

# Promoting Inclusive and Sustainable Industrialisation in Africa: A Review of Progress, Challenges and Prospects

T Moyo

University of Limpopo, South Africa

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**Abstract:** A strong industrial base is an important pillar for development. Industry can promote inclusive development in terms of sustainable jobs and livelihoods and also with respect to building resilience in the era of globalisation and climate change. The problem in Africa is that the continent remains largely not industrialised. Where it has occurred, it has not been very inclusive and sustainable. There are continental efforts to advance the industrialisation agenda such as the Accelerated Industrialisation Development Action (AIDA) Plan and the pursuit of agro-allied industrialisation. Even though in the last ten years, economic growth rates have increased for a number of countries, most are experiencing low and declining growth. While the state of human development has also improved for most of the continent, over ninety percent of the region falls under the Low Human Development category of countries. Manufacturing Value Added (MVA) in Africa is the lowest globally as the continent continues to be a primary commodity producer and exporter and is vulnerable to economic, financial and political crises. The paper investigates the problem of lack of or limited progress made on industrialisation. It therefore aims to review the progress made in promoting inclusive and sustainable industrialisation in Africa. Its main objectives are i) to assess how the continent has performed thus far with regard to industrialization, focusing on progress and challenges ii) to identify and draw lessons from the strategies and policies which selected countries are pursuing in order to promote inclusive and sustainable industrialisation iii) to assess the implications in terms of the role of the developmental state. Using secondary data sources, the paper employs a qualitative research methodology. It shows that industrialisation is low overall and that, to a large extent, it has not been inclusive and sustainable. The paper recommends number of strategies to intensify the effort, integrating industrialisation into development planning and budgeting, design and implementation of industrial policies, increasing investments in building an infrastructural base for industry, integrating gender equality and women's empowerment and youth participation, investing in human capacity for industrialisation, and strengthening partnerships through South-South Cooperation.

**Keywords:** Sustainable industrialisation, inclusivity, democratic developmental state, development

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## 1. Introduction

The theme of industrialisation has resurfaced again on the African development agenda. Concerned by the persistence of poverty, unemployment, inequality and dependence on commodity or primary production, African states appear to have re-committed themselves towards a more rapid approach implementation of industrialization. In 2012, the growth rate in over 80 per cent of African countries was higher than the global growth rate of 2.7 per cent. In addition, 16 African countries were among the top 30 to be experiencing the highest growth rates in the world (United Nations Economic and Social Council (ECOSOC) *et al.* 2013:iii). A number of countries have witnessed relatively high rates of growth in their Gross Domestic Product (GDP) (for example, Ethiopia, Angola, Mozambique, Ghana, Tanzania, among others). However, since 2014,

generally, growth has declined to around 3.5 to 4 per cent per annum. Dubbed as 'Africa rising', the phenomenon of high growth was short lived due to the onset of the global economic and financial crisis in 2008-2009 and the recent decline in commodity prices on the global markets. The problem is that the growth has been vulnerable to external shocks.

Despite some periods of high growth 'spurts', and although there have been some improvements in human development in terms of, for example, access to education and health services, generally, most countries in Africa (with the exception of a few such as South Africa, Botswana, Morocco, Algeria, Tunisia), all fall in the Low Human Development (LHD) category of countries based on the United Nations Human Development Index (HDI). Furthermore, using the Gender Inequality Index (GII) which Measures gender inequality, most of

Africa has the widest disparities between men and women in terms of participation in labour markets, decision-making in Parliament, access to secondary education and access to health services. (United Nations Human Development Report, 2016). The prevalence of poverty is also relatively much higher than other regions. In short, the continent continues to face the challenges of poverty, inequality, unemployment and low levels of human wellbeing. The quest for industrialisation is an attempt to resolve these challenges. Basically, the major challenge facing the continent relates to its continued dependence on production of commodities or primary products. This makes them vulnerable to the vicissitudes of international commodity and financial markets. In addition, it also means that the continent does not fully benefit from its rich natural resource base—the oil, gas, minerals and agricultural land. Past experiments in industrialization in Africa led to increases in growth but not sustainable development. Instead, colonial policies attracted multinational capital which tended to extract and export commodities rather than process them into final goods. The post independent state has struggled to transform this inherited pattern. The African Union Commission's Agenda 2030 and the United Nations Sustainable Development Goals (SDGs) under Agenda 2030, both integrate industrialisation as one of the key strategies to achieve structural transformation and promote human development in Africa. The urgency to implement could not have been more pronounced than in the case of Africa which has 34 of the World's 48 Least Developed Countries (United Nations Development Organisation (UNIDO), 2016).

Agenda 2063 advocates an industrialisation approach which is reinforced by beneficiation and value addition. Mineral beneficiation has been identified and prioritised by many African countries as an economic opportunity to stimulate industrial development and diversification for multiple job creation opportunities. This is based on the continent's vast mineral resources which range from diamonds, gold, uranium, bauxite, steel, aluminium, copper, platinum, coal, etc. (African Union, 2017). The agenda of industrialization therefore, is basically concerned about how the continent can achieve structural transformation, strengthen its productive capacity and improve performance in Manufacturing Value Added (MVA), increase the share of manufactured exports in its total exports and also shift from Low to medium and

high-technology manufacturing. The United Nations Industrial Development Organization (UNIDO, 2016:1) argues that:

*"Rarely has a country evolved from poor to rich without sustained structural transformation from an agrarian or resource-based economy towards an industrial or service-based economy. This transformation is important to ensure wealth creation through increased economic integration and productivity".* United Nations Industrial Development Organization (UNIDO, 2016:1).

It has also been argued that even if a country succeeds in industrialisation, this does not necessarily guarantee that development takes place. The case of Africa's earlier industrialisation experiments provides evidence for that. Based on the evidence on the path to industrialisation which other countries adopted (for example, South Korea, Malaysia, Singapore, among others), this paper emphasizes that an inclusive and sustainable industrialisation will not happen on its own or based on markets or initiatives of private sector alone. While ensuring that it pursues a path that is appropriate for the African context, the state in African countries has to take a very strong leadership role in terms of defining the vision for industrialisation and developing the wide range of policies and strategies that are necessary to achieve that goal. Of critical importance will be the need to mobilise the requisite financial, technical and human capacity development and private sector capacity (including large-scale as well as Small and Medium-sized Enterprises (SMEs), to deliver on the plans.

This paper therefore focuses on the problem of limited progress made on industrialisation in Africa. It is about how the continent can promote inclusive and sustainable industrialisation. Its specific objectives are to assess how the continent has performed thus far with regard to industrialization, focusing on progress and challenges, to identify and draw lessons from the strategies and policies which selected countries are pursuing in order to promote inclusive and sustainable industrialisation and to assess the implications in terms of the role of the developmental state. Using secondary data sources, the paper employs a qualitative research methodology. It shows that industrialisation is low overall and that, to a large extent, it has not been inclusive and sustainable. The paper recommends number of strategies to intensify the effort, integrating

industrialisation into development planning and budgeting, design and implementation of industrial policies, increasing investments in building an infrastructural base for industry, integrating gender equality and women's empowerment and youth participation, investing in human capacity for industrialisation, and strengthening partnerships through South-South Cooperation.

## **2. Importance of Industrialisation in Development**

UNIDO (2016:34) makes a very sound argument why industrialisation is important for any country or region. It advances four pertinent reasons. It notes that evidence from the industrialized regions demonstrates that industrialisation is pivotal to economic growth and in improving human well-being through job creation and higher incomes. It argues that sustained structural transformation from an agrarian to an industrial economy is vital for the creation of wealth. UNIDO also argues that it is a strategy to enable Africa to meet the goals in the agendas referred to above (Agenda 2030 and 2063). SDG Goal 9 is on industry, innovation and infrastructure development. Some countries in Africa have experienced very high rates of growth in the last ten years due to a commodity price boom while others have increased modest rates. While there have been some improvements in human development and reduction in poverty, evidence shows that except for a few countries (for example, Morocco, Tunisia, Egypt, Mauritania, South Africa, Botswana, Mauritius and Seychelles), most countries are still fall in the Low Human Development (LHD) category when the United Nations Human Development Index (HDI) is used. Furthermore, rural poverty, youth unemployment and income inequality are relatively higher than other regions. For these reasons, Africa has to pursue comprehensive strategies which include industrialisation in order to resolve those challenges.

## **3. Inclusive and Sustainable Industrialisation**

What is inclusive industrialisation? Inclusive implies participation of all those who are willing and able to take part in the process. Historically, industrialisation in Africa was driven by multinational companies who were attracted by the cheap labour offered by the region. Local labour was hired at low wages. The companies brought in their capital in most instances and were also the owners of the enterprises. In

addition, due to the skills gap between men and women resulting from gender inequality in education and training, social and cultural practices, among others (United Nations, 2016b), industry employed more males than females. Although more males were recruited, they participated mainly as labour and not in management and also in unskilled and semi-skilled positions.

Athukorala (1996) & Lall (1999) point out that manufacturing is critical, and is probably the most important engine of long-term growth and development. They cite the experiences of Malaysia and China and South Korea where industrialization led to export growth and massive increases in employment. Oyelaran-Oyeyinka (2016:1) contextualize industrialisation within the sustainable development discourse. They contend that development is an ultimate outcome of sustainable, equitable industrialization. In other words, it must not be industrialization as an end in itself but rather, a means towards addressing the social, economic and political needs of a nation. Industrialization should thus be viewed as a strategy that empowers citizens to become independent and self-determining in all aspects of their lives. Sustainability is also about protecting the environment. Green industrialisation is a call to ensure that Africa's industrialisation does not add to carbon emissions and also destroy the environment.

## **4. Africa's Industrialisation Performance: Review of Evidence**

The performance of the African continent with respect to industrialization has been poor. A number of indicators can be used to demonstrate this. The Manufacturing Value Added (MVA) is a common measure. It represents the output of the manufacturing sector since its focus is on processing materials into finished products. An increase represents improvement in industrialisation whereas a decline denotes either de-industrialization or simply a decline in manufacturing output. A related measure is the share of MVA in a country's GDP. A higher share represents a higher rate of manufacturing. Another measure that is commonly used is the share of manufactured exports to a country's total exports. The share of outputs and exports that are produced using low, medium or high-technology manufacturing is yet another measure that reflects the degree of complexity in a country's manufacturing processes. Using data from the United Nations Industrial Development

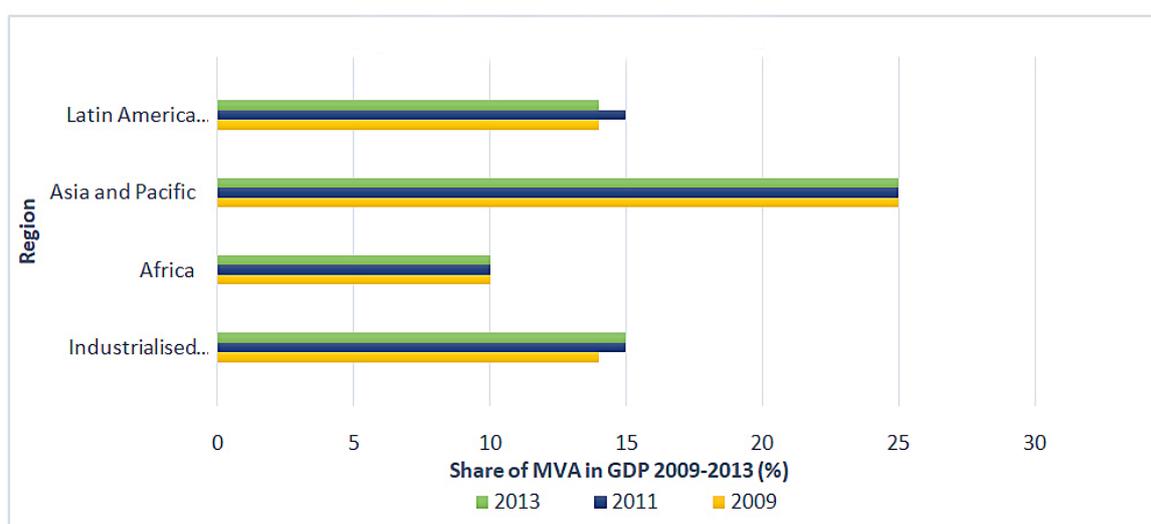
Organisation (UNIDO), these indicators have been used to show how Africa has performed on industrialization. Figure 1 uses the MVA share in GDP over the period for which data were available, that is, 2009-2013. Africa was compared to other developing regions such as Asia and the Pacific, Latin America and the Caribbean as well as the industrialised countries. The evidence showed that Africa was the least performing over the period, with an MVA/GDP share of 10 per cent compared to 25 per cent for Asia and the Pacific, 13.5 per cent for Latin America and the Caribbean and 15 per cent for industrialised countries.

Figure 2 compares performance using the share of manufactured exports in world manufactured exports for the period 1995-2013.

Based on the technology composition indicator (low, medium and high), Africa's products are largely resource based for the entire period, with some growth in low-technology manufacturing.

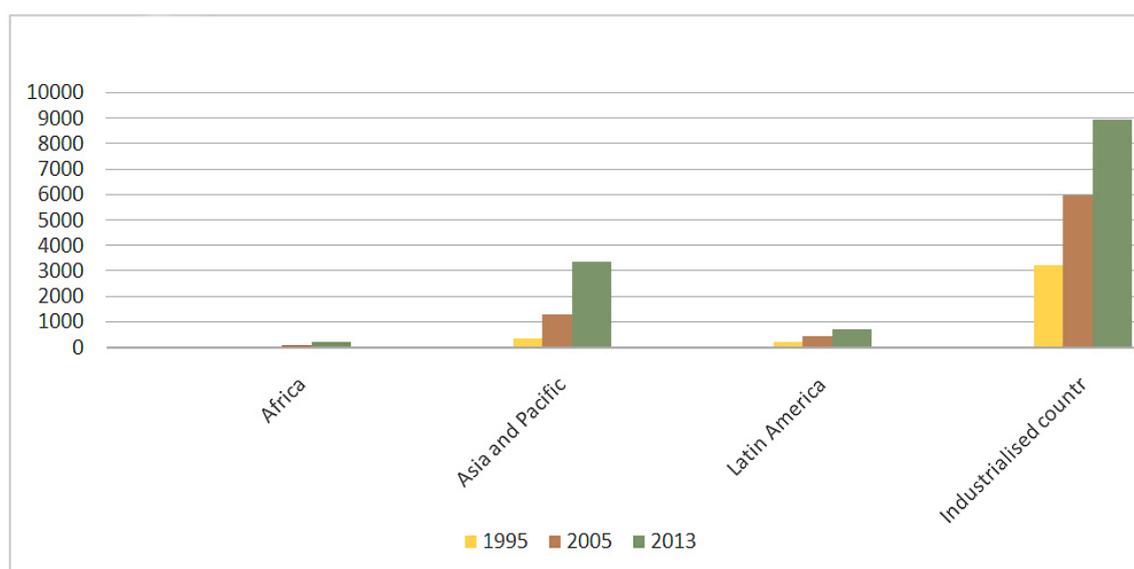
In terms of Medium to High Technology (MHT) manufacturing, Africa fares lowest for all the three years that are indicated. China, Asia and Pacific do much better. Industrialized countries are the best

**Figure 1: Share of MVA in GDP 2009-2013**



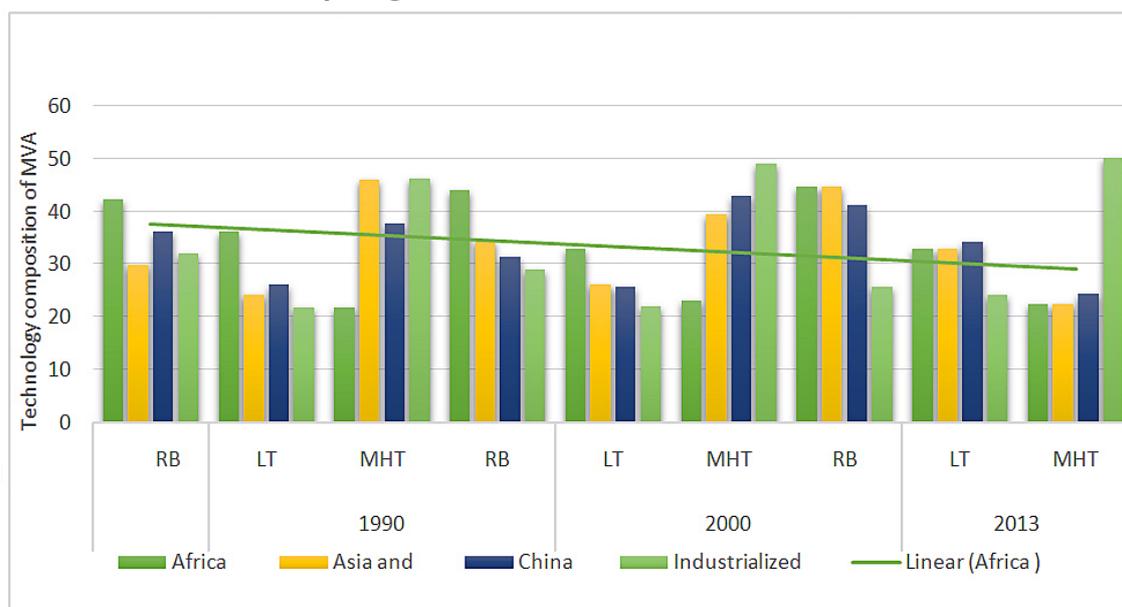
Source: Author

**Figure 2: World Manufactured Exports by Development Group, Region and Income 1995, 2005 and 2013**



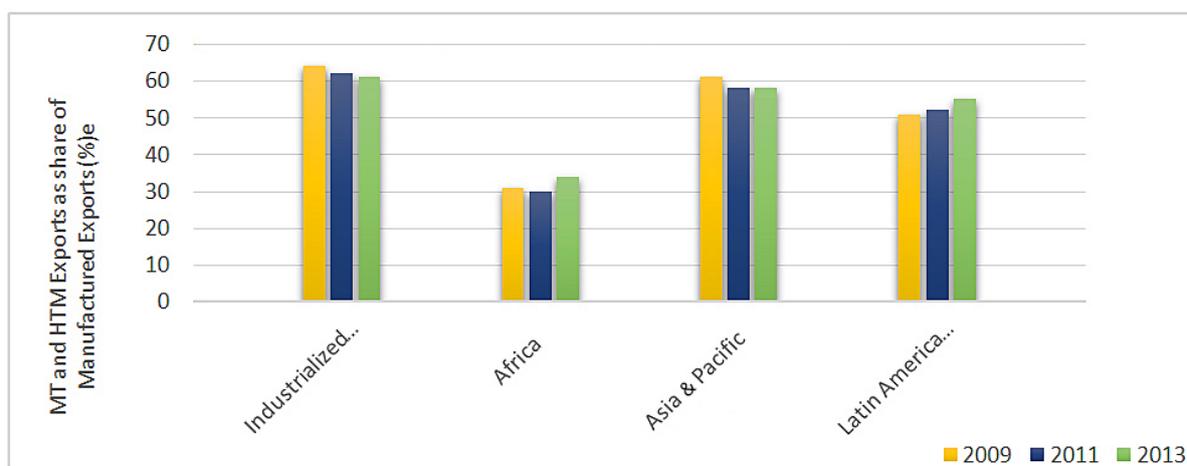
Source: UNIDO, 2015

**Figure 3: Technology Composition of Manufacturing Value added, by Development Group, Region and Income, 1990, 2000 and 2013**



Source: UNIDO, 2015

**Figure 4: Medium and High - Tech Manufactured Exports: Share in Total Manufactured Exports 2009-2013 (%)**



Source: Based on data from United Nations Industrial Development Organisation (UNIDO) 2016. Industrial Competitiveness Report 2016. Vienna. UNIDO. P. 228

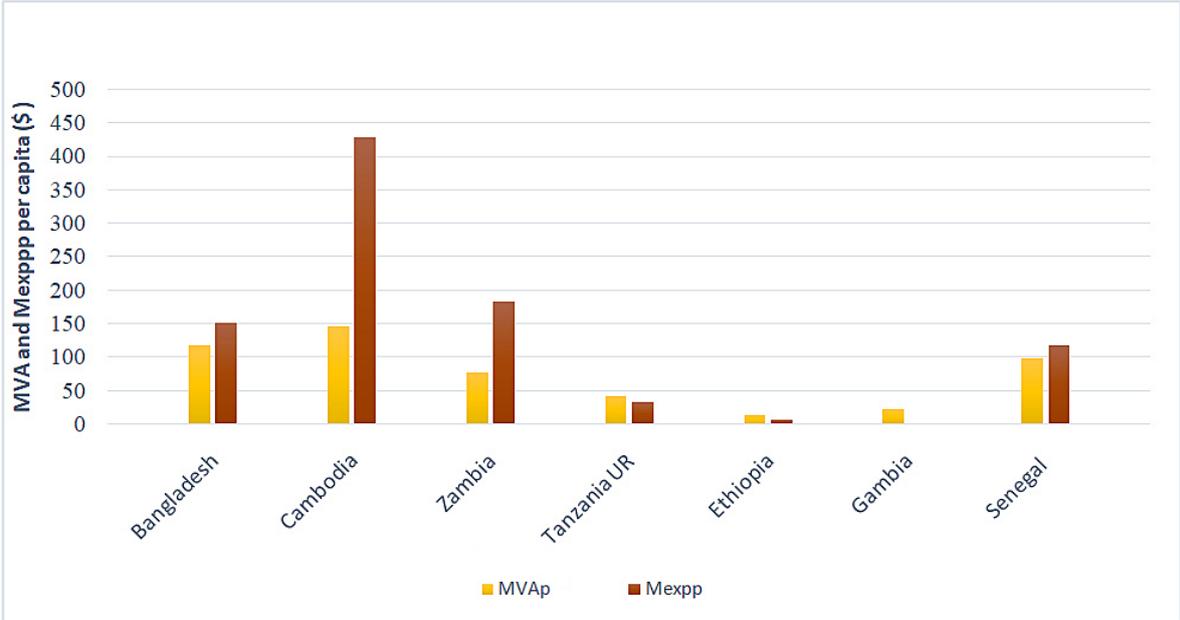
performers in term of MHT manufacturing, almost double the performance of Africa in 2013. Figure 4 shows the relative shares of medium and high-technology manufactures in total manufactured exports over the same period. Once again, Africa has the lowest shares as compared to the other regions and for the period covered. Asia and the Pacific, China and the industrialized countries exceed Africa's share by over 20 percent.

Performance in terms of the Competitive Industrial Performance (CIP) Index also shows Africa being the

least competitive of all regions. Figure 5 on the next page presents the details.

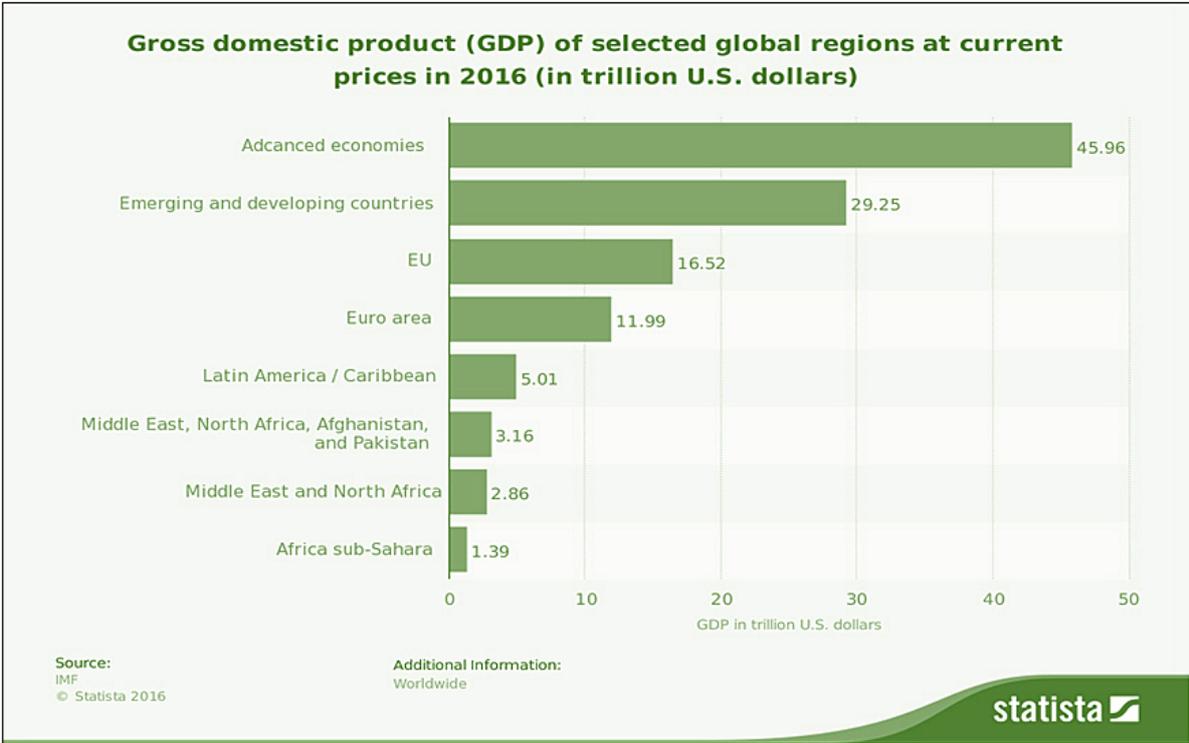
According to comparative data on Gross Domestic Product (GDP) presented by the World Economic Forum (WEF), Sub-Saharan Africa has the lowest GDP of US \$1.39 trillion (measured in current prices in 2016). The Middle East and North Africa recorded US \$ 2.86 trillion while Latin America and the Caribbean stood at US\$ 5.01 trillion. These regions all perform way below advanced economies whose GDP was US\$ 45.96 trillion. Emerging

Figure 5: Industrial Competitiveness in Selected Countries



Source: Author

Figure 6: Gross Domestic Product (GDP): Sub-Saharan Africa in Comparison to Other Regions 2016.



Source: World Economic Forum (WEF), 2017

and developing countries as a group recorded half of this amount (US\$ 29.25 trillion), (World Economic Forum, 2017). These statistics further reinforce the argument that although growth has improved in Sub-Saharan Africa in the last decade, the continent still ranks as the lowest when compared to

globally. It points to the urgent need for a turnaround strategy that can leapfrog economic growth and development on the continent. Industrialization has a potential to contribute to the achievement of that goal.

While industrialised countries are now moving into what is called 'the New Industrial Revolution' (NIR), or 'Smart' industrialisation, most countries in Africa are just beginning. A very small number are producing medium to high technology manufactured products. Instead, their manufacturing largely consists of primary commodities, with a small proportion of light-technology produced goods. The NIR is about digitization of industrial processes. It includes the use of artificial intelligence or robotics, nano and biotechnology and other related processes. The technology of the NIR has the potential to improve productivity, reduce energy, and resource consumption. In that regard, it is both efficient and environmentally friendly. Sustainable industrialisation is about adding value to the natural resources that the continent has but while minimizing damage to the environment.

## **5. Obstacles to Industrialisation in Africa**

Countries face many obstacles that have hindered progress towards industrialisation. As a result, GDP is dominated by the production of primary commodity production with all its attendant problems, for example, fluctuations in commodity prices on international markets. Consequently, productivity in Africa's manufacturing is generally far below that of developed countries. Exceptions are Egypt, Morocco and South Africa who have relatively specialized more into manufacturing as compared to other countries. They also have higher labour productivity. UNIDO (2016) points out these countries have positioned themselves as assembly hubs for automobiles in, for example, Durban (South Africa), and in textiles and clothing for European firms in Tangier (Morocco), Monastir (Tunisia). Diversification is a major challenge in Africa and LDCs. According to the concentration index (indicating the level of product diversity in imports and exports) LDCs in Africa trade in few products compared with LDCs in Asia.

The slow regional integration at sub-regional as well as continental level, also slows down the pace at which industrialisation can happen. Regional value chain processing in for example, mineral beneficiation, agro-processing, that may depend on economies of scale cannot be implemented until regional integration takes place. It has been observed that Africa is one of the least regionally integrated continents in the world. Some evidence

of this are the tariff and non-tariff barriers that still exist among countries, that they are often higher than those between them and the rest of the world. Another reflection of poor integration is that while the continent's trade with the rest of the world has grown at double digit rates since 1995, it remains dominated by trade with developed countries and is highly concentrated in natural resources and primary commodities.

Low performance in terms of competitiveness is a serious challenge for most of the region. Despite overall improvements in competitiveness, compared to low-income Asian countries, most African LDCs have struggled to take advantage of low labour costs to increase their share of labour-intensive manufacturing. Factors that explain this include poor business environments, low institutional capacity, weak infrastructure and relatively high unit labour costs in manufacturing, which compare unfavourably with competitors in Asia. According to the World Bank's Logistics Performance Index (LPI), over 2007-2014, low-income Sub-Saharan, Africa showed the weakest performance of all World Bank regions and income groups. Higher costs of production and low productivity have eroded Africa's competitiveness especially when confronted by cheaper or more efficient producers like China and other Asian economies.

Another challenge consists of limited human skills. While African states have definitely improved access to education services, there is a serious gap in regard to Science, Technology, Engineering and Mathematics (STEM) education which are key for industrial processes.

## **6. Strategies to Facilitate Inclusive and Sustainable Industrialisation**

### **6.1 A Visionary and Strategic Framework**

As the experience of industrialised countries show, the process takes time and also requires planning and resources. African countries therefore need to integrate the agenda for industrialisation into their national visions and national development planning and strategic frameworks. In addition, industrial policies that are in harmony with regional and continental frameworks are vital. Below is an example of how the SADC region has developed an industrialisation strategy which has already been approved by member states in 2015. SADC is in the process

of crafting an Action Plan for the implementation of the Roadmap.

### **The SADC Industrialisation Strategy and Roadmap 2015-2063 was Approved on 20 April 2015:**

*The main objective of the strategy and roadmap is to increase manufacturing production, exports, particularly those in medium and high technology categories. The Community has set clear goals. For example, some of the long-term goals include i) to increase real GDP growth from four to seven per cent annually; ii) to double the share of manufacturing value added (MVA) in GDP to 30 per cent by 2030 and to 40 per cent by 2050, including the share of industry-related services; iii) to increase the share of medium-and-high-technology production in total MVA from less than 15 percent at present to 30 percent by 2030 and 50 percent by 2050; iv) to increase manufactured exports to at least 50 percent of total exports by 2030 from less than 20 percent at present; v) to build market share in the global market for the export of intermediate products to East Asian levels of around 60 per cent of total manufactured exports and; vi) to increase the share of industrial employment to 40 per cent of total employment by 2030. (SADC, 2016:14). Some key strategies to achieve the above targets consist of diversification and broadening of the industrial base, improving the productive capacity, productivity and competitiveness of SADC economies. The Roadmap anchors industrialisation within the framework of a highly integrated region because that creates a larger market than each country and makes it possible for firms to increase production in order to benefit from the economies of scale that such a large market offers. SADC members therefore have to facilitate the integration of their economies in terms of free movement of people, goods and services as well as trade. It also advocates a strong leading role of governments whose key role is to create a policy framework that supports local private sector and foreign investors. This includes developing and implementing an industrial policy and incentive framework, investing resources for the building of infrastructure (power, roads, rail, ports, telecommunications and other). 15. Governments also have a responsibility to create a macroeconomic environment that facilitates this agenda, for example, stable prices. Recognizing that many countries still lack the capacity for this massive*

*undertaking, the Roadmap calls upon member states to invest in building state capacity to formulate and implement industrial policies and the monitoring and evaluation thereof. Their capacity to negotiate win-win agreements and partnerships with other governments and companies that wish to invest in Africa should also be strengthened. This must include capacity for developing investment frameworks and agreements that promote the goal of inclusive and sustainable industrialization. Source: A summary of some provisions of the SADC Industrialisation Strategy and Roadmap 2015-2063.*

Under the leadership of the Department of Trade and Industry (DTI), South Africa also has one of the largest support programmes for industry development. A comprehensive policy framework, the Industrial Policy Action Plan (IPAP), has identified sub-sectors in which the government deems the country to have a comparative advantage. These include agro-processing, auto assembly and auto components manufacturing, wood and furniture, pharmaceuticals, basic metals and metals processing, and textiles and clothing sectors. The Department also manages one of the largest incentive programmes for industry development in Africa. (Department of Trade and Industry, 2016).

## **6.2 Making Sure the Process is Inclusive**

Inclusive industrialisation calls for a process in which the local population in Africa, men, women, youth, rural and urban, participate actively both as owners and drivers of industry and also as workers, depending on their expertise. It calls for countries to introduce and implement policies that support such participation and also practical interventions to build local capacity for industrialisation. Part of the challenges faced by small enterprises and the informal sector include the lack of skills required to participate in value-addition activities. Inclusive industrialisation therefore requires countries to invest in skills development. These measures include, but are not limited to: i) investing in skills development of the requisite skills in order to enhance local capacity for industry. Emphasis must be in Science, Technology, Engineering and Mathematics (STEM) education, an area in which many African countries still have a huge deficit. ii) Increase investments in agriculture in order to improve the sector's productivity

and output. Agriculture is a major source of inputs for agro-processing. Countries should also invest in the development of infrastructure in both rural and urban areas to facilitate productive activities. Facilitation of agro-processing offers many opportunities for inclusive industrialisation since, in many African countries, the majority of people live in rural areas, especially women. Agro-processing also has the capacity to involve Small and Medium Sized Enterprises (SMEs) who were also previously marginalised from industrialisation processes. Some of the products in the sub-sector can be produced using low-cost technology which SMEs can also afford. In countries like Senegal, Madagascar, Ghana, Ethiopia, Kenya and Tanzania, for example, the value of agro-industries as a share of total manufacturing is high-estimated at around 50-60 per cent. This is much higher than in industrialised countries. A number of African countries are beginning to realize the importance of the sector. Mauritius has one of the most comprehensive SME support environments. The government introduced a National Strategy for the development of the SME sector and that includes a wide range of strategies including policy support, access to credit, technology upgrading, knowledge and skills development, quality standards, access to markets and linkages with larger enterprises in procurement and sub-contracting arrangements.

### **6.3 Industrialise Through Trade and Deeper Regional Integration**

The fragmentation of the African market is very costly for all African countries. Industrial agglomerations and other growth benefits could be realized from development of transport, logistics and industrial corridors, and hub development around transport nodes and important urban centres. Preferential liberalization of service trade now features in many regional trading arrangements, and the LDC service waiver of the World Trade Organization (WTO) opens the possibility of making them more widely available on a non-reciprocal basis.

### **6.4 Increase Investments in the Development and Growth of Agriculture, Mining, Manufacturing and Service Sectors**

Since many countries are richly endowed with agricultural and mineral resources, it will be crucial for African countries to invest in the growth of these sectors. Agriculture and mining provide the much

needed inputs for processing. The services sector which provides vital services such as power, electricity, transport, among others, is also important in supporting the process.

### **6.5 Infrastructure Development**

To enhance competitiveness through cutting down the cost of doing business, it is widely acknowledged that the continent has to further develop its infrastructure, particularly, roads, rail, ports and air transport. In addition, investments in developing capacity for electricity generation, water services provision, telecommunications and ICT, are also important. SDG goal 9 calls for states to 'build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation through 'inclusive and sustainable industrialisation'. Invest in energy and resource efficiency and promote green and clean technologies and industries.

### **6.6 Developing Capacity for Participating in Regional and Global Value Chains (RGVs)**

Develop capacity for participating in regional and global value chains Africa's GVC integration is generally shallow, but it increased by 80 per cent between 1995 and 2011, albeit from a very low base. Five African countries Lesotho, the Seychelles, Swaziland, Tanzania and Zimbabwe – are among the world's top 30 countries in terms of intensity of GVC participation; 13 countries predominantly in Western and Central Africa – are among the bottom 30 globally. Six of the 10 most integrated countries are in Southern Africa. Small, open economies such as Lesotho and Mauritius source more inputs from abroad and produce more inputs used in GVCs than larger economies such as Nigeria or South Africa.

### **6.7 Removing Bureaucratic Obstacles**

Sanieipour (2015) recommend reforms such as tariff exemption schemes, tackling bureaucratic inefficiencies and the creation of Special Economic Zones (SEZ) and Free Trade Zones (FTZ) can attract foreign investors and lead to further industrialization. If implemented appropriately, SEZs and FTZs can also foster structural transformations by establishing domestic backward linkages and developing domestic industrial clusters. This was the case in East Asia where SEZs allow for linkages to surrounding domestic firms through both technology and skills transfer, leading to an increase in domestic capability

## 6.8 Partnerships with Emerging Powers of the South: The Role of Foreign Direct Investment (FDI)

The African Union Commission (2016), at its 27<sup>th</sup> Summit, encouraged member states to take maximum advantage of Africa's partnerships, especially with the newly industrializing and emerging powers of the South, for the development and transfer of technology, for the establishment of joint industrial enterprises in Africa, and for greater market access for African manufactured products. Increasingly, a number of African countries are cooperating with China, Brazil, India and Malaysia, among others, to obtain investment, acquire technology and benefit from the skills and expertise that they have to offer. For example, in 2015, during his visit to South Africa, the Vice Minister of Commerce of China, Mr Zhang Xiangchen, announced to the Department of Trade and Industry (DTI), his country's pledge of US\$ 50 billion (R 660 billion) towards industrialisation projects in South Africa and the rest of the Africa. China would also provide 50 technical experts in building and upgrading of industrial parks, building of new power plants, 40 000 training opportunities in different sectors and 200 000 industrial managers to train and develop local industrial managers. The Minister further announced that China would also increase investments in Special Economic Zones in Africa and provide training as would be necessary (Department of Trade and Industry, 2015). In negotiating agreements with investors, countries will have to ensure that they guarantee mutually beneficial outcomes and that the goals of inclusivity and sustainability are integrated.

## 6.9 Resource Mobilisation and Finance for Industrialisation

Mobilise diaspora resources by finding innovative ways to encourage citizens of African nations living abroad to invest in their home countries. Curb illicit financial flows and redirect resources towards industrialization.

## 6.10 Explore the Feasibility of Adopting Smart Industrialisation in the Context of the NIR

Africa should also explore the feasibility of adopting smart industrialisation in some sectors. In terms of inclusivity, it has also been argued that the NIR approach may provide the solution to increase the participation of women and youth in sectors such

as mining where they have been largely excluded because of the hazards of the mining environment. Digitization means robots can be used in mineral extraction. Women and youth can be employed to operate the machines on the surface where the environment is safer. However, as robots may displace much of the labour that industry would otherwise hire, the NIR may have negative consequences on employment.

## 7. Conclusion and Recommendations

Discussions in this paper have demonstrated the interest in Africa to industrialise. Evidence showed that for most of the continent, the level of industrialisation is still very low and that the little industry that has taken place is dominated by primary commodity production. The small industry that exists is largely in the form of light manufacturing processes in sub-sectors like agro-processing, apparel and furniture and basic metals processing. The paper argues that Africa's vast oil, gas and mineral resource base, provides an opportunity for resource-based manufacturing in order to enable the continent to get higher value from its resources. However, it is not enough merely to industrialise. Countries have to reflect and decide on issues such as what kind of industrialisation and how does a nation ensure that it does not replicate the industrialisation experiments of the past which reduced much of the population into low-wage workers as inputs into multi-national companies' industry ventures. The paper argued that the current wave of industrialisation has to be inclusive and sustainable, inclusive in making sure that hitherto excluded and marginalised groups participate, not just as unskilled and low-wage workers but rather, as owners of manufacturing enterprises and/or as employees at all levels-from managerial to skilled and semi-skilled. It must be a process in which women, the youth, rural communities and urban poor, can also find opportunity. Sustainability is a call for equality in access to participation and benefit from the process while also safeguarding the protection of the environment. Even though Africa is not among the highest polluters in the world, adopting a Green Industrialisation approach should be integrated into industrial development strategies. While markets have a critical role in driving business and enterprise, inclusive and sustainable industrialisation cannot take place simply based on markets alone. The paper emphasises that the state in African countries will have

to play a strong leadership role to drive the process. Evidence from countries that have succeeded in this process demonstrates how the state was instrumental in developing the national vision and long-term developmental strategy and policies and also in creating institutions, mobilising resources, building human capacity and creating an investment environment that supported all types of industry.

The paper makes some key recommendations. Africa should build on the continental, regional and national frameworks that have already been developed to advance the industrialisation process. Countries should also consider integrating the goals of inclusivity and sustainability in their policies and strategies for industrialisation. Of critical importance is the need to strengthen the capacity of governments in formulating, mobilising resources, financing and implementing industrial policies. Inadequate capacity in this area has slowed down progress to industrialise. Massive investments in human resource development will be necessary in order to build the technical and other skills that industrialisation entails. Equally important is the importance of investing in the development of infrastructure, ranging from transport systems, power and communication. Africa will also benefit from entering into partnerships with countries and companies within the continent, South-South cooperation and also in the context of North-South cooperation, provided such partnerships are based on mutual benefit. Strengthening communication between government and the private sector will also be vital in order to better understand how best to support entrepreneurship and business in pursuing this agenda.

Thus, a critical factor for success, in the author's view, will be the need for an unprecedented and revolutionary transformation of the state in Africa in terms of its competency and capacity to develop and implement the industrialisation agenda. Public management therefore has a central role in Africa's quest for an inclusive and sustainable industrialisation process.

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