentration will increase as several mergers and acquisitions took place since 2014.

Table 4.13. Concentration Among Cocoa Processors (Oomes et al, 2016)

| | **HHI** | **CR4** | **CR8** |
|---|---|---|---|
| 2006 | 724 (low) | 47% | 60% |
| 2014 | 1208 (moderate) | 61% | 75% |
| 2015 | 1312 (moderate) | 65% | 77% |

Therefore, this vertical integration that took place in the global market has permitted eight companies to control around 70% of the global cocoa processing, forcing companies like ADM and Cargill to diversify their activities from cocoa trade to grinding and production of cocoa liquor, powder, butter and chocolate manufacturing.

Also, concentration has reached manufacturing segment but it is less concentrated than the cocoa processing sector. The market is dominated by a couple of large chocolate manufacturers, which sell their chocolate in many national markets. The four largest companies, Mars, Mondelez, Nestlé and Ferrero, together account for 41 percent of chocolate confectionery sales in 2013 (Figure 4.26)

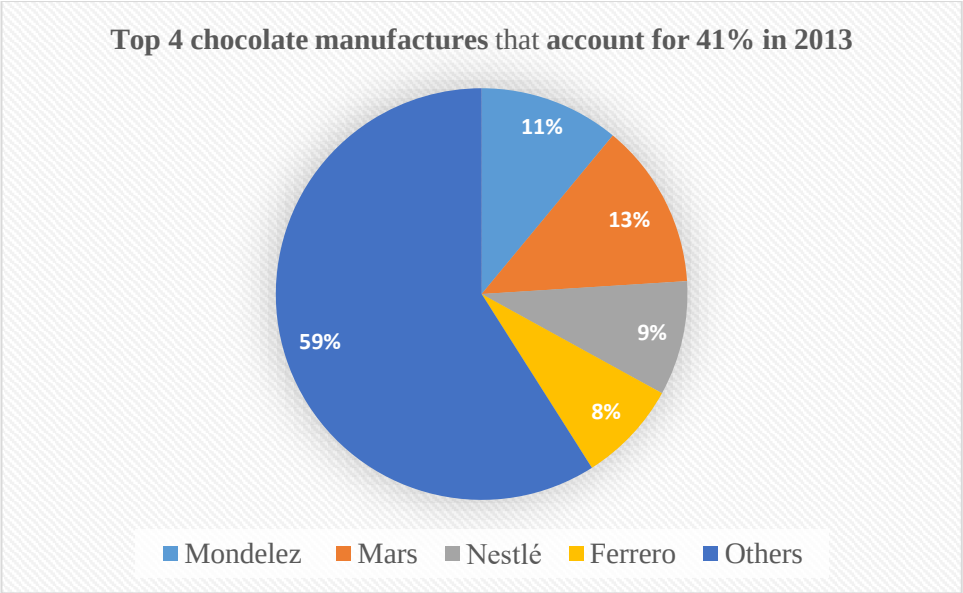



Figure 4.26. Top 4 Chocolate Manufactures that Account for 41% in 2013 (Gayi and Tsowoa 2016)

The ultimate result of lower concentration in manufacturing can be realized in HHI which suggests that the concentration in the chocolate industry is relatively low having 641 HHI which is below the 1000 benchmark. This is supported by the CR4 of 41 percent and the CR8 of 61 percent respectively. (Table 4.14)

Table 4.14. Concentration Among Chocolate Manufactures in 2013 (Oomes et al, 2016)

| | HHI | CR4 | CR8 |
|---|---|---|---|
| 2013 | 641 | 41% | 61% |

Lastly, chocolate retailers are found downstream in the value chain and they sell chocolate to the consumers. Chocolate bars are sold in convenience stores, gas stations, wholesales and small food kiosks, but the largest share of chocolate is by far sold in supermarkets. In Japan, USA and Europe, supermarkets have shares of 75 to 80 percent in food retails.

Table 4.15. Top Global Manufactures "Confectionery Brand Owners" of the Chocolate Bars and other Candies. (Gayi& Tsowoa, 2016)

| Company | Country headquarters | Net sales 2013($million) | Share of net sale in total sales (%) |
|---|---|---|---|
| Mars Inc | United States | 17640 | 9 |
| Mondelez international | United States | 14862 | 8 |
| Nestle SA | Switzerland | 11760 | 6 |
| Ferrero group | Japan | 10900 | 6 |
| Hershey Foods corps | United States | 7043 | 4 |
| Arcor | Argentina | 3700 | 2 |
| Yıldız Holding | Turkey | 2500 | 1 |

Traditionally, chocolate firms were oriented towards the domestic market and most of these companies are owned by families, although some of these firms operate at global level (Table 4.15). In 2013 their total sale of chocolate bars and other candies amount to 42% of the global confectionery sale it was estimated at $196.6 billion. This proves another significant role plays by retailer companies in the GVCs.

### 4.7.2. Regional Concentration

Concentration is not only limited to the global level in many producing countries considerable numbers of companies account for large share in the market, where marketing channels are only controlled by few numbers of firms, for example in Cote d'Ivoire three companies control around 50% of cocoa trading through their local agencies while in Ghana Cocbod and other three companies control around 55% of the trading with Produce and Buying Companies account for 35% of the total share. (Table 4.16)

Table 4. 16. Share of the Leading Companies in Total Cocoa Purchase by Volume in Côte d'Ivoire and Ghana (Gayi& Tsowoa, 2016)

| Cote d'Ivoire | | Ghana | |
|---|---|---|---|
| **Company** | **Share (%)** | **Company** | **Share (%)** |
| Cargill | 19 | PBC | 35 |
| ADM | 16 | Akuafo Adamfo | 13 |
| Barry Callebaut | 15 | Armajaro Ghana | 8 |
| Cemoi | 8 | Transroyal Ghana | 7 |
| Saf-Cacao | 7 | Olam Ghana | 7 |
| Cocaf lvoire | 7 | Federated | 5 |
| Touton | 6 | Cocoa merchants | 5 |
| Outspan lvoire | 6 | Kuapa Koboo | 5 |
| Novel | 3 | Others | 5 |
| Coex-ci | 3 | | |
| Armajaro | 5 | | |

West Africa is the main producing region with 74 percent of the world's cocoa production, with Cote d'Ivoire having market accounting for around 43 % of world production, Ghana follows with market share of 20 % and Indonesia is responsible for 8 percent of the world production.

However, the available data on the market shares among cocoa traders in the West Africa region namely Cote d'Ivoire, Ghana, Nigeria, Cameroon and Togo for 2012 if we consider West Africa as a single market, the HHI is below the benchmark for a concentrated market. The maximum value of the HHI in this region is 886, which is below the 1000 HHI benchmark of market concentration (Table 4.17).

This conclusion is supported by the fact that four largest firms have market share of more than 50 percent and while eight largest firms controlled around 70 percent (Table 4.17). In contrast approximately, half of all West African cocoa is bought by five multinational companies namely, Olam 19%, Cargill 14 %, Barry Callebaut 7%, Armajaro 7% and Cemoi 4%.

Table 4. 17. Concentration Among Cocoa Traders in West Africa (Oomes et al, 2016)

| | HHI | CR4 | CR8 |
|---|---|---|---|
| 2012 | 886 | 52% | 70% |

Global agricultural markets have become increasingly complex because of concentration at all points in the value chain and the increasing scope and complexity of food standards, particularly those relating to hygiene and food safety. Therefore, realizing the potential benefits of agricultural export growth for poverty reduction requires careful analysis of trends in global markets and the policies that will unlock the potential for growth and poverty reduction.

Table 4.18. Pricing in the Cocoa Global Value Chains (Gayi& Tsowoa, 2016)

| Agents | Priced received | Extent of the market | Concentration | Market power |
|---|---|---|---|---|
| **Cocoa farmers** | Farm gate price | Regional/ international | Very low | Low |
| **Cocoa traders** | Export price | National market | Varies | Cameron: high Nigeria: high, Ghana low, |
| **Cocoa processors** | Processed price | World market | Moderate | Limited because of efficient future market |
| **Chocolate manufactures** | Whole chocolate price | World market | low | Limited as result of countervailing power of processors |
| **Chocolate retailers** | Retailer price | National market | low | Limited as result of countervailing power of manufactures |

Table 4.18 shows the pricing of Cocoa global value chains and the role of the agents and how it influences market concentrations from farm-gate to the retailer price.

However, the empirical evidences have indicated that local market concentration could hinder the transmission of world market price to farmgate prices,

as the result of information asymmetries and lack of bargaining power of the part of farmers.

Furthermore, the concentration in the global market promoted by the consolidation and domination of the big companies jeopardizes the share of the small producer in the final products. In Zimbabwe for example growers of mange-tout peas received around 11.9 % while the supermarkets earned more than 40% of the final products (Table 4.19)

This finding proves once more that concentration in the market negatively affects the small producers even though some argued that it improves the market quality yet that hypothesis will remain far from the realities until proven empirically.

Table 4.19. Cost Structure of African Fresh Fruits and Vegetables Exports to the UK (Millns & Tallontir 1999)

| | **One tone export of mange-tout from Zimbabwe** | | **Export of fresh vegetable from Kenya** |
|---|---|---|---|
| **Stage** | **Price per-tone ($)** | **%of final price** | **% of final price** |
| Producers | 630 | 11.9 | 14.1 |
| Exporters | 291 | 5.5 | - |
| Packaging | 274 | 5.2 | 13.1 |
| Air freight and handling | 1,036 | 19.6 | 21.2 |
| Total CIF from Africa | 2230 | 42.2 | 48.4 |
| Importers charge and commission supermarket | 624 | 11.8 | |
| Stock out | 714 | 13.5 | 6.1 |
| Other cost | 285 | 4.5 | - |
| Mark-up | 1487 | 27.0 | 45.5 |
| Total price | 5281 | 100 | 100 |

### 4.8. Alternative Policies and Models for Small Producers

Global market concentration has become more complicated as the market is imposing new measures and evolving around global standards. These measures carry enormous environmental challenges and opportunities for multiple actors involved in value-chain development.

Therefore, adopting policies for developing-country and for Africa particularly including governments and other agencies involved in the chain is very crucial. These policies can be grouped into the following:

- Ensuring continued access of small producers to global markets and supporting the competitiveness of the agricultural sector.
- Increasing revenues from farming sector, particularly through adding value to exports.
- Government should provide support to the sector i.e. rice project in Benin, Cocoa in Ghana, to enhance poverty alleviation impact and improve export of agricultural products.

Furthermore, successful models from other countries can be implemented to link the smallholders and actors to the global market

**Backward integration**: This model demonstrates inclusion of smallholder farmers into supply chains of value chain intermediaries. The model is built on mutual interest such that it addresses most of the challenges encountered by smallholders while ensuring the firm provides input credit to smallholders in terms of seeds, fertilizer, and chemicals as well as free training and extension services.

**Smallholder producer aggregators**: This model refers to producer-driven aggregation such as cooperatives and farmer-owned businesses. Leveraging economies of scale, the aggregator links smallholder producers to upstream service

providers and downstream committed buyers in the value chain. In doing so, the aggregator model helps to lower operational cost of supplying to or sourcing from smallholders. In contrast to backward integration model by value chain intermediaries, this model typically requires facilitation and social finance by aid agencies.

**The Ethiopian Commodity Exchange (ECX):** In Ethiopia, this model links smallholders and traders through dissemination of market information, establishment of quality standards and testing services, and an organized central market place. The ECX functions as central marketplace such that prices recorded on the exchange floor are transmitted to farmers across the country.

### 4.9. African Small Farm-holders in the Global Value Chains

Over the last two decades global agricultural value chains have become more consolidated, regulated and sophisticated by the advanced telecommunication revolution in the world, making it very difficult for the small farm-holder to participate in the global value chains

The agricultural sector of Africa is dominated by the small farm-holders which produced around 80% of the total production in the continent contributing significantly to the enhancement of economy but in contrary the World Bank and other research centers have classified them as the poorest people in the continent, putting many of agricultural product producers in a paradoxical situation.

Joshi (2016), asserts that adding value or procession of fresh fruits, vegetables, coffee, or honey tend to be labor intensive comparing to some cereals. This is due to utilization of some machine that never caused damage to the agricultural products. Nevertheless, adding value, quality and complying with sanitary and phytosanitary standards to ensure product safety and prevent dissemination of diseases are very essential in the global market.

Therefore, leading firms in the global market are exerting more control over the agricultural product quality and the information (traceability). This strict measures on the agricultural products are referred as restriction strategies by the leading companies in the global chains to control the market

### 4.9.1. Challenges Facing Small Farm-holders in the GVCs

Traditionally, the market of agricultural products has been governed by the common forces of market (demand and supply), where the highest bidder has the advantage of purchasing the crops. However, this traditional linkage no longer reflects the current situation of the global market particularly in agricultural field.

Wiggins et al. (2010), argued that the emergence of globalization, urbanization, liberalization and expansion of the trade have replaced the vertical coordination system of the market where centralized regional and international supply chains are controlled by countable number of firms and companies in the global agricultural market.

Reardon et al. (2009), in their work “transforming small-farmer in developing countries” found that strict standardization both at regional and global level and dictating to the small farm-holders what should be cultivated, produced, processed, stored including irrigation system through public or private standards as the major challenges for the farmers to satisfy and maintain access the global value chains.

Abonyi ( 2006), found that supplying tomatoes to the global retailer such as Nestle, Carrefour groups or global fast food supply such as McDonald require the farmers to comply with private standards such as size, form, color, safety and consistency in supplying the agricultural products which in turn will force the farmers to undertake massive investments such as drip irrigation, greenhouse, research and development and some hygienic services which are generally beyond

the capacity of the small farm-holder to meet and maintain the consistency in supplying to the customers.

Lee et al. (2012), considered all these challenges have forced many small farm-holders in Africa and other developing countries to undergo some structural changes to upgrade their agricultural products in various ways by improving crop varieties, introducing some traceability measures and administration rules including installation of irrigation and greenhouse system to comply with the internal market demands.

Hazel et al. (2010), found that these determinants are more complicated in Africa due to lack of regulatory institutions, lack of competitiveness, absence of sanitary and phytosanitary standards, weak transport system and under-infrastructure and absolute absence of important upstream value chains inputs such as seeds, agricultural equipment's, fertilizer's suppliers, lack of necessary agricultural extension services, these factors have positioned small producers in Africa in a lower segment in the agricultural global value chains.

Livingston et al. (2011), reached a similar conclusion that strict standardization and absence of primary agricultural inputs has forced many small producers not to comply with current structure of the governance in the global agriculture value chains. This situation has positioned many small producers to remain as the suppliers of unprocessed agricultural products to the leading firms in the chains.

### 4.9.2. Opportunities for the Small Farm-holders in the GVCs

Despite all these obstacles and problems small farmers in global agricultural value chains still have many opportunities and crucial roles to play in the global market, below are the available opportunities for the small-farmer in GVCs.

African small farm-holders have competitive advantage in the global agricultural value chains over the large-scale farmers, because most of the

agricultural products are labor intensive in terms of cultivation, followed up and monitoring, prevention from pests and diseases, mulching and thinning practices even some crops required specific type of harvest crop like coffee, tea, cocoa, vegetables and fruits. All these agricultural practices cannot be performed by the machine except small farm-holders.

Van der Meer (2006), provides another opportunity and advantage for the small farm holders as the size of the farm ranges between 2 to 3 ha in average which requires lower number of works compare to large- scale farmers which need huge works, social protection such as paid vacation, health care, pension contribution all these requirements has given small farmers preferable situation in the global agricultural value chains.

Hernandez et al. (2014), argued that vulnerability and perishability of many crops due to biotic and abiotic factors can be considered as an advantage and opportunity for these small producers, because floods or widespread of some insects such as locust can destroy the entire farm causing great loss and damage to the large scale-farmers comparing to small-producers

Bellemare et al. ( 2017), argued that existence of the small farm-holders in the lower segment of the global agricultural value chains is a strong opportunity for these farmers, as the global market is facing fluctuation in prices these crop producers cannot withstand the volatility of prices globally. Therefore, they are well suited in this position even though many argues that they play a marginal role yet this position commensurate their market weight.

### 4.9.3. Mechanisms for Including Small Farm-holders in GVCs

From the points mentioned above it’s apparent that small farm- producers are encountering enormous challenges as well as opportunities to participate in the global agricultural value chains. However, to circumvent and overcome these

challenges and utilize the available opportunities farmers need external support from the main actors in GVCs.

Therefore, after delving and researching the available primary and secondary materials in the GVCs, the following mechanism has been identified as the holistic solution for small farmer-holders to participate in the global value chains. The model and mechanism based on the competitiveness to address major challenges facing the farmers.

**Access to the Market**: Access to the global market by the small farm-holders is very important. This mechanism is generally condition on the ability of the farmers overcoming tariffs and non-tariffs barriers that are imposed along the borders. Also, challenges such as import and export quotas, transportation and logistical services, taxes and other customs procedures need to be addressed so that the farmers can easily access global market.

Hernandez et al. (2014), found that small farmers globally and particularly in Africa are facing lack of access to the internet network or even website in order to establish robust relationship with the leading companies and publicized their agricultural products on the internet so that they can secure a bargaining deal with retailers. Therefore, it is necessary to create a link between the small farm-holders and buyers in the global value chains using the current technology to facilitate market accessibility by the small farm-holders. However, number of people using internet in Africa is relatively low compared with others regions around the world as shown in table 4.20. This number has significantly influenced small producer market and their products using internet.

Table 4.20. Number of People Using Internet Globally (Internet world Stats June/2019)

| ***Region*** | ***Population estimated*** | ***Internet user*** | ***Internet world percentage*** |
|---|---|---|---|
| ***Africa*** | **1320038716** | **522809480** | **11.5** |
| *Asia* | 4241972790 | 2300469859 | 50.9 |
| *Europe* | 829173007 | 727559682 | 16.0 |
| *Latin America* | 658345826 | 453702292 | 10.0 |

**Access to Finance :** Lack of proper finance system to the small farm-holders, lack of irrigation system, greenhouse and absence of cold storage agricultural facilities to achieve productivity have hindered the capability of the farmers to access national, regional and international market where buyers and the lead firms are always adamant to ensure consistent quality and supply of agricultural products (Reis and Staritz, 2013).

Therefore, it is significant for the leading firms to intervene and provide financial support for the small farm- holders as a collateral for their agricultural products in advance. Additionally, buyers can supply primary agricultural inputs such as seed fertilizers, farm equipment credit services and extension services to the farmers, these supports can help the farmers to participate fully in the agricultural global value chains.

**Access to Training:** In Africa large number of small farm-holders worked in the agricultural field throughout their entire life. Therefore, subjecting these farmers to some kind of training is necessary to improve productivity, quality of the crops, introducing new technology, cultivating new varieties of crops, complying with international standards to ensure safety of the products, these measures are important for the participation of small farm- holders in the agricultural global value chains.

Hernandez et al. (2014), argued that the current agricultural value chains are more sophisticated and crops grown using traditional methods cannot meet the basic preconditions for entering the global market. Therefore, developing the skills of

farmers and equipping them with the production techniques are crucial for running independent enterprises.

Training provided to the small farm-holders should cover the following four basic elements, to ensure inclusive participation of small farmers in the global agricultural value chains (Abonyi, 2006).

**1. Technical Training.**

Many scholars associate this type of training with specific technical skills that necessary to align the farmers with modern agricultural practices to meet the intentional rule and standards.

**2. Awareness Building.**

Raising awareness among small- producers about the current market situation and the basic requirements, actors and their role is very important to save the interest of farmers in the global value chains.

**3. Entrepreneurial Training.**

Effective participation of the small farm- holders in the global value chains depends on the farmer to portray his small farm as a firm or company which required modern management skills.

The current agricultural global value chains rely heavily on consistent supply of products both in quantity and quality which are generally controlled by strict contract and complex planning procedures. Therefore, to ensure sustainable inclusion of small farm holders in the GVCs they must understand and manage their cost and cash flow, negotiate with the lead firms (financial literacy and client management are very important).

**4. Social Skill Training.**

Social skills involve communications, leaderships skills, conflict management, negotiations and team working. These skills are very important for the small producers to achieve economic growth and development. According to Lee et al. (2018), the capabilities of small-producers to understand these skills as many of them are illiterate. However, he suggested that practical approach can be useful to many farmers such as on-site practical sessions, template to record relevant information such as labor cost, time of cultivation, estimated production and expected profits which can help farmer understand how to run them successfully.

**Coordination and Collaboration Building** In the agricultural global value chains coordination and collaboration exists in two different level. First, horizontal coordination among the small farm-holders to facilitate the formation of producer's groups or association. This coordination not only provides essential economic scale but also gives opportunity to the farmers to upgrade and add value to their agricultural products, secondly vertical coordination and collaboration between the actors in the global value chains. This aims basically to establish linkages, synergies and some information in the chains in order to improve the overall performance of actors in the chains.

**1. Horizontal Coordination and Collaboration**

Individual small farmer cannot meet the demand and the basic requirement of the buyers in the global value chains, because dealing with the individual farmer is costly in terms of transaction cost also collecting the agricultural products individually is impractical economically.

Therefore, it is necessary for all the small-farmers to work together as team to provide the quantity and quality of the agricultural product needed by the buyer in the chains. This facilitates access to cheaper input suppliers, certification of the

products and exchange of ideas on how to address common problems in the field such as diseases outbreak and other uncertainties.

Henson et al. (2008), argued that collective action and horizontal coordination between the farmer is the most effective method to create monitoring groups to minimize moral hazards such as side-selling which can increase the cost associated small-farmer in the chains.

**2. Vertical Coordination and Collaboration**

Coordination among various stakeholders in agricultural value chains is very critical for the enhancement of the entire performance in the chains. All actors along the chain have a role to play including producers, buyers, industry associations, training bodies, financial institutions as well as government agencies their successful coordination in the chains determines the overall-performance of the chains.

### 4.10. Synthesis of Major Insights and Lessons from Africa

**Africa and retailers:** Africa is an evolving region from largely state controlled economy to private-lead sector economy. The continent is characterized by wide range of markets from highly sophisticated to informal food market. However, highly sophisticated markets are dominated by a few retailers that distribute the food through supermarkets. Conversely, the informal food market is controlled by hawkers, street-traders and tuck shops that generally depend on the farmer for supplying food and other agricultural products. In Africa most of the retailer companies were originated from South Africa with Shoprite and Pick'n Pay having the highest market share 4.5 and 4.0% respectively as shown in the table 4.21.

Table 4.21. Top Six Retailers in Africa (Goger et al. 2014)

| *Company* | *Origin* | *Market share (%)* | *Retailer sale (million USD)* | *Grocery sale (%)* |
|---|---|---|---|---|
| *Shoprite* | S. Africa | 4.5 | 5.661 | 74.8 |
| *Pick'n Pay* | S. Africa | 4.0 | 5.017 | 86.2 |
| *Massmart* | S. Africa | 3.9 | 4.827 | 39.5 |
| *Metcash (RSA)* | S. Africa | 2.7 | 3.370 | 85.5 |
| *SPAR* | S. Africa | 2.4 | 2.990 | 85.0 |
| *Woolworths (RSA)* | S. Africa | 1.8 | 2.217 | 26.9 |

**Africa and wholesale**: Global value chains has transformed the traditional form of market from local and fragmented to larger and more centralized market. This change is due to the improvement in technology, infrastructure and telecommunication services in some part of Africa. However, Africa is still far from taking part in the global wholesale because it requires large scale volume of procurement, skillful workers, sufficient managerial skills as well as capital. In addition to that, liberalization of the domestic market and concentration of the production in the developing countries have resulted in the isolation of the continent market that dominated by the traditional market.

**Processing in Africa**: The heterogeneity of African economy has favored some countries over other in terms of processing of agricultural products. Countries with sufficient physical infrastructure and skillful work-force have advantage to lead in processing of the primary agricultural products. South Africa is the leading country in sub-Saharan Africa with approximately 55% share of processor in the region controlling around 80 % of the process. The situation that leads scholars and researchers to refer it as a mature economy in the region. Processor always plays a crucial and decisive role in defining how international trade in most of the agricultural products are structured

**Restructuring of agro-food market in Africa:** Since the emergence of GVC chains, Africa has undergone different levels of restructuring particularly for agricultural and agro-food market. Previously state government have controlled the

supply chains of the products and food commodities. However, globalization have restructured this indigenous market form and chains to privately own companies characterized by increased consolidation and concentration of agro-food industry with supermarkets expanding exponentially across the region.

**Regional integration**: Several studies and research have concluded that trade liberalization in the last decade of the century should improve the region's performance and promote economic growth of agricultural productivity. Regional bodies such as SADC, EAC, ECOWAS and COMESA should promote intraregional trade liberalization to reduce tariffs and other barriers that could foster a great efficiency and improve investment climate in the region.

**Production:** Rapid transformation in global agri-food system has increased concentration in processing, trading, marketing and retailing which is being observed all over the world in various segments of production. This situation has promoted coordination and collaboration between farmers, processors, retailers and other actors along the chains, compiling farmers and small producers to maximize their production in order to meet the demand of buyers rather than relying on the market.

**Raise of supermarket:** Supermarkets are playing a significant role in food retail chains due to increased demand on quality and food safety sales mainly by the growing middle class in the continent. These supermarkets are purchasing their product from the farmers that meet their standards and demand.

**Competitiveness:** The Global Competitiveness Index (GCI) is normally based on three categories which determine growth of the nations and countries around the world. These categories include macroeconomic environment, quality of the public and private insinuation and the technological progress in the countries. Furthermore, GCI classifies countries into three different stages; these are factor driven, efficiency driven and innovation driven and each of them implies a growing degree of complexity in the economic competition.

Africa can be categorized as a factor driven continent because it has been characterized by production of primary agricultural products, unskilled labor, lack of innovation and technological skills which has hindered the continent's competitiveness globally. Therefore, most of the companies built the price of sale and production on the basis of competitiveness and skillful workers in the region as a result most of the African workers wage are below the average and prices of the agricultural products produced in Africa are lower too.

**Organic farming:**Richter (2008), estimated that Africa has great potential in the agricultural sector, particularly in organic farming he found that Africa has approximately about 2.1 million hectares of organic farmland. This could be an opportunity for Africa to capitalize on since the continent has the available workforce and other necessary resources to boost organic agricultural production.

However, the high demand for organic food globally, coupled with the increasing population of the world will give Africa an opportunity to enter the global market and participate in a certain segment at the global level. Furthermore, the negative effects associated with the application of these chemicals and pesticides that cause diseases to many people will be an advantage to the continent to provide the world with organic foods.

Therefore, from this perspective, Africa can participate at the global level by capitalizing on the available resources such as vast land, cheap workers, water resources and high demand in the market, instead of depending on aid and support from other regions.

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# 5. CONCLUSION AND RECOMMENDATIONS

## 5.1 Conclusion

Based on the study findings the following points can be concluded and formulated concerning Africa's agriculture in the global value chains.

First, the emergence of GVCs has exposed Africa's lack of competitiveness at the global level, as demonstrated by its weak bureaucracy system, weak financial system, dearth institutions, lack of qualified personal and poor physical infrastructure. Also, the continent lacks the ability to meet the international standards such as sanitary and phytosanitary, food safety and health of agricultural products that are preconditions for engaging and participating in global agricultural value chains.

Second, the capacity of Africa to take advantage and participate fully in the global value chain is contingent on Africa's capabilities to meet pre-requirements to enter the global chains otherwise the *status quo* and Africa's position will remain insignificant playing marginal role in the global market exporting raw unprocessed agricultural materials to the manufacturing sector that exists outside of the continent.

Third, Africa's lower and stagnating shares in agricultural value-added which is embodied in agro-food products suggest that *forward* integration, which responds only to the supply side of GVCs for unprocessed agricultural products is no longer a viable solution for sustainable growth and development in Africa, but an opportunity for "trading down" which is being threatened by technology, innovation and rapid growth of science as well as advancement in artificial intelligence.

Fourth, Africa's small farm-holders remained the key drivers of the agricultural sector in continent despite huge and multiple challenges they are facing but these problems can be addressed. The growing global demand for agricultural products should be translated into improving productivity and the skills of farmers to participate fully in the global agricultural value chains.

Fifth, the heterogeneity of African economies has influenced the convenient capability to participate fully in the global agricultural value chains, because countries like South Africa, Egypt and Nigeria depend heavily on oil and petrol for their economy despite the huge agricultural potential they have, in contrast Malawi, Kenya and Cote d'Ivoire base their economies on agriculture. This paradoxical situation has negatively affected the level of participation in the global agricultural value chains

Also, a holistic approach for Africa is to export high value products which rely on improving the skills of farmers, technological content agricultural exports, development of international trade marks, and at the same time seek new markets for products. This would entail becoming active participants in agricultural global value chains through *backward* integration rather than forward which means moving into higher levels of the global value chain.

Lastly, Africa has great potential in the agricultural sector, particularly in organic farming. This could be an opportunity for Africa to capitalize on since the continent has the available resources such as workforce, vast agricultural land, water and other necessary resources to boost organic agricultural production.

### 5.2. Recommendations

Based on the above findings and conclusion the following can be recommended

1. **Improvement of Africa's Economic Situation***:* This involves improving the macroeconomic situation of Africa through stabilization and sustainability of regional market by providing fundamental basic services such as physical infrastructure, roads, water and other complementary services also having an efficient and transparent

bureaucracy system, coupled with legal and regulatory frameworks, and an efficient financial sector.

2. **Promotion of Regional Economic Co-operation***:* This entail deployment of institutions that are capable of facilitating intra-Africa trade including improvement of ports and other entrance gates to reduce and harmonies documentation which are required for customs and border crossing, elimination of check points to improve access to agricultural product.
3. **Development of viable private sector***:* This sector will provide strong entrepreneurial skills for the small-farmers to view their farm as firms that required robust managerial and business skills. Also training of the agricultural workers should be linked up with R&D and technological development and innovation systems in the agricultural sector, to ensure full involvement in GVCs.
4. **Development of Trade Mark and Local Standards:** one of the best ways to accelerate Africa's participation in agricultural global value chain should be obtaining international trade marks, developing localized monitoring and certificate measures that comply with the international standards to avoid overexploitation by the leading firms.
5. **Building Capacity of Small Producer***:* Despite their potential to play a competitive role in high-value agri-food value chains, yet the small producers tend to remain excluded in agricultural global value chains. Therefore, mitigating these constraints by providing access to market improving knowledge and skills financing and organization of the farmers will assist the small farm-holders to participate in the GVCs.
6. **Further Study of African Agriculture in GVCs***:* Global value chains is an emerging topic where most of its applications are concentrated in manufacturing, electronic and automobile sector in Europe and other

developed countries. Africa as the continent has a considerable number of studies particularly in the field of agriculture and horticulture sector. Therefore, further studies on the field is paramount to explore Africa position in the GVCs.

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