

## **Commodity Belts and Value Chains in Africa: Retrospect and Prospects for the New Sub-Regionalism**

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### **Abstract**

The paper attempts to capture empirically selected commodity belts in Africa, with a view to identifying the geographical expansion of the commodity belts through value addition as a sustainable means of wealth creation in Africa. Having analyzed the degree of processing in selected African countries, the paper unveils viable avenues of climbing the ladder of value addition. Commodity specific geographical expansion of commodity belts within the framework of the new sub-regionalism is explained by citing the North-South corridor as good example of the new sub-regionalism in value chain development.

**Keywords:** Value addition, comparative advantage, commodity belts, resource endowments, value chain, competitiveness

## 1. Introduction

While 98 percent of agricultural production in high-income countries undergoes industrial processing, in developing countries, barely 30 percent is processed. Yet, the latter's agro-processing industries generate 40 to 60 percent of manufacturing added value and agro-industrial products account for half of all exports from most developing countries. The African case is a prime example which illustrates the fact that dependence on raw commodities and natural resources is not a sustainable path to prosperity in the current competitive environment. The commodity-based boom experienced by the continent, facilitated the achievement of average annual growth rates of GDP of more than 6 percent during 2004-2007 and 5.2 percent in 2008. However, this growth-path is nowhere sufficient in achieving the millennium development goals set for the continent. The world economy is expected to shrink by -1.1 percent in 2009;<sup>1</sup> oil exporters are projected to experience the strongest growth decline compared to the 2004-2008 boom period while oil importers are expected to face a decline in GDP growth from 5 percent in 2008 to 1.5 percent in 2009.

In the light of recent history and future predictions, it is imperative for Africa to develop alternative engines of growth. Industry holds the key in this given scenario. Africa needs to boost its industrial capabilities and diversify its manufacturing base. It requires a shift from mere extraction and sale of raw agricultural commodities and natural resources to sale of processed, further processed and finished products.

Sierra Leone – one of the poorest countries in the world still recovering from the impacts of civil war - has recently discovered oil. Is this an opportunity? It indeed is, given Sierra Leone can avoid the past mistakes of several other African countries. The case of Sierra Leone is one of many existing examples in the continent where it is imperative for the economy to divert natural resource revenues towards sustainable sources of wealth creation. Suitable climatic conditions and vast resources of land offer immense potential for agricultural growth in Africa. Though the continent has utilized this potential by concentrating on agricultural and agro-based production; it has in comparison failed to maximize the benefits of post-harvest value addition.

The value chain approach is a tool which can be used to analyze the required transformation from agricultural production to agro-industrial manufacturing in Africa. A *value chain* is the

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<sup>1</sup> See projections by World Bank (2009) and IMF (2009)

sequence of production, or value adding activities, leading to and supporting end users of a particular product. The key to the value chain concept is the fact that value addition takes place at every stage. This value addition can be measured and its distribution along the chain analyzed. A commodity value chain refers to the linkages that constitute input acquisition, manufacturing, distribution, marketing and consumption of a commodity. Value chain analysis, therefore, is an effective means of conceptualizing the forms that functional integration takes in the production process, because it shifts the focus from production alone to the varied set of activities that make up the chain. Generation of value and industrial development are part of the same processes (UNIDO, 2008).

## **2. The degree of processing and industrial competitiveness**

The challenge that lies ahead is to convert a country's natural advantage in commodity wealth into manufacturing value added growth. The following analysis shows how the processing sector – a sector which is a major component and contributor to higher value added - has been unexploited in the continent, and how that correlates with Africa featuring on the lowest ends of competitiveness.

The analysis is based on a classification categorizing all trade sectors into four different groups namely; unprocessed exports for further processing, unprocessed exports for final use, processed exports for further processing (semi-processed) and processed exports for final use (UNIDO, 1980). Let us examine the contrasting cases of two countries; Ethiopia and South Africa.

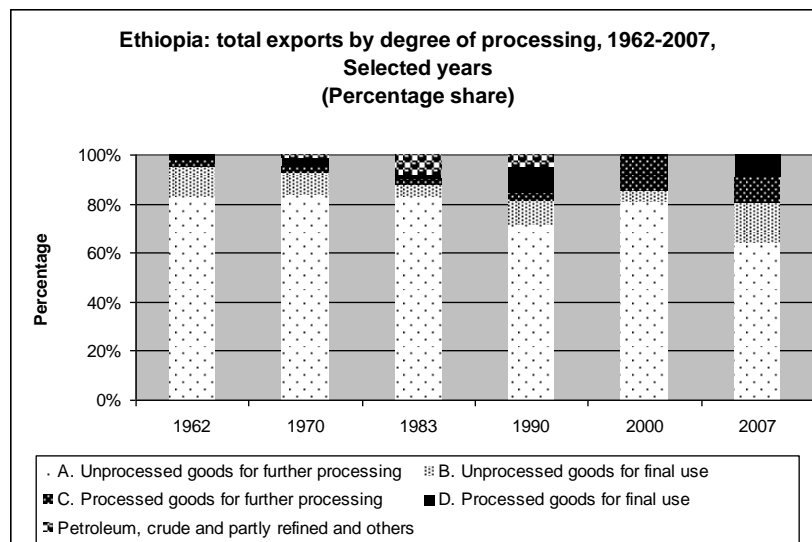
### **2.1. Ethiopia**

Share of Manufacturing Value Added (MVA) in GDP for Ethiopia was estimated at 4.8 percent in year 2007 (UNIDO, 2009), which is a similar level to previous years. This figure is below the average 7.2 percent for African LDCs. The manufacturing sector comprises mainly of food products which includes a large share of flour products, vegetable oils and sugar. Beverages and textiles/garments are other major contributors. A large share of production is concentrated in Addis Ababa followed by Dire Dawa. Ethiopia has a large import flow which has risen sharply from US\$ 1.2bn in 2000 to US\$ 4bn in 2005 and US\$ 10.9bn in 2009 (UN Comtrade). The surge in imports reflects several factors, such as higher purchases of capital equipment, the rapid rise in

world oil prices and an overall increase in economic activity. As a result of its trade flow trends, Ethiopia has a large deficit on its merchandise trade account (EIU, 2009).

Figure below reflects the export structure of Ethiopia by degree of processing. It is evident from the graph below that Ethiopia has concentrated its exports on unprocessed goods over the last four decades. Even though the combined share of unprocessed exports (both for further processing and final use) has declined from about 94 percent in 1962 to the 80 percent mark in 2007, it still remains at an undesirable level. The major contributor to this unprocessed share is the food sector; largely dominated by unprocessed coffee. Coffee, green or roasted has accounted for over 90 percent of the unprocessed goods that are exported for further processing.

Figure1: Ethiopia: Total Exports by Degree of Processing, 1962-1967



Source: Authors' calculations based on UN Comtrade Data.

Leather, another contributor to the unprocessed share has experienced a rise in total exports from about US\$10 million to over US\$90 million over the last four decades. However, this sector has shown recent signs of transformation by exhibiting a structural shift towards manufactured leather. In the past three to four years, Ethiopia has managed to divert its exports from undressed hides, skins and fur skins, to exporting semi-processed tanned leather and processed manufactured leather products. Shares in semi-processed and processed leather products have been raised from almost nothing in the 1990's to over 60 percent in 2007-2008. UNIDO deserves

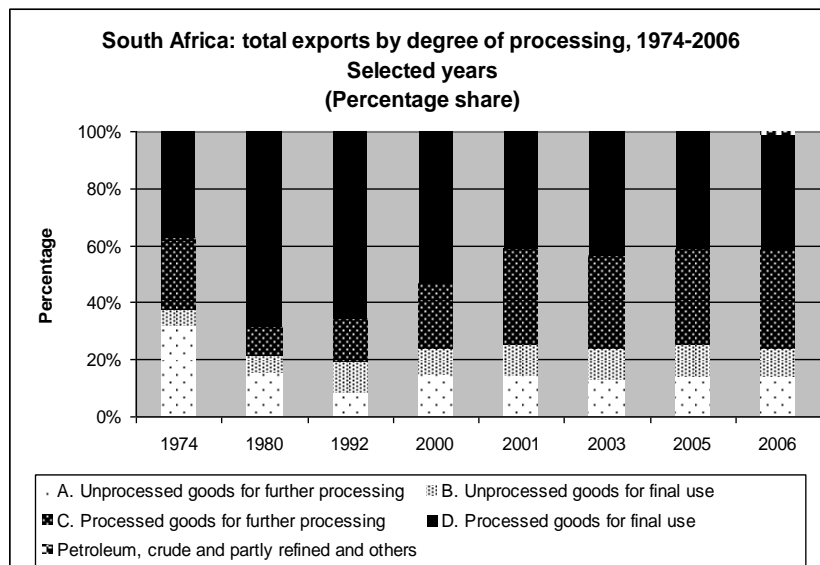
part of the credit for this success thanks to its initiatives in technical assistance and investment promotion in the leather industry of Ethiopia. However, these successes remain miniscule taking into account the work which still needs to be done in a majority of sectors in the country – a country which till date reaps the lowest rents on the value chain. Let us now look at the contrasting case of South Africa.

## 2.2. South Africa

South African manufacturing is concentrated over a wide range of products which include foods, textiles/clothing, footwear, metal and chemicals. The output of capital goods, such as mining machinery, transport equipment, vehicles and electrical machinery, has also increased in the recent past. Share of MVA in GDP was 18.8 percent in 2008 and has remained at such high levels over the past years (World Development Indicators). South African trade accounts for around 70 percent of GDP. Though the EU, the US and Japan are among its largest trading partners, regional trade with other African countries has also increased significantly. Just under two-thirds of South Africa’s exports consist of manufactured goods, and mining exports have fallen in recent years to under one-third of the total. Agricultural goods make up only a small share. A glance at

Figure shows the export structure of South Africa

Figure 2: South Africa: Total Exports by Degree of Processing



Source: Authors’ calculations based on UN Comtrade data.

by degree of processing. Since the 1970s, the share of unprocessed goods (both for further processing and final use) has declined from about 38 percent to the 20 percent mark, and maintained a consistent level thereafter in the recent years. With semi-processed and processed exports comprising up to 80 percent of total exports, South Africa literally becomes a mirror image to the Ethiopian example. Manufactures of metals, machinery (both electrical and non-electrical), road motor vehicles and other miscellaneous manufactured articles form the greatest shares of processed goods exported for final use.

Keeping mining and extracted manufactures aside, it is important to note that the agro-based commodities being exported are also at their manufactured and processed stage. Preserved food, beverages, manufactured tobacco, paper and articles of rubber form key contributors to these processed set of exports. This emphasizes the key role agro-based commodities can play – a role even more so important for transitional and least developed economies who are still in the nascent stages of deriving the necessary technical capabilities to manufacture highly sophisticated products.

The contrast observed between the export structures of the two countries is remarkable. While the Ethiopian structure is concentrated on exporting raw, unprocessed agro-based commodities to countries which further transform them into manufactured products, the South African industry is more focused on transforming and processing these commodities to produce high-value goods and then exporting these high-value goods to exploit the greatest market prices. The results of these differences are apparent. Ethiopia ranks the last on the UNIDO Competitive Industrial Performance (CIP) Index<sup>2</sup> with a 0.035 CIP Index value. South Africa on the other hand, ranks 46 (and the highest among African countries, with a CIP Index value of 0.269 (UNIDO, 2009a).

The trend reflected in the cases of Ethiopia and South Africa can be extended across more countries in the continent.

Figure 1 correlates competitive industrial performance against the degree of processing experienced by the exports of selected African countries in year 2000.

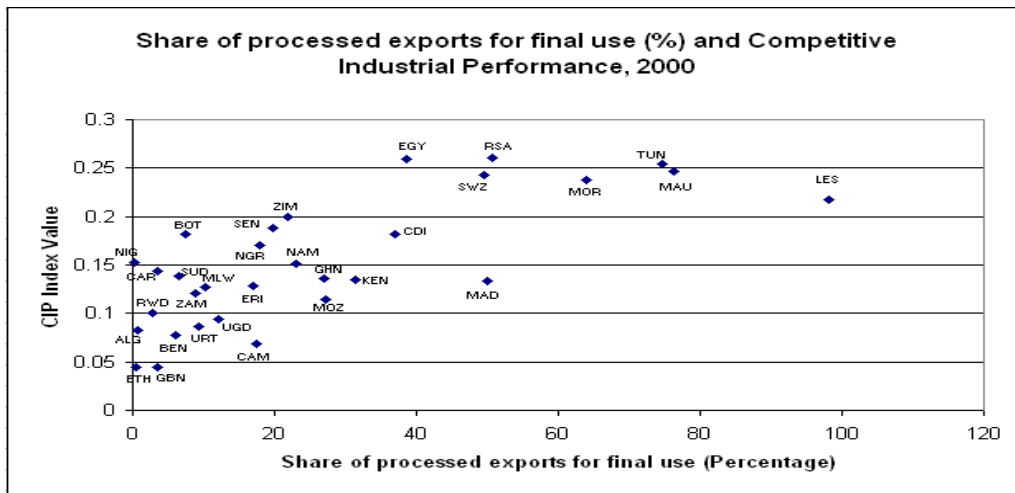
Figure 2 illustrates the trend for 2005. Both the figures show a positive relationship; indicating that greater industrial competitiveness is in a large way related to maintaining greater shares of processed exports. South Africa, Tunisia and Morocco amongst a few others, are leading African

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<sup>2</sup> The CIP index combines four main dimensions of industrial competitiveness *viz.*, industrial capacity, manufactured export capacity, industrialization intensity and export quality.

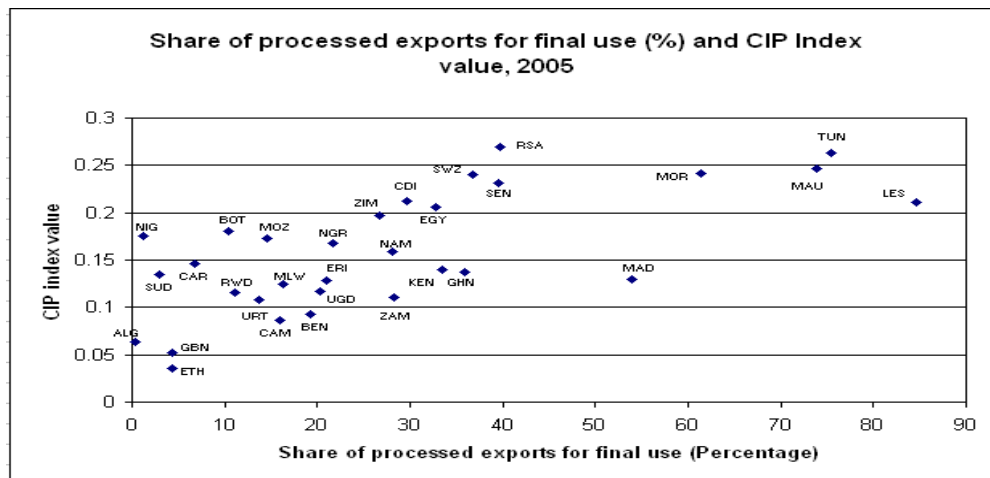
nations in terms of GDP, economic performance and growth, and their presence at the top right corners of the scatter plot further signals towards the importance of fostering industrial development as a tool for wholesome prosperity.

Figure 1: Share of Processed Exports for Final Use (%) and Competitive Industrial Performance



Source: Authors' calculations based on UN Comtrade Data.

Figure 2: Share of Processed Exports for Final Use (%) and CIP Index Value



Source: Authors' calculations based on UN Comtrade, IDR 2009.

### **3. Climbing the ladder of value addition: Key drivers**

While sub-Saharan Africa's exports more than quadrupled from 1990 to 2003, its share of manufactured exports remained more or less the same as a percentage of total exports between 1990 (31.5 percent) and 2003 (29.3 percent). Final goods constituted a major share of manufactured exports at 45 percent in 1990 and remained the same in 2003. However, the share of primary manufactured goods increased drastically in the same period from 29.6 percent to 42.7 percent of manufactured exports. At the same time, the share of intermediate goods fell drastically from 25 percent in 1990 to 11 percent in 2003. It is, therefore, clear that the growth in exports has mainly been in the primary manufactured goods sector where very little value addition had taken place (UNIDO, 2008). Let us outline several key drivers which can aid towards developing the transformational capacity of African countries.

#### **3.1 Technology and innovation**

Technological capabilities and innovation systems are key sources of productivity growth and sustained industrial expansion. Technological progress plays a highly productive role in economic growth and development, helps in job-creation, facilitates higher agricultural output, provides breakthrough improvements in health care and education systems and also helps in adding greater value to goods and services at lower prices for consumers. Today, knowledge is generated and disseminated by universities, exploited by relevant institutions and commercialized by dynamic industrial firms in countries that take active part in the process of globalization (Vinanchiarachi, 2000). It necessarily implies that the major focus of policy initiative should be on enhancing the role of education, suitable to a system of production being driven by skills, knowledge, technology and networking.

Innovation is said to drive technology and is not only extended to economic or production systems but to a broader view of social sectors too. A good deal of intellectual effort on innovation studies was invested by the OECD and other international institutions to rethink and formulate a framework on growth, competitiveness and innovation by recasting the linear model and the neoclassical growth model into a new framework. In the 1990s, this leads to the constitution of a 'new innovation paradigm'- the national innovation system (NIS). The term NIS is defined by OECD as a network of institutions in the public and private sectors whose activities and actions initiate, import, modify, and diffuse new technologies. Forty years ago,



Ghana and the Republic of Korea had virtually the same income per capita. By the early 1990s Korea's income per capita was six times higher than Ghana's. Some reckon that half of this difference is due to Korea's greater success in acquiring and using knowledge (World Bank, 1998).

### **3.2 Infrastructure and energy**

Production, storage and distribution in value chains require certain supporting facilities that are generally provided by governments or public corporations. These include services such as telecommunications, power, and connected transportation links through roads, railways and water. Generally, there is a basic lack of such *infrastructure and energy facilities* in Africa. A necessary criterion for enterprises to participate in international value chains is fast, reliable and regular supply of intermediate inputs and outputs generally in the context of just-in-time-delivery. The lack of adequate transport facilities within Africa greatly hinders the much needed industrial cooperation and increased trade among African countries, especially at the regional and sub-regional levels.

Africa has to ensure the presence of advanced logistics and transportation systems to allow a more efficient movement of raw materials, intermediate and finished goods. Transport costs in sub-Saharan Africa are considerably higher than other developing countries. Transport costs are calculated as a ratio of transport costs incurred in exports of a product as a percentage of import value. Africa has the highest transport costs compared to other regions in the world. Transport costs in Africa are estimated at 13 percent, while in industrialized countries transport costs are 5.5 percent. The impact of this on trade is that the burden of high transport costs is often shifted onto freight customers raising the costs of goods and negatively affecting competitiveness.

Africa has abundant sources of oil and gas however it still experiences shortage in energy. Recent initiatives at the regional level are encouraging. The West African Power Pool (WAPP) is one such effort. The vision of the WAPP Organization is to integrate the national power system operations into a unified regional electricity market.

### **3.3 Mobilizing funds: Taking an innovative route**

Official development assistance (ODA) to the region, excluding South Africa, increased from over US\$ 20 billion between 2000 and 2006. Though FDI increased by over \$US10 billion during the same period, it was concentrated in sectors such as oil and natural resources and hence

less supportive of broad-based growth (World Bank, 2009). Africa's dependence on ODA is significantly higher compared to its dependence of private flows. Aid alone will not be sufficient in achieving MDG targets set for the continent; Africa requires greater involvement, support and contribution at the private sector level.

At the current stage of industrial development in Africa, the small and medium enterprise (SME) sector is one of the principal driving forces for economic growth and job creation in Africa. SMEs and the informal sector represent over 90 percent of businesses, contribute to over 50 percent of GDP, and account for about 63 percent of employment in many low income African countries (UNECA, 2005). Various factors that are external to agri-business SMEs (such as farmers, processors and input suppliers), have contributed to low investments in the agro-industry in sub-Saharan Africa. Political instability, civil war, inappropriate banking mechanisms and lack of credit history are amongst various concerns that form reason to a susceptible investment environment.

Innovative and non-conventional methods to financing are worth being considered. Africa has a large Diaspora population residing abroad and channelling money home. Workers' remittances to Sub-Saharan Africa more than doubled, from \$4.6 billion in 2000 to \$10.3 billion in 2006, and institutional remittances increased from \$2.9 billion in 2000 to \$6.3 billion in 2006 (, 2009). Africa is yet to tap into this source of finance for productive uses. This money offers great potential to be streamlined into beneficial financial products and directed towards stimulating development across various SME sectors.

These are only a few of the challenges that lie ahead in pushing Africa up the scale of global competitiveness and they can not be addressed until key actors at the state, sub-regional and regional level create a facilitating environment. Cost of doing business is very high in Africa due to high trade taxes, which constitute as much as one-third of government revenues. Tariffs are far higher than in more outward-oriented developing countries and embody a significant anti-export bias. Africa is required to execute a wholesome regional strategy encompassing all the currently looming challenges and drawbacks.

The recently concluded High Level Conference on the Development of Agribusiness and Agro-Industries conducted in Nigeria and organized as one of the follow-up actions to the Global Agro-industries Forum (GAIF) has taken steps in the right direction. The final declaration agreed

to enhance policy formulation and implementation mechanisms and promote the establishment of appropriate financing modalities to support the implementation of 3ADI. In addition, the conference decided to fast track the implementation of regional trade agreements and take further measures to remove barriers to intra and interregional trade. Furthermore, it pledged to promote the building and harmonization of standards as a quality tool in the production, processing, storage and marketing of agro- products (HLCD-3A, 2010).

#### **4. Geographic expansion of the commodity belts through value addition**

In section 2, we discussed the contrasting cases of Ethiopia and South Africa stressing on the significant differences in export structures of both countries. While South Africa concentrates its industry on manufacturing sophisticated products and processing raw commodities into finished goods, Ethiopia generates its revenues through the export of extracted commodities. It was then presented how these differences impact an economy's competitiveness, which eventually channels down to affect poverty and growth. This evidence signals the need for immediate steps towards developing industry, processing units, factories and manufacturing plants in these countries. However, it is important not to forget the fact that the majority of these countries lack the transformative capacity, technical feasibility, economic viability, infrastructure base, financing and business environment to support such an endeavour.

Fortunately, all is not lost. The industrial clusters in south-eastern Brazil, Chennai, Jakarta and Qiaotou, are all dominated by the early stages of manufacturing. The pulp and paper firms in south-eastern Brazil are mainly specialized in primary and secondary processing. Paper is processed into its final form by firms in other locations in Brazil and the export orientation is correspondingly low (27.1 percent). Most leather firms in Chennai are engaged in secondary processing for export. These firms process leather from locally produced and imported hides. About 16 per cent of the firms in the cluster are integrated exporters who undertake both finishing of leather and the production of final leather goods. The export orientation of the cluster is high (88 percent). None of the automotive firms in Jakarta are engaged in integrated operations. Most firms undertake component assembly, while the rest produce CKD parts or assemble vehicles. The structure of the cluster strongly reflects the task-based strategy of its transnational corporations to allocate different stages of production to different locations in Asia

and trade in tasks regionally. The firms in Qiaotou that produce buttons are overwhelmingly (96.1 percent) engaged in secondary processing, with a handful specialized in integrated activities. The buttons are either sold to firms manufacturing garments in China or exported (UNIDO, 2009a). These examples preach strong lessons that can be learnt by Africa. A similar approach at a regional level within Africa can overcome the lacking productive capacities of individual countries. From sub-Saharan Africa's point of view, it may be strategically important to have "trade preferences designed to be consistent with international trade in fragmented tasks as opposed to complete products" (Collier and Venables, 2007).

Sub-Saharan Africa's economic activity is highly concentrated: of sub-Saharan Africa's \$425 billion (real GDP in 2006), South Africa accounts for the largest share (\$160 billion) followed by Nigeria (\$60 billion). The other main contributors were Sudan (\$16 billion), Kenya and Angola (\$15 billion each). Africa's Competitiveness Report 2007 contends that the economies of South Africa, Algeria, Nigeria and Egypt have the size and scale to be a driver of Africa's economic growth. Regional economic cooperation serves as a pole for growth and contributes to reduction in poverty.

The economic performance of the high growth countries based on diversified exports and not only on mineral exports, could lay the grounds for a take-off in broader areas if there are enough growth spillovers. Increased linkages among African countries, through an expansion of intra-regional trade can be a crucial driver for creating the necessary growth spillovers and fostering regional take-off. The prerequisite for these growth poles to have spillover effects is the degree of dependency of other sub-Saharan African countries on the SANE economies. The dependency can only be increased if inter-African trade and investments are encouraged via lower tariffs.

Also if some of sub-Saharan African economies have faster growth, they can form bridges of development or serve as flying geese as exemplified in East Asia (Akamatsu, 1962; see also World Bank, 2000)<sup>3</sup> for other economies. Let us look at the case of several commodities where fragmented production and regional integration can lead to increased value in these commodity producing regions.

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<sup>3</sup> The flying geese theory was developed by Kaname Akamatsu to represent East Asia's development which was led by Japan. The flying geese pattern of development explains how an underdeveloped country adopts suitable labour-intensive industries from more developed countries and becomes developed rather quickly. It produces first for the home market, but then starts to export as soon as the industries have grown strong enough. The procedure is repeated again and again leading to rapid process of economic development.

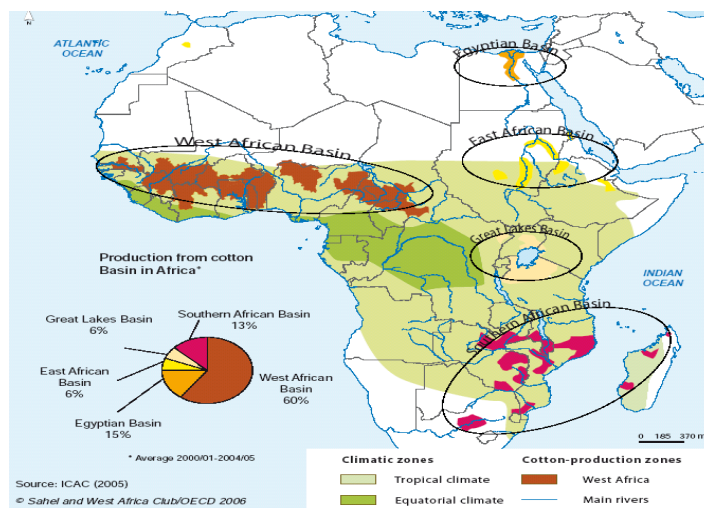
#### 4.1 Cotton value chain – Optimizing gains from fragmented production

Cotton, which is an important cash crop as well as the major export commodity in many parts of the world, has even a greater importance in a number of African countries. World cotton price developments have major implications in the fight against rural poverty. For example, it has been estimated that a 40 percent decline in price would lead to a 7 percent reduction of the rural income in Benin (UNIDO, 2006).

The cotton value chain starts at the ginning stage where the lint is purchased from the producer. It then undergoes primary processing into yarn at the spinning stage, which the weaving segment further processes into fabrics. The bleaching stage transforms fabrics with dyes and prints. The fabrics are further knitted or otherwise processed into garments.

The map below in Figure 5 draws out the major cotton producing belts in the continent. Countries situated in West and Central Africa (WCA), where between 2 to 3 million households have direct dependence on cotton, are especially reliant on the commodity. The key problem observed in this region is that vast majority of WCA cotton, 98 percent according to some estimates, is exported as lint without adding value: raw, carded or combed lint. There is therefore a serious need to reduce dependence on volatile international markets, to promote regional markets for SSA cotton and to support the development of regional textiles industries. It is widely believed that Africa should start by concentrating on the spinning stage of the value chain.

Figure 5: Cotton belt in Africa

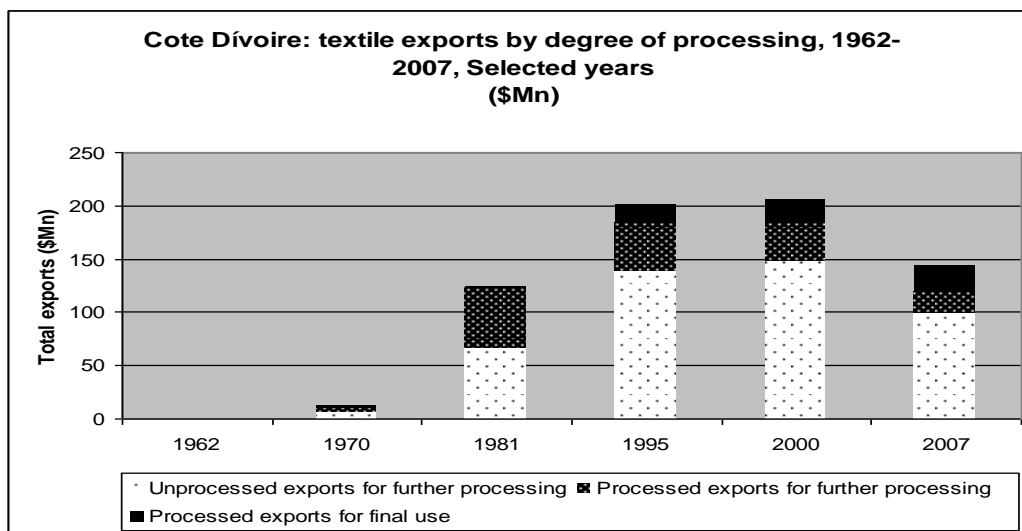


Source: OECD, Sahel and West Africa Club (2006).

A large share of Africa’s processed cotton and manufactured textiles come from the Northern part of the region – the Egyptian Basin.

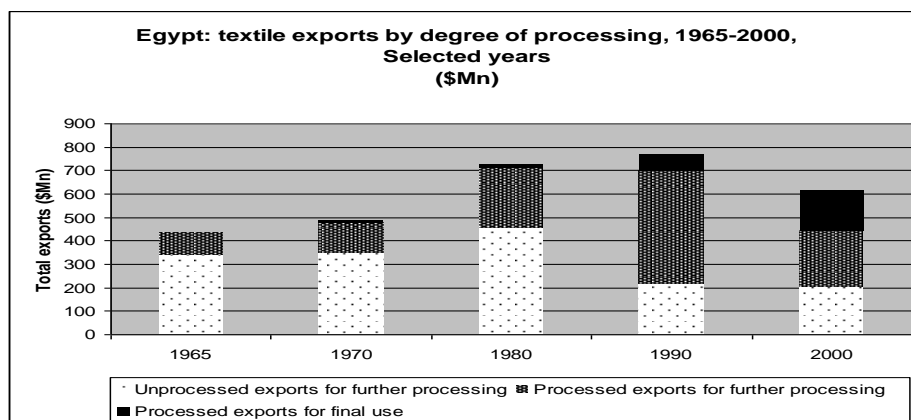
Figure 6 and 7 below illustrate textile exports structures of Cote D’Ivoire (Western Africa) and Egypt by degree of processing. It is clearly seen that Egypt has developed expertise and capabilities in the export of semi-processed and processed cotton, while Cote D’Ivoire is majorly focussed on exporting unprocessed cotton for further processing (approximately 75percent).

Figure 6: Cote D’Ivoire: Textile exports by degree of processing



Source: Authors’ calculations based on UN Comtrade data.

Figure 7: Egypt: Textile exports by degree of processing



Source: Authors calculations based on UN Comtrade data.

Apart from addressing commodity-specific issues such as productivity, the above picture calls for greater support and integration amongst African countries at a regional level in the cotton sector. Keeping this in mind, West African Economic and Monetary Union (WAEMU) has declared its ambition to increase the use of WCA cotton by the regional textiles industry to up to 25 percent of cotton produced in the region thus increasing processing capacity in the region significantly by 2010 (OECD, 2006).

An opportunity which can provide a model for African countries is that under the AGOA, a US led African Growth and Opportunity Act passed in 2000 that has benefitted a number of Sub-Saharan African countries by providing them duty-free and quote-free access to the US markets. AGOA promotes regional cooperation and trade in sub-Saharan Africa by encouraging intra-regional trade among AGOA beneficiary countries.

Mali, under AGOA has gained investments in cotton transformation activities, and according to the Diagnostic trade integration study (DTIS, 2004) at least two spinning factories are due to begin operations soon. At least one of these will be exporting thread and yarn to Mauritius, where it will be woven into fabric used to produce garments that will be exported to the United States. The firm expects to save costs by spinning the cotton in Mali before shipping it to Mauritius. Assuming that this will be profitable, current plans call for expanding the spinning sub-sector to process up to 10 per cent of Mali's cotton over the next few years (DTIS, 2004). Other African countries have also boosted clothing production and exports under AGOA; this has facilitated their movement up the cotton value-added chain despite competition from Asia and the influx of used clothing.

Mauritius has been very successful in exports and its export-processing zone exports more than \$1 billion a year in textiles and apparels. As the economy has grown, Mauritius has shifted from a labour-intensive textile manufacturer to a capital- and skill-intensive manufacturer. But in order to do this, Mauritius needed other African countries to widen its economic space and keep its industries globally competitive. Its pay levels are three times those of poor countries and hence it can outsource labour-intensive jobs to cheaper locations in Africa, and thereby also help other regions to develop. Thus other sub-Saharan African countries can serve as base for labour-intensive manufacturing for Mauritius and gain from its export market. This will have the

eventual impact of widening and expanding the existing geographical distribution of commodity belts through value addition (UNIDO, 2008).

#### ***4.2 Sugar and horticulture – Increasing competitiveness and market access through the North South Corridor***

Poor road and rail infrastructure and long waiting times at borders and ports create significant costs, hindering market access. Transport costs and the quality of infrastructure are important determinants of international competitiveness, with transport costs representing a larger barrier to export markets than import tariffs. The North-South Corridor addresses critical issues of high cost of production and cost of doing business in the region. The corridor is the outcome of three regional economic communities in Africa, the Common Market for Eastern and Southern Africa (COMESA), the Economic Community for East Africa (EAC) and the Southern African Development Community (SADC). It covers eight countries: Tanzania, Democratic Republic of Congo, Zambia, Malawi, Botswana, Zimbabwe, Mozambique and South Africa. In April 2009, multilateral donors committed to \$1.2 billion to upgrading 4,000 kilometres of road and 600 kilometres of railway along the North South Corridor.

Figure illustrates the

map of the corridor.

Figure 8: Countries of the North-South Corridor in Africa



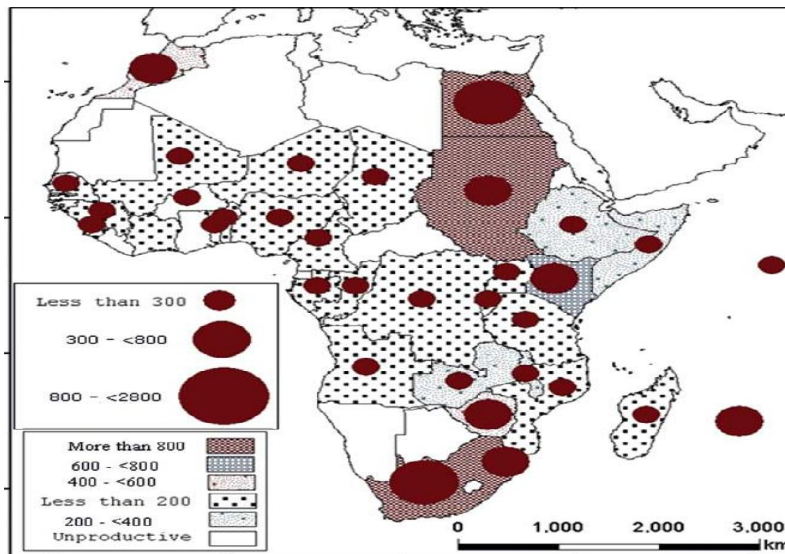
Source: COMESA



### 4.3 Sugar

Total world production of sugar reached 149.7 million tons in 2007, with Africa ranking fifth place among other continents in the production of sugar. Sugar is widely produced in the Northern and Southern regions of the continent. The distribution of sugar production across the continent is illustrated in Figure 9.

Figure 9: Sugar belt in Africa



Source: Hassan (2008).

A simple sugar value chain starts with the milling of sugar cane into sugar, bagasse and molasses. The refined sugar produced is ready for consumption at the household level and also for use in industries dependant on sugar. Molasses and bagasse can then be further processed into ethanol for bio-energy and cattle feed.

Countries under the Southern African Development Community (SADC) enjoy preferential treatment in not only the SADC region, but also in international EU markets under the “Everything But Arms” initiative. Amongst the SADC sugar producers South Africa is the major producer and exporter in Africa. It has about 14 sugar factories, most of which belong to the Illovo group and to Tongaat-Hulett. South Africa also possesses the technical facilities required for the further processing of molasses into bio-ethanol for energy usage.

The sugar sector in Mozambique, a country also located in the region and a member state of SADC, has modern industrial plants, a suitable agro-climate, technical expertise and multinational presence making it capable of competing on the international scene. However, it

has been identified that current capability of molasses processing (secondary and tertiary stages of the value chain) is limited and potential gains from it are not being pursued (DTIS, 2004a). Potential opportunities in alcohol production for export markets have been noted. With crude oil prices reaching historically high levels, global demand for ethanol fuel use is growing. The bio-energy market presents a good opportunity for the Mozambican sugar industry. Global ethanol production grew by 53 percent from 30 billion litres in 2000 to around 46 billion litres in 2005 and global ethanol consumption is expected to rise further to 120 billion litres in 2015. Additional export revenues can be generated if Mozambique expands its production activities to produce bio-ethanol from molasses. By targeting the bio-energy market Mozambique could diversify its export markets, as an increasing number of countries need to meet their greenhouse gas abatement targets in line with the Kyoto Protocol and are looking for bio-energy sources (UNIDO, 2008).

With the benefits of South African investment, skills transfer, management and close geographical links, Mozambique has strong prospects. South Africa has the large-scale industrial capacity, can provide Government support and has access to large supplies of local and regional feedstock. The manufacturers in South Africa plan to build several bio-fuel plants that will cater to the needs of the transport industry. Tongaat-Hulett Sugar has revealed plans to build a 1.76m-litre ethanol plant in southern Mozambique where it can take advantage of cheap and plentiful sugarcane. The ethanol can either be exported overseas – taking advantage of the European Union’s “Everything but Arms” import tariff exemptions: or down the N4 Corridor to South Africa and elsewhere in the region. An alternative is to focus on producing a crude form of biofuel for use in stationary plants, such as small factories or electricity plants, or for distribution to the chemical, or pharmaceuticals industries, which is suitable for export. Producing this crude type of biofuel requires far less in investment and technology, and can be made viable on small economies of scale. The application attracting the most foreign business interest is that of biofuel for industrial purposes, which can be bottled and distributed locally or exported.

However, the sugar sector in Mozambique faces several challenges. Logistical and transport constraints in the region and high financing costs have been identified as key constraints by the (DTIS, 2004a) survey and have resulted in reduced profitability along the value chain. Inefficient ports that handle low volume at high costs are also contributing to losses. For example,

economies of scale can be achieved through the Beira port, where charges are high and the existing port infrastructure is inadequate.

In order for Mozambique to tackle the transport, logistical and infrastructural barriers and utilize existing South African expertise in this sector, greater integration is necessary at the regional level. The North South Corridor provides a unique opportunity in this given scenario. The North-South corridor inter-links South Africa to other corridors including Beira and Nacala corridors in Mozambique. The African Development Bank (AfDB) has recently committed \$US600 million, part of which is for projects on the North-South Corridor while the rest is for the Nacala Development Corridor in Mozambique. This development can significantly boost Mozambique's efforts in enhancing the ease of doing business in the country. In addition, it can facilitate financial investments and advanced technical capabilities in Mozambican sugar sector; allowing Mozambique to climb one step higher in the ladder of value addition.

#### **4.4 Horticulture**

Horticulture has grown rapidly in Africa since the mid-1980s, based on rising sales of cut flowers, vegetables and fruit, particularly to the European market. The Zambian economy, primarily focussed on Copper exports faces potential scope of export diversification in its floriculture and fresh vegetable sectors. In 1992, faced with declining copper prices and export revenues, the government started a trade reform program. Consequently, the policy environment became more conducive to export diversification and the non-traditional exports responded positively. Significant export diversification has occurred since 1995 and stimulated overall economic growth despite falling copper prices. There is potential for much more export diversification particularly in sectors such as floriculture and horticulture sectors of Zambia (DTIS, 2005).

While Zambia pursues efforts to diversify away from copper, it should continue to establish greater expertise in Copper. The classic example of this process of specialist knowledge is oil extraction off the coast of Norway. Evidently, at the time oil was discovered, Norway had no expertise whatsoever in the oil industry. However, the Government of Norway invested heavily over many years in building expertise. It established a national oil company in partnership with foreign companies in order to gain industry-wide knowledge from them. It also invested in specialist departments within its universities, which gradually built up both industry-wide and

locally-specific knowledge on deep-sea, cold-water exploration. Now Norway's knowledge-based oil service industry is a major source of income in its own right.

During 1990-2002, floriculture and horticulture exports increased over thirteen-fold in value. By 2002, this value represented 38 percent of Zambia's total agricultural exports. Europe is currently the largest market for Zambia's cut flowers and fresh vegetables. Richer middle-eastern markets offer viable opportunities for expansion in this sector. Realizing these opportunities requires eliminating constraints to private sector development and export promotion (DTIS, 2005).

The Zambian Export Processing Zone (EPZ) program provides tremendous opportunities in the agriculture, agro-processing and manufacturing sectors. The EPZ is a tool to help boost and encourage non-traditional exports and investment in Zambia (DTIS, 2005). Critical factors for success identified are strong political action and private sector support. The EPZ Act offers a range of attractive tax exemptions including tax on imported raw materials, plant and machinery, and intermediate and capital goods and services. The act if implemented successfully could indeed facilitate domestic and foreign investments.

Being a landlocked country, Zambia faces long routes to international ports in South Africa, Tanzania and Mozambique and stands to gain from international and regional initiatives in transport infrastructure and regulation. Initially, the physical transport infrastructure in Zambia was developed to link Lusaka and the Copper belt with the main north-south routes. However, the absence of good access roads throughout Zambia continues to constrain smallholder participation in the production of high value cash crops, such as baby vegetables and cut flowers. The DTIS survey indicates that non-traditional agricultural exports are primarily concentrated within a 100-mile radius of Lusaka. Nearly all the fresh vegetables and cut flowers are air freighted to EU markets. Further development of these industries requires good access roads and more reliable, higher frequency air freight, and lower air freight rates.

Reliable and cost effective transport requires Zambia to engage in international transport agreements particularly with neighbouring countries, accelerate investment in transport infrastructure and improve the management of the transport system. The first one-stop border post, upgraded under the North South Corridor, has opened at Chirundu, between Zambia and Zimbabwe in December 2009. It is expected to cut the time it takes to cross the Zambia-

Zimbabwe border from three days to three hours, lowering the cost of doing trade in the region. Four other one-stop border posts will be created along the North South Corridor by 2012.

### **5. Prospects for the new sub-regionalism in value creation**

These case studies illustrate the importance of fragmented production and infrastructural development in paving way for industrial development in Africa. As demonstrated by Mauritius, differences in cost of labour can drive segments of the production process to poorer countries allowing them to develop expertise and capacity in the process, without having to deal with the complications of manufacturing an entire product. Improved infrastructure can result in better market access resulting in lower costs and hence greater margins. Both approaches result in the overall geographic expansion of the commodity belts and lead to the necessary transition towards higher value added.

It is time for Africa to act as one. Greater integration at regional and sub-regional level will pave way for the next generation of industrial development in Africa. The new sub-regionalism in expanding the commodity belts through value addition is the panacea for Africa. It will enable the continent to climb the ladder of value addition and withstand the vagaries of external shocks. The new sources of dynamic growth in value addition stem from linking with value creation network across countries in the subregion, leveraging a given country's resources in terms of skills and resource endowments with those networks and learning to climb the ladder of value addition by replicating best practices in product development and marketing. Dovetailing the key determinants in terms of skills, knowledge, institutional capabilities, information, and resources across countries in the pursuit of value creation is also equally critical for an effective regional division of labour in order to remove Africa from the clutches of primary-commodity led booms, which hitherto pushed many more millions into the poverty trap.

The essence of subregional cooperation is that the wealth of knowledge and capacity in the South, when systematically mobilized and shared, can facilitate the effective participation of the developing countries in the global economy. This new subregionalism in value creation can be achieved by:

- facilitating the adaptation in countries of a given region, of successful strategy and policy choices, institutional arrangements and best technological and managerial practices implemented by industrially more advanced countries of the region;
- enabling the late-comers in the sphere of industrialization to learn from the development experience of successful economies of the region, using manufacturing as a dynamic force in value creation;
- disseminating knowledge on lessons from best practices in small and medium enterprise (SME) and entrepreneurship development in a regionally internationally competitive environment;
- transferring and implementing specific practices and methodologies adopted for acquiring modern technologies, and assimilating, learning, adapting and innovating new technologies that suit the region-specific context;
- strengthening institutional networking and dovetailing industrial stakeholders' interest in the effective transfer of technology, investment promotion, and spreading the spill-over effects of foreign direct investment (FDI) on domestic capability building across countries in a given region;
- helping business communities, civil society organizations, local governments and institutional partners to identify technology and business opportunities in order to create mutually beneficial win-win situation benefiting all participating countries of the region.

## **6. Conclusion**

Prosperity is essentially a matter of value creation as evidenced by the development experience of developed countries, newly industrializing countries and emerging economies. While countries endeavour to convert commodities into products, with high value addition, the required recipe may not be available in a given country. As value creation is triggered not only by resource endowments, but largely by technology, knowledge, skills, information and network, countries of a given region could dovetail those ingredients across countries of the region within the framework of mutually beneficial syndrome. The emergence of the new subregionalism in value creation could result in a high degree of interactive framework in a given region, where new

knowledge is generated by institutions, exploited by laboratories and commercialized by dynamic firms.

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