

Globalization and Structural Transformation in Sub-Saharan Africa

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Introduction

It is typical that at these conferences we concentrate our discussions on farm-level transformation issues and food security without adequate attention to the challenge of converting comparative advantages into competitiveness and the critical role of industrial development in furthering the process of agricultural transformation. This paper attempts to broaden our discussions by introducing issues that influence agro-based industrialization in the context of globalization into the debate. The paper contends that the key to accelerated agricultural transformation, in the face of globalization, is to strengthen the linkages between industry and agriculture through enhanced value-added processing and exports. There is an emerging consensus that as a developing country increases the domestic value-added in its exports, its growth rate rises and its structural transformation is accelerated. Further, this push for increased value-addition (particularly in South and South East Asia) was necessitated by the need to avoid the vulnerability of primary products to the intermittent vagaries of commodity prices.

At the time when the economies of East and South East Asia were positioning themselves to exploit the opportunities stemming from the quickening pace of globalization, Africa remained behind, locked into a north-south pattern of trade, heavily dependent on exports of raw and semi-processed materials and slow to create competitive advantages, depending instead on traditional comparative advantage derived from raw materials and abundant unskilled labor.

The key questions for this conference are why has sub-Saharan Africa fared so poorly in edging into a higher degree of processing and thereby participate effectively in the process of globalization, how can its economies tap into the emerging opportunities in trade, information, and knowledge, technology, and investments in order to give new impetus to their economic transformation. To shed some light on these issues we focus on the performance of the industrial sector. We adopt the definition of structural transformation by Johnston and Gabre-Madhin (1999) as the process whereby a predominantly agrarian economy is transformed into a diversified and productive economy dominated by manufacturing and service sector. The emphasis on export-led and industry-driven transformation is not an attempt to re-hash conventional arguments of import-substitution versus export orientation, rather it is an argument for creating the enabling environment for African economies to transform their static comparative advantages in agriculture into dynamic sources of competitiveness growth through targeted domestic investment strategies in agro-industries.

For analytical convenience, this paper is divided into three parts. Section one provides a brief review of the literature on globalization, highlighting its role as the main force in transforming production processes, technological advancement, trade and investments. The continued marginalizing of Africa in the face of new threats and opportunities is also emphasized. Section two reviews the structure and performance of industry in sub-Saharan Africa, with a focus on the opportunities for value-added downstream processing for agro-industries. In section three, the key challenges facing African

industry and successful global integration are outlined with an accent on viable means to address fundamental and emerging issues.

1.0. Globalization and the transformation of industrial production

The most visible features of globalization have been the massive increases in international trade flows and investments particularly since the late 1980s. In the 1990s, foreign trade and foreign direct investment have been the principal propellants of rapid economic growth and structural transformation in emerging economies.

1.1. Quantum leaps in trade and investment

Over the ten year period from 1985 to 1994 the ratio of world trade to GDP rose more than three times more rapidly than during the ten previous years, while the ratio of foreign investment to GDP doubled (World Bank, 1996). The current phase of globalization is induced by a quantum jump in the incidence of technical progress, organizational innovations such as flexible production systems and the new information and telecommunications technologies, enhanced efficiency in supply chain logistics and enabled functional integration of transnational strategies of production, marketing, outsourcing and increased intra-firm trade (James and Bhalla, 1993). These forces of globalization enabled even small firms to participate effectively in international specialization.

While most other regions have derived significant benefits from the growth in trade and investment, thus fuelling their structural transformation, Africa (particularly sub-Saharan Africa) has been bypassed and further marginalized within the world economy as its shares of world trade, investment and output have declined to negligible proportions (Collier, 1995 and 1997). Its share of world trade varied from 4.1% to 4.9% from 1960-65, fluctuated around 4.4% during the 1970s and declined to 2-3% in the 1990s. By 1996 sub-Saharan Africa's share of global trade had fallen to 1.5 percent of which approximately 0.6 represented South Africa's contribution and its share of world exports had declined from 2.6 per cent in 1980 to 1.5 per cent in 1996. Sub-Saharan Africa's share of global manufactured output has been less than 1 per cent and its share of global foreign direct investment (FDI) has been less than 5%. In contrast, the ratio of aid to GDP in Africa while declining is still much higher than any other region.

1.2. New industrial realities

A particular aspect of globalization relevant to this Conference is the increasing internationalization of the production, distribution and marketing of goods and services (Harris, 1993). This is the result of the globalization of financial and capital markets, increased flows of FDI, the rapid diffusion of information by new communications technology and the adoption by transnational enterprises of new organizational forms of production such as the trend towards downsizing, and increased use of sub-contracting. It has been evident that industries linked to information technology were more able to take advantage of global market opportunities.

By bringing information to buyers and sellers worldwide information technology has also contributed

to the globalization of demand and as a consequence it has led to the globalization of competition (Oman, 1994)^{1/}. With inadequate infrastructure and high transactions costs sub-Saharan Africa has not benefited from the production relocation or trade induced by the information technology revolution and the new imperatives that determine the degree of productivity growth and competitiveness.

A study by Easterly and Levine (1995) illustrated the relatively under-developed state of physical infrastructure in the region (Table 1). The local telephone completion rate is under 30 percent compared with 70 percent in OECD countries. For example in Chad with 15,000 telephones, over 90 percent of all calls are uncompleted^{2/}. Telephone calls are prohibitively expensive. High transport costs have had a significant negative impact on African exports and the location of manufacturing activity (Amjadi, Reinke and Yeats, 1996). Freight rates for African exports are some times 20 percent higher than those faced by the region's competitors. For some exports in which Africa has a potential competitive advantage (clothing, textiles and footwear), transportation costs range between 15 percent and 20 percent. For all developing countries the net transport cost to export ratio is 5.8 percent compared with Africa's average of 15 percent^{3/}.

1.3. Export-led growth through knowledge/skills-intensive goods

As the determinants of competitiveness change rapidly the process of industrialization in general and of export-led industrial growth in particular is driven not by resource endowment but by knowledge and skills. Empirical evidence lending credence to a close correlation between economic growth and export expansion (Table 2) shows that the fast growth economies are those, which have positioned themselves as favorable business partners, investment friendly locations, and which have expanded exports rapidly. Of particular importance is a country's ability to export processed or high-value products. In the emerging knowledge-intensive and skill-intensive global markets, a country or region's share of manufactured exports is a measure of its access to learning and technology^{4/}. Lall (1998) shows the importance of exports of processed and knowledge-intensive goods (supported by domestic economic reform policies, technology policy and knowledge/skill enhancement strategies) for export-driven growth in the Asian economies (Table 3). He argues that small markets, low per capita incomes and backward technologies in sub-Saharan Africa underscore the importance of

1 The globalization of competition involves both the price and the quality of goods and services; in specialized niche markets quality is more important than price, in high volume standard products, delivery and price are likely to remain important factors (ibid).

2 Wangwe and Mosunda (1998) show that with the exception of South Africa, the African countries expenditure on telecommunication equipment in 1986 represented only 0.7% of world spending.

3 Recent World Bank estimates suggest that net freight and insurance payments totaled \$3.9 billion in 1990/91, about 15 percent of the region's export earnings, while net transport and insurance payments average more than 25 percent of total exports for 10 of the 30 countries for which data were available. For ten land locked countries, the ratio was as high as 42 per cent. For all developing countries the net transport cost to export ratio is 5.8 percent compared with Africa's average of 15 percent.

4 Bhala and Berry (1998) suggests that a more appropriate indicator of learning and the effects of modern technology is the share of manufactured exports that fall in the category of higher value-added products. Africa's share is less than 2% compared to East and south East Asia of 40%, Latin America, 10% and South Asia 5% and Middle East and North Africa 3%.

accelerating foreign trade and foreign direct investments if significant economic and industrial transformation is to take place.

However, export-driven growth is both more difficult and easier to achieve in the New World order. Easier because the World Trade Organization (WTO) agreements have lowered tariffs and eliminated non-tariff barriers to trade. More difficult because the nature of global competition has changed with a growing emphasis on non-price factors of competition – quality, style, design, adaptability to specific markets, the availability of after sales service and networks. This has eroded the advantages of trade preferences while underlining the need for a more comprehensive strategy to develop competitiveness in global markets than on focussing purely on cost and price criteria.

1.4. Globalization and income inequality

The 1999 Human Development Report of the United Nations Development Programme (UNDP) highlights the inequities in the distribution of the benefits of globalization and the potential social consequences, and warns that competitive markets may be the best guarantee of efficiency, but not necessarily of equity. The report suggests that when the market goes too far in dominating social and political outcomes, the opportunities and rewards of globalization spread unequally and inequitably – concentrating power and wealth in a select group of people, nations and corporations, marginalizing the others ^{5/}. For example, though many countries are becoming more integrated into the world economy (e.g. exports are nearly 30 per cent of GDP for sub-Saharan Africa and only 19 per cent for OECD countries) these countries are becoming even more marginal.

Some studies show that sub-Saharan Africa per capita income levels halved relative to that of OECD level from 14 percent in 1965/66, to just 7 per cent in 1995. Further, in an era of growing prosperity in most regions, 51 percent of SS-Africa's population lived below the poverty line of \$34 per person, per month, in the early 1990s, and there is great inequality in the distribution of income (UNECA, 1999). In 1998, only seven out of 53 countries in Africa as whole had a per capita income exceeding \$2,000 while 40 had a per capita income of less than \$1,000. The UNECA report concludes that if Africa were to reduce poverty by half over the next decade and a half, it would need to attain and sustain an average growth rate of 7 per cent per annum. Benjamin William Mkapa, President of the United Republic of Tanzania succinctly summarized the inequity problem in his address to the United Nations General Assembly: “As we enter the century of globalization, let all governments ask the question: are we globalizing prosperity, or are we globalizing poverty? Are we striving for the kind of political correctness that eschews affluence and poverty, or that which manufactures euphemisms for poverty – pretending that it will go away ^{6/?}” If the benefits of enhanced efficiency in terms of

5 Streeten (1998) notes that economic restructuring, liberalization, technological change and fierce competition - in both goods and labor markets- that accompany globalization have contributed to increased impoverishment inequality, work insecurity and a weakening of institutions and social support systems, particularly in developing countries.

6 Statement to the 54th General Assembly plenary, New York, 20 September, 1999.

value added, productivity and competitiveness are not wide-spread, growth will be main demand constrained.

Another aspect of inequality engendered by globalization is the wage differentials between skilled and unskilled labor within a country, between different regions within a country and between workers in developed and developing countries. Bhala (1998) observe that globalization may intensify existing uneven development within countries, between countries and between regions, particularly between low-wage assemblers in developing countries and highly-skilled producers in industrialized countries. Hence, in the broader structural transformation process the issue of income distribution between skilled versus semi-skilled workers; semi-skilled and unskilled workers need to be taken into consideration. Some researchers suggest that increased North-South trade in manufacturing goods and services reduces inequality between skilled workers and semi-skilled workers (with primary and some secondary education) in the South, while increasing such inequality in the North (Wood, 1994)^{7/}. It is also contended that inequality of income constrains growth more in low-income countries more in low-income countries than in high-income countries.

Therefore, in the context of sub-Saharan Africa, the challenge is how to manage globalization in order to reap the benefits while minimizing the negative impacts. For developing countries as a whole the challenge is to find the rules and institutions for stronger governance – local, national, regional and global – to preserve the advantages of global markets and competition, but also to provide enough space for human, community and environmental resources to ensure that globalization works for people and not just for profits (UNDP, 1999). In other words, a search for markets and profits tempered by social responsibility, “globalization with ethics, equity, inclusion, human security, sustainability and development” (ibid). An assessment of winners and losers in the face of globalization should be in terms of social impact. If millions of people are the real losers, forces of globalization will fail to constitute the root of development, i.e. there will be growth without development.

1.5 Globalisation and de-industrialisation

Globalisation has facilitated structural shifts in most economies in favor of the service sector. In the OECD countries, manufacturing’s share of GDP and its share of total employment peaked at the end of the 1960s. The share of manufacturing in total employment fell from 28 per cent in 1970 to 18 per cent in the mid-1990s (IMF 1997). The decline was particularly marked in the US, where it began earlier, from 28 per cent in 1965 to 16 per cent in 1994. In OECD countries, manufacturing’s share of total employment rose strongly during the industrialization stage of structural transformation, reflecting Engel effects and rapid growth of labor productivity in agriculture as a result of technological progress. Table 4 presents the structure of African economies from 1980-1997 and the sectoral growth rates. It is evident that since 1980, services have been the fastest growing sector in

⁷ Some evidence in Asia and Latin America has shown that there could also be an increase in the demand for skilled labor in developing countries that have a much larger pool of skilled workforce, and in cases where reduced trade barriers may bring in more new capital equipment and new technology which tends to raise the demand for skilled workers (Robbins, 1996).

the African economy, expanding at 2.2 percent a year compared with GDP growth of just 2 per cent. Agriculture too grew marginally faster than GDP, increasing at an annual rate of 2 per cent, but industry including mining and energy, lagged well behind, growing at only one per cent a year. Manufacturing industry's relatively poor performance is a reflection both of the sluggish growth in agriculture, which has limited the flow of raw materials to industry for processing and relatively weak domestic and export demand for African manufactures.

The processes of de-industrialization in Africa is characteristically different from de-industrialization in OECD countries and other developing regions. In OECD countries, de-industrialization has occurred since the 1970s as a result of significantly faster productivity growth in manufacturing than in services, leading to a shift in employment from manufacturing to the tertiary sector. Other influences included restructuring and downsizing which between them led to increased outsourcing of manufactured-related service activities, thereby resulting in an output and employment shift from manufacturing to the tertiary sector. Outsourcing has also involved increased utilization of components, intermediate goods and inputs provided offshore by affiliate companies or under alliance and sub-contracting agreements, with far-reaching implications for manufacturing activity in the developing world. De-industrialization has occurred on a more broader scale in Africa than the OECD experience. Industry's share in regional GDP has fallen while that of manufacturing has also declined and industrial output (in constant prices) has grown more slowly than GDP. Further, there has not been significant technological progress or productivity increases in agriculture to compensate for employment shifts to the industrial or services sectors.

Several factors explain this anomalous structural shift in Africa. First low technological capability and competitiveness has led to slower growth in productivity in sub-Saharan Africa than any other region. In part this reflects the business environment at large, including poor infrastructure, the scarcity of skills and low levels of foreign direct investment. The consequence is a backward industrial sector, often operating with obsolete plant and equipment and substantial spare capacity, resulting in higher unit costs than Asia or Latin America. Second, small domestic – and regional – markets and low levels on intra-regional trade and exports of manufactured goods mean that few enterprises are able to exploit scale economies, again giving rise to high unit costs. Hence sub-Saharan Africa manufacturers are frequently at a competitive disadvantage relative to imports in domestic markets as well as in export markets. Third, the declining share of industry also reflect the interplay of the impact of economic reforms and trade liberalization, trade effects arising from loss of market share for manufactured products, and restructuring, including privatization, also led to some temporary decline in industrial output.

2.0. Are African industries catching up?

Are African countries learning about the determinants of microeconomic efficiency brought about by the wave of globalization? At the close of the 1990s the critical issue to be put on the development agenda for Africa is why macro-economic reforms in Africa have not generated the expected microeconomic responses, nor have they promoted significant changes in technological capability, improvements in factory-wide skill levels, higher productivity, better manufactured export performance and greater value-added in the domestic economies. These are the elements that

determine a country or region's successful integration into the global economy. Africa's heavy dependence on primary commodity exports, (accounting for around 80 per cent of total export earnings), is evidence of the low level of human resource development and limited technological capability to take advantage of emerging trade and investment opportunities.

2.1. Growth in manufacturing output

After nearly two decades of stagnation and decline sparked by the global oil-price in the early 1970s, the sub-Saharan economy began to recover in 1995 when regional GDP increased 4.4 per cent and per capita incomes rose 1.3 per cent. This trend in rising per capita incomes was maintained in 1996/97 but, because per capita incomes today are lower than they were a decade ago, sub-Saharan Africa's performance is better described as recovery rather than growth. An important reason for this improved growth performance is the recovery of manufacturing industry. In the first half of the 1990s, manufacturing-value-added (MVA) declined in almost half the regions 48 economies. In three-quarters of the economies however, MVA growth rates were higher in the 1995-97 period than between 1990 and 1994. MVA growth rate reached 3.8 per cent per year in the 1970s, and 3.7 per cent in the 1980s, but growth has since averaged only 1.1 per cent annually (Table 5).

Sub-Saharan Africa's share of global MVA – excluding South Africa – has stagnated at only 0.35 per cent (Table 6). The region's share of developing country MVA was 2.6 per cent and is projected to be 1.6 per cent by 2000, chiefly reflecting the rapid industrialization of south and southeast Asia.

While there is no single explanation for the slow growth in MVA, country experiences suggests that the rapid growth of import competition associated with globalization and trade liberalization was a contributing factor. Low levels of investment, especially in skills development and technology, weak infrastructure and overvalued exchange rates has meant that African industrial enterprises lost market share both at home and abroad.

2.2. Structure of manufacturing

Manufacturing activity in the region is highly skewed with eight economies accounting for almost 90 percent of the total (Table 7). South Africa's share has fallen from over two thirds in 1970 to 54 per cent, but despite this, industrial concentration has increased since 1970, chiefly reflecting Nigeria's increased share of African industrial activity and the success of export-led industrialization in Mauritius, whose share has risen fivefold to nearly 2 per cent of the regional total ^{8/}. Manufacturing industry (except in the case of South Africa) is dominated by production for domestic demand and the processing of raw materials for export. Three broad sectors account for over two-thirds of value-added (Table 8), with the food, beverages and tobacco products contributing the largest share (40.6 per cent), followed by clothing, textiles, footwear and leather products (14.3 per cent) and chemicals, petroleum refining and coal products (13.9 per cent). Food processing is the largest branch accounting for 22.9 per cent of total MVA in 1996 followed by beverages (13 per cent and textiles (8.9 per cent). Not only do high technology and capital-intensive activities – other than the

8 The most impressive performers with positive annual MVA growth include Botswana (7.8 per cent) Lesotho (9.9 per cent), Mauritius (7.8 per cent), Botswana (7.8 per cent), Swaziland (8.4 per cent) and Uganda 8.5 per cent), source UNIDO database, 1999.

processing of raw materials, such as petroleum refining –account for less than 15 per cent of MVA, there has been little growth in such activities. The implication for structural transformation is that manufacturing activity is concentrated in those sectors, which are growing relatively slowly globally or where, global MVA has actually declined (Table 9).

2.3. Productivity and employment

Productivity has also declined in the industrial sector since 1970 when compared with global trends, reaching a particularly low level in 1996 (Table 10). Global productivity grew at an annual rate of 77 per cent over the 1970-1996 period while that in developing countries rose one per cent annually and in developed economies 2.4 per cent a year. This is explained chiefly by the very different patterns of industrial growth in developed and developing economies. The rapid growth of labour productivity in developed economies reflects the impact of investment in new plant and machinery, the adoption of modern state-of-the-art technologies and the restructuring of manufacturing since the 1980s (i.e. a capital intensive growth mode). In sub-Saharan Africa employment grew faster than output, resulting in declining productivity. Employment growth has fallen to approximately half the rate of population expansion since the 1980s (Table 11), however there is no evidence of a shift towards capital-intensive production.

Employment is concentrated in four labour-intensive sectors, which account for over half of the total manufacturing employment and 48 per cent of MVA (Table 12). Food manufacturing accounts for over a quarter of the employment followed by textiles (18 per cent), beverages (6.6 per cent) and clothing (6.5 per cent). Real wages in manufacturing fell through out the 1980s in 12 of the 15 countries for which data were available (ILO, 1995a). But the decline in real wages did not promote employment expansion, instead the growth rate of formal employment in Africa fell from 2.8% in 1975-80 to 1% in the 1980s (ILO-JASPA, 1989). Private sector employment fell because manufacturing shrank after import-liberalization - wage employment in manufacturing declined at an estimated rate of 0.5% a year in the 1980s (ILO, 1995b).

2.4. Export of manufactured goods

Sub-Saharan Africa's share of global exports of manufactured goods has declined sharply at a time when that of developing countries as a whole has more than doubled. Africa's manufactured exports have grown at 5.5 per cent annually since 1970 during which period global exports of manufactured goods were increasing more than twice as fast at 11.9 per cent year. As a result, the region lost market share, primarily to developing countries as a whole whose manufactured exports were increasing at nearly 13 percent annually. Sub-Saharan Africa's share of developing economy exports of manufactures fell from 7 per cent in 1970 to 1.3 per cent in 1990 and 0.78 per cent in 1995. The regions manufactured exports (excluding South Africa) are dominated by foodstuff (24 per cent) followed by clothing (12.4 per cent), refined petroleum (10.6 per cent), wood and cork products (6.9 per cent) and iron and steel (5.4 per cent). Exports of high technology and skills-intensive items account for little more than 5 per cent (Table 13). In 1990, exports of manufactures accounted for 44 per cent of MVA, well below the 68 per cent ratio for developing countries and 52 per cent for the world as whole. Four countries account for over two-thirds of the region's manufactured exports

with 1995 exports in excess of \$1 billion each, namely Mauritius, Cote d'Ivoire, Kenya and Zimbabwe (Table 14) ^{9/}.

Wood and Mayer (1998) argue that Africa must increase its share of exports of processed agricultural products. They observe that while agricultural products account for almost 60 per cent of sub-Saharan Africa's exports, 40 per cent of all exports are classified as "unprocessed, static products" (Table 15). Dynamic agricultural products are defined, as those with a high-income elasticity of demand e.g. dairy, meat and fish products, fruits and vegetables, vegetable oils and nuts. Currently Africa depends on unprocessed materials for more than three-quarters of total exports compared with just over a quarter in East Asia. More importantly, a high proportion of this unprocessed group consists of static agricultural products.

Enhancing value added is a prerequisite for ensuring higher rural incomes as well as for facilitating rural industrial development. Cornia et al, 1992 show that though stabilization policies in Africa in the 1980s led to a narrowing of the rural-urban income gap in most cases but did not result in an overall decline in income inequality, as income differentials within urban and rural areas have accentuated. Africa's struggle to achieve rapid economic transformation will be lost or won depending on how effectively industrial development is linked with agricultural development through enhanced manufacturing value added, productivity and competitiveness, with an accent on employment and income generation. Research has shown that growth in manufacturing activity is highly correlated with growth in per capita income (and performance in the agricultural sector in the case of Africa). Those countries that have experienced positive GDP growth have experienced industrial expansion. Syrquin and Chennery (1989) estimated that 75-80 per cent of structural transformation in a developing economy occurs between per capita income levels of \$300 and \$400 (in 1989 dollars). In their model, manufacturing's share in GDP increases from 10 per cent, where per capita incomes are below \$300 to an actual level of 28 per cent of GDP when per capita incomes reach \$4000. The implication for sub-Saharan Africa is stark since in 1975, only 11 out of 48 countries lay above the \$600 threshold. The more successful African industrializers have either been those that focused on export-led growth or those where resource-driven export growth has spilled over into domestic consumer demand, the supply of primary materials for processing and beneficiation, and demand for industrial and intermediate inputs.

2.5. Linking industry and agriculture with emphasis on agro-processing

There is a consensus that at the initial stage of development, an agro-based industrial strategy that

⁹ Mauritius has been the star performer with its industrial exports growing at 13.6 per cent annually over the 25 years – faster than both the global average and that of developing countries as a whole. It is now moving into high-tech activities with its exports of professional and scientific goods increasing fivefold. Cote d'Ivoire's manufactured exports peaked at almost \$1.6 billion in 1992 with their subsequent decline partly reflecting the impact of the CFA Franc devaluation of 1994. Kenya's manufactured exports have grown impressively at about 11.6 per cent along with significant diversification of its industrial export base. Zimbabwe's exports of manufactured goods have grown 9 per cent annually since 1997, and unlike the other three countries they are dominated by iron and steel and non-ferrous metals, which account for 34 per cent.

focuses on small and medium industries would promote accelerated economic transformation and also directly address the pressing issues of poverty, growing unemployment and food insecurity in most African countries. Such a strategy should capitalize on the dynamic synergies between industrial and agricultural development. Further, the region's high population growth rates and rapid urbanization require an expansion of value-adding and food processing activities in order to enhance food availability, rural industrial growth and to facilitate the expansion of non-farm employment. Recent estimates suggest that by 2025 about 50-60 percent of Africa's population will live in its cities. This

implies that in 20-25 years street foods and processed foods will become more significant, with all the implications for the development of modern food industries and foodservices, especially sanitation^{10/}.

In most African countries 35% or more of agricultural production is lost as post-harvest loss and only 20-25 percent of production is marketed. The share of processed to total agricultural production is between 10-15 percent in Africa compared to 80 percent in developed economies. For developing countries as a whole it is estimated that industry adds a value of \$40 to each ton of agricultural raw material compared to \$184 per ton in developed countries. Therefore there is much room for expanding down-stream processing. To meet the food needs implied by the demographic changes mentioned earlier would require a doubling of the proportion of food marketed. This means that major government and private sector investments in marketing services and infrastructure would be required. As shown in earlier sections while agricultural input supply and food marketing services are among the leading service activities in most African economies most of these utilize low-technology with very high transactions cost. Micro-enterprises, mainly operated by women and small and medium sized enterprises (SMEs) account for a significant share of the total value-added in agro-industries. As Africa faces food insecurity problems, loss of market share in traditional agricultural exports, and new trade regimes requiring higher quality products and competitive production and processing systems, there is need for capacity building in order to optimize the utilization of current output, and for diversification into high value products where there is growth in demand in domestic, regional and international markets.

The same constraints that inhibit the expansion of industries in general also affect agro-industries. Critical constraints to agro-industrial development include:

- (a) Declining institutional capacity in the form of weak governance including inadequate policies, weak policy implementation.
- (b) Production is concentrated in primary products where global demand is the weakest and where international competition from lower-cost Asian suppliers is increasing. While Europe is still the main market for agricultural exports, problems with market access have emerged in the light of WTO and the erosion of trade preferences (expiration of Lomé IV Convention), stringent quality and environmental standards in major markets.
- (c) The absence of a critical mass of private sector to serve as the engine of growth and to assume key responsibilities previously performed by government marketing boards. The

¹⁰ Excerpt from advert by nobel laureate, Dr. Norman Borlaug (Sasakawa Africa Foundation) and Ms. Ayako Sono, (Nippon Foundation) for the Conference on Africa Food Markets, Bamako, Mali, October, 1999.

private sector is very weak dominated by a relatively small number of major multinationals at one extreme and by a mass of small and micro-enterprises at the other (there is an absence of a critical mass of medium-sized indigenous firms). Though women entrepreneurs are the main operators of the micro enterprises, particularly in rural areas, support services are not targeted to their needs.

- (d) Low competitiveness, with some exceptions, in both domestic and international markets due to low industrial productivity, low capacity utilization, low technological capacity and high transactions cost. High transactions cost including high transportation costs is compounded by low levels of public investment in infrastructure (energy supply, telecommunications, roads etc.)
- (e) The low quality and skill level of labour, poor policy environment and general political instability count against Africa in the attraction of FDI into agro-industries. However, opportunities exist for enhancing cross-border trade and investment in regional economic communities.

3.0. Challenges ahead

At the dawn of a new century, Africa faces serious challenges to catch up with the rest of the world since global rules for trade and standards of industrial production are changing. The region's weak starting position, unlike other developing regions, could inhibit its ability to leapfrog the stages of structural transformation. Living standards have diverged from those of the developed countries and the fast growing newly industrialising countries. It is clear that integrating African economies into the process of globalisation would yield significant dividends and will enable its industries to tap into global financial and technological flows, with subsequent positive impacts on income levels and social development. However, a number of key industrial development challenges lie ahead.

3.1. Enhancing industrial response to stabilisation measures

Since the mid-1980s a number of African countries have adopted stabilisation measures in varying degrees. But the degree of responsiveness to macroeconomic stability remained weak in a large number of African countries. The weak industrial supply response is ascribed largely to supply-side rigidities resulting from infrastructural bottlenecks and demand constraints due to the low purchasing power of the vast majority of people. It is becoming increasingly clear that adjustment policies designed to correct macroeconomic imbalances, are, in fact, causing the demise of nascent industries.

Stabilisation and structural adjustment policies exposed the weaknesses of many industrial sectors, yet no coherent strategies focusing explicitly on the industrial sector were included in adjustment programmes. Trade liberalization has also resulted in large inflows of cheaper commodities, thus effectively reducing demand for domestically produced goods and exerting downward pressure on prices, while the corresponding devaluation not only increased cost of production, but also drastically increased the costs of servicing foreign loans and replacement of investments. Therefore, to enhance industrial response, urgent attention needs to be paid to improve skills, diversifying industrial production and improving financial services, among others.

3.2. Converting comparative advantages without competitiveness

Comparative advantages are based on resource endowments, and competitiveness stems from a combination of appropriate policies and firm-centered initiatives. Industrial policy has to be formulated in order to enhance the capability of African economies to compete in the international market by transforming their comparative advantages into enterprise-level competitiveness. According to the first African Competitiveness Report, published by the World Economic Forum in 1998, the most important “problematic factors for doing business in Sub-Saharan Africa were, *inter alia*, (a) tax regulation regimes, (b) difficulties in raising local financing, (c) weak infrastructure and (d) poor economic governance. Other information presented in the Report shows that average wages measured in dollar terms have declined by almost 20 per cent during 1985-1994. The message is clear: cheap labour and cheap raw materials are not sufficient for enhancing competitiveness in Africa and improving Africa’s share in world trade. Enhancing industrial competitiveness will require investment in embodied technology (plant, equipment, licenses, blueprints etc.) accompanied by investments in skills, information, organisational improvements and linkages with other firms and institutions. Major causes of low productivity and competitiveness growth are ascribed to supply-side rigidities, inefficient value chain logistics, high transactions cost, infrastructural bottlenecks and low managerial and skill levels.

3.3. Removing infrastructural bottlenecks

Africa’s “long-term industrial growth and competitiveness” is greatly impeded by its poor infrastructural capacity. Relieving these constraints should be a priority for government development expenditure. Many sectors have higher costs because of deficiencies in transport systems. A lack of rural roads leads to large wastage in fruit and vegetable production after harvesting, and this is true of many other agricultural crops. This deprives agro-industries of cost-effective inputs. Deficient electricity and water supplies raise costs, curtail production and thereby discourage investment.

3.4. Establishing the missing middle

The “missing middle” between large, mainly foreign owned, enterprises and small and informal manufacturing activities is the root cause of the lack of forward and backward linkages in Africa. Many of the small enterprises in Africa are very different from SMEs that have been the engine of economic transformation in Asia and Latin America. A particular issue is that African micro enterprises usually fail to grow (“graduate”) into being small enterprises, and small enterprises may not graduate into being medium ones. There is a “missing middle” of medium enterprises. In practice, of course, growth constraints on small businesses are likely to differ between sectors. Some sectors such as engineering are constrained by foreign exchange unavailability for spare parts or raw materials. Lack of consumer demand growth is one serious constraint, and access to credit is probably a major constraint limiting the growth of small enterprises.

3.5. Reducing eco-efficiency compliance cost and facilitating market access

At present, industrial pollution in Africa is low by international standards. With increasingly strict

environmental regulations being imposed in the developed world, African countries are forced to meet higher environmental standards to gain market access for their exports. Environmental regulations can affect process standards, product standards and standards of discharge. Eco-labeling also imposes environmental standards on African country exporters. Under GATT/WTO rules, import requirements cannot stipulate process standards (that is, how a product is produced), but can stipulate product standards. However, to comply with product standards it is often necessary to alter the production process. Complying with international environmental standards affects the cost competitive climate by imposing compliance costs on enterprises and regulatory costs on governments. Compliance costs are likely to be greater in the short run since they involve immediate investment expenditure, and compliance costs are greater for some industries than others. Chemicals, pulp and paper, mining and oil refining are likely to be among those most affected. Small and medium enterprises find these costs difficult to bear, given the circumstance that such enterprises lack of information about the details of overseas standards and given their lack of access to credit to cover the cost of new investments.

3.6. Promoting sub-regional integration and industrial co-operation

The volume of intra-regional trade and the degree of industrial complementation do not suggest a big success in sub-regional co-operation despite efforts undertaken for decades. The reasons for the hitherto limited success in this direction are ascribed to similar resource endowments across countries in a given sub-region. But this is changing at the turn of the century due to the fact that knowledge, skills and absorptive capacity of innovative technologies are increasingly driving the process of industrialisation in the late 1990s. The strengthening of regional trading arrangements such as the 16-member Economic Community of West African States (ECOWAS), the 20-member Common Market of Eastern and Southern Africa (COMESA), and Southern African Development Co-operation (SADC) calls for a critical review of the catalysts for regional market growth based on emerging forces of industrial complementation.

3.7. Harnessing science and technology to accelerate productivity

Science and technology are vital to accelerate productivity and a crucial factor for competitiveness in the global market. In the age of globalization efficient production including meeting quality requirements and the attainment of expected standards would be the main elements in defining competitiveness. At the same time countries would have to be strategic in defining their comparative advantage and doing all it takes to exploit these advantages. African countries, for example, would have to exploit the comparative advantage in its vast natural resources and raw materials. Growth in primary and extraction industry, areas in which Africa has the potential of having comparative economic advantages, should be improved with the selective application of science and technology. Providing adequate support to science and technology for accelerated industrial development would allow for the upgrading of the raw materials and profitable exploitation of the region's natural resources. Science and technology is essential to transform the region's vast natural resources and for adding value to the raw materials and commodities so as to attract better market price. With the progressive liberalization of trade and the gradual elimination of protectionism, Africa's goods will

have to compete more aggressively in the world market and this would require the application of science and technology to enhance the quality and standards.

3.8. Improving information and communications technology as imperatives for enhancing competitiveness

Information and communications are essential to private sector economic competitiveness. Availability and quality of access to information and communications technology services is increasingly important in development, in particular private sector development. For the private sector, being “plugged in” to information and communications systems and networks is essential to economic competitiveness. On the economic competitiveness front, no country including its private sector can afford to be without efficient, reliable, cheap communications. Africa, a private sector competitiveness will increasingly depend on the pace of development in the information and communications sectors and should be seen as one of the areas for cost saving. Most small and medium industries/enterprises could not afford the high cost of information and communication, given the fact that most of these businesses to begin with operate on very low financial resources. Developments in the information and communications sectors are introducing new dimensions and shifts in economic transactions. For instance, the use of electronic commerce to facilitate trade transactions illustrates the ease with which business transactions can take place through electronic means and the level of opportunities offered for accessing global markets. Countries have to face up to these realities of the global economic environment. However, the current state of information and communications technology in the Africa region is characterized by poor-quality services, limited access and high operational costs. At a time when global communications is a crucial factor for economic growth, the development of an efficient information and communications system presents one of the critical challenges to be addressed. The urgency for strategic directions and actions to promote the development of information and communications technology in African countries, especially in support of private sector development could not be overemphasized.

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TABLES

Table 1. Infrastructure Indicators, 1960-1980
(Per 1,000 workers)

Type	Sub- Saharan Africa	Other developing countries	Industrial countries
Telephones	14	70	485
Kilowatts of electricity generating capacity	118	277	1 936
Kms of roads and railways	1	3	16

Source: William Easterly and Ross Levine, *Africa's Growth Tragedy*, World Bank Research paper, August 1995.

Table 2. Growth of GDP and exports in developing regions, 1991-1997

Region	Regional GDP growth 1991-1997 per cent p.a.	Real export growth 1991-1997 per cent p.a.
East Asia	9.9	15.2
South Asia	5.7	11.1
Latin America and the Caribbean	3.4	9.7
Middle East and North Africa	2.9	4.2
Sub-Saharan Africa	2.2	2.6

Source: World Bank, *Global Economic Prospects and the Developing Countries, 1998/99*

Table 3. Regional shares of developing country manufactured exports, 1980 and 1996 (Percentage)

	1980	1996
TOTAL		
Asia	78.1	78.4
Latin America	7.6	16.7
Sub-Saharan Africa	7.0	1.4
Middle East	7.4	3.5
RESOURCE-BASED		
Asia	60.4	64.8
Latin America	13.9	27.7
Sub-Saharan Africa	11.0	2.6
Middle East	14.7	4.9
LOW TECHNOLOGY		
Asia	89.2	79.7
Latin America	3.6	12.1
Sub-Saharan Africa	4.9	1.7
Middle East	2.3	6.5
MEDIUM TECHNOLOGY		
Asia	73.7	66.6
Latin America	8.5	28.1
Sub-Saharan Africa	8.4	2.5
Middle East	9.4	2.8
HIGH TECHNOLOGY		
Asia	96.6	88.6
Latin America	1.6	10.6
Sub-Saharan Africa	11.0	0.2
Middle East	0.7	0.5

Source: Sanjaya Lall, *Exports of Manufactures by Developing Countries: Emerging Patterns of Trade and Location*, Oxford Review of Economic Policy, vol. 14, No. 2, 1998.

Table 4. Sub-Saharan Africa: Structural change, 1980-1996 (Per cent per annum)

<i>Sectoral growth rates (per cent per annum)</i>				
	Agriculture	Industry	Services	GDP
1980-1990	1.7	1.1	2.4	1.7
1990-1997	4.6	1.4	2.4	2.1
1980-1997	2.9	1.2	2.4	1.9
<i>Percentage shares in GDP</i>				
	Agriculture	Industry	Manufacturing	Services
1980	22	36	9.8	42
1990	22	29	10.9	43
1997	25	30	9.9	45

Sources: World Bank, *African Development Indicators (1997)*, *World Development Report 1998* and *UNIDO Database*.

Table 5. Growth rates of manufacturing value-added, 1980-2000

Period	Growth rate of MVA* Per cent per annum	
	Sub-saharan Africa Including South Africa	Sub-saharan Africa Excluding South Africa
1980-1990	1.4	3.7
1990-1997	0.8	0.1
1998*	0.1	5.7
1999*	2.0	4.1
2000*	1.7	2.7

* UNIDO Data base
Provision/projected figure

Table 6. Shares in global manufacturing value added, 1970-2000

(Per cent shares)

Year	Developed economies	Economies in transition	Developing economies	Sub-Saharan Africa*
1970	85.4	6.5	8.1	0.2
1980	78.0	7.6	14.4	0.37
1990	76.2	7.0	16.8	0.40
1998 ^f	73.9	3.4	22.7	0.36
2000 ^f	73.2	3.2	23.6	0.38

f = forecast.

* = excluding South Africa.

Source: UNIDO Database.

Table 7. Industrial Concentration in sub-Saharan-Africa, 1970 and 1998

Manufacturing value added (\$ millions in 1990 prices) and percentage shares

Country	1970		1998	
	(\$m)	Per cent	(\$m)	Per cent
South Africa	14 698	67.4	24 677	54.5
Nigeria	1 211	5.5	1 671	3.7
Côte d'Ivoire	900	4.1	2 105	4.7
Zimbabwe	769	3.5	1 716	3.8
Ghana	402	1.8	714	1.6
Cameroon	378	1.7	2 074	4.6
Kenya	330	1.5	1 066	2.4
Mauritius	76	0.3	782	1.7
TOTAL	18 764	86.1	34 805	76.9

Source: UNIDO database.**Table 8. Structure of sub-Saharan manufacturing industry, 1970, 1980 and 1996 ***
(per cent; Excluding South Africa)

Branch	1970	1980	1996
Food, beverages and tobacco	39.4	35.0	40.6
Clothing, textiles, footwear & leather	17.7	14.3	14.3
Wood and furniture	4.8	5.7	3.9
Paper and printing	4.0	4.8	4.6
Chemicals, petroleum and coal products	12.6	12.6	13.9
Rubber and plastics	2.2	3.3	3.5
Glassware, pottery and non-metallic minerals	3.9	3.6	4.6
Iron and steel, non-ferrous metals and metal products	8.1	8.6	6.9
Machinery	5.6	12.2	6.5
Other	1.8	1.2	1.6
TOTAL	100.0	100.0	100.0

Source: UNIDO Database.

Table 9. Industry branch growth rates, 1970-1996
(Excluding South Africa)

Branch	Global MVA growth rate 1970-1996 (per cent per annum)	Sub-Saharan Africa MVA growth rate 1970-1996	Share in Sub-Saharan MVA average 1970-1996 (per cent)
Food	2.1	2.6	20.2
Beverages	1.6	2.4	13.0
Tobacco products	2.3	1.4	5.0
Textiles	-	1.3	10.3
Clothing	0.4	3.4	2.9
Leather products	0.6	4.2	0.7
Footwear	-	0.9	1.4
Wood and Cork	1.1	2.0	3.3
Furniture	2.0	1.3	1.3
Paper products	2.4	4.3	2.0
Printing	2.9	2.3	2.5
Indust chemicals	2.1	2.3	2.4
Chemicals	2.1	3.3	5.4
Oil refining	2.4	1.8	5.1
Petroleum and coal products	1.9	4.5	0.5
Rubber products	1.3	2.7	1.5
Plastics	5.2	6.5	1.6
Pottery	-	-	0.2
Glassware	1.6	1.3	0.4
Non-metallic minerals	1.9	3.6	3.6
Iron and steel	-	3.3	2.0
Non-ferrous metals	1.2	1.8	1.3
Metal products	1.8	1.5	4.6
Machinery	1.9	-0.4	1.0
Electrical machinery	3.0	3.1	1.8
Transport equipment	2.6	4.2	5.2
All manufacturing	2.1	2.6	100.0

Source: UNIDO Database.

Table 10. Output per head, 1970-1996 (1990 dollars)

Year	World	Developed economies	Developing economies	Sub-Saharan Africa
1970	21 435	38 240	6 663	7 818
1980	24 695	49 882	8 002	7 443
1990	25 744	63 453	7 321	7 924
1996	26 363	71 614	8 705	6 762
Growth rates per cent per annum	0.8	2.4	1.0	-0.5

Source: UNIDO Database.

Table 11. Sub-Saharan Africa: Output and employment growth in manufacturing, 1970-1996

Period	Output growth (Per cent per annum)	Employment growth (Per cent per annum)
1970-1980	5.6	6.1
1980-1990	1.9	1.6
1990-1996	- 1.0	1.6
1970-1996	2.6	3.3

Source: UNIDO Database.

Table 12. Employment in Sub-Saharan manufacturing, 1996

Branch	Number (thousands)	Share (per cent)
Food manufacturing	510	25.3
Beverages	133	6.6
Tobacco manufactures	40	2.0
Textiles	367	18.3
Clothing	131	6.5
Leather products	23	1.2
Footwear	30	1.5
Wood products	88	4.4
Furniture	43	2.1
Paper products	56	2.8
Printing	73	3.7
Industrial chemicals	30	1.5
Other chemicals	67	3.4
Petroleum refining	14	0.7
Petrol and coal products	1	0.1
Rubber products	38	1.9
Plastics	37	1.8
Pottery	3	0.1
Glassware	9	0.4
Non-metallic minerals	61	3.0
Iron and steel	31	1.5
Non-ferrous metals	8	0.4
Metal products	95	4.7
Machinery	18	0.9
Electrical machinery	30	1.5
Transport equipment	48	2.4
Professional/scientific equipment	3	0.1
Other manufactures	24	1.2
TOTAL	2 011	100.0

Source: UNIDO Database.

Table 13. Sub-Saharan Africa: Exports of manufactures, 1995 (excluding South Africa)

Branch	Value (\$ millions)	Per cent of Total
Food manufactures	1 790	24.3
Clothing	913	12.4
Refined petroleum	782	10.6
Wood and cork products	505	6.9
Iron and steel	395	5.4
Non-ferrous metals	391	5.3
Industrial chemicals	369	5.0
"Other" manufactures	367	5.0
Textiles	344	4.7
High-technology goods*	404	5.5

* = Electrical and non-electrical machinery, transport equipment and professional and scientific goods

Source: UNIDO Database.

Table 14. Sub-Saharan Africa's main exporters of manufactures, 1995
(excluding South Africa)

Country	Exports (\$ millions)	Share of total (Per cent)	Growth rate (Per cent p.a.) 1970-1995
Mauritius	1 516	20.6	13.6
Côte d'Ivoire	1 300	17.6	11.4
Kenya	1 148	15.6	11.6
Zimbabwe	1 036	14.1	8.8
Cameroon	412	5.6	..
Senegal	370	5.0	..
Nigeria	275	3.7	2.9
Ghana	224	3.0	..

Source: UNIDO Database.

Table 15. Sub-Saharan Africa and East and South-East Asia; shares of different classes of products in total exports, 1990 (Percentage)

Branch	Sub-Saharan Africa	East and South-East Asia
Processed commodities		
Minerals, metals & fuels	5.9	3.2
Dynamic agricultural products	1.8	3.6
Static agricultural products	4.2	5.0
(Sub-total)	(11.9)	(11.8)
Unprocessed commodities		
Minerals, metals & fuels	24.9	13.0
Dynamic agricultural products	12.9	6.0
Static agricultural products	39.4	9.2
(Sub-total)	(77.2)	(28.2)
Manufactured goods	10.9	60.0
<i>Source:</i>	UNCTAD, <i>Trade and Development Report, 1998.</i>	