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Innovative Industrisalisation Approached in Africa: Experiences of Botswana, Mauritius and South Africa

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Abstract

The industrialisation agenda is a topical issue in debates on Africa's development. Evidence from United Nations Economic Commission for Africa (UNECA), United Nations Industrial Organisation (UNIDO), United Nations Conference on Trade and Development (UNCTAD), African Union (AU) and African Development Bank (AfDB), among others, shows that since the 1990's, African has experienced de-industrialisation and consequently, the continent has the lowest Manufacturing Value Added (MVA) compared to all other regions in the world. There are a myriad of factors which explain the poor industrial performance. These include but are not limited to historical factors such as resource extraction and exploitation during the colonial and post-colonial era, limited capacity to formulate and implement industry policy, weak institutional structures and financial systems to support industrialisation and the existence of an international trading and financial system which is characterised by asymmetrical power relationships in which the developed countries of the North have and continue to dominate the developing or low-income nations of the South. This paper is not another narration of the well-known story of the reasons for Africa's poor industrialisation record. Rather, it offers a futuristic reflection of innovation strategies which could be promoted in order to industrialise the continent. At the 10th African Union (AU) Assembly held in Addis Ababa, Ethiopia, in January 2008, an event which was devoted to Africa's industrialization, African Heads of State and Government affirmed that "No country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector". That Assembly culminated in the adoption of the Action Plan for Accelerated Industrial Development of Africa (AIDA). The paper argues that industrialisation must be a top priority on the agenda of development planning and management in Africa. This paper is futuristic in that it focuses on innovative approaches to industrialisation. The paper reviews and analyses the experiences of three African countries, namely, Botswana, Mauritius and South Africa. They are selected because of the progress which they have made with respect to building an industrial base and diversifying their economies. It draws on secondary information sources such as government policy and strategy documents, published journal and other peer-reviewed literature. The analysis highlights the important role played by a strong developmental state, formulation and implementation of long-term industrial strategic frameworks, creation of effective institutions, re-introduction of industrial policies and incentives, identification of priority sectors based on natural resource endowments, large capital investments for industrial infrastructure, human capital development and establishment of public/private partnerships particularly in the context of South-South cooperation. The paper emphasizes that there is no one-size fits all and so each country has to develop industrialisation strategies which are appropriate to its own environment and context.

Key words: innovativeness, industrialisation, knowledge-based industry development, South-South cooperation.

1. Introduction

The debate on industrialisation in Africa is not new. In the 1960s and immediate post-independence period, attempts were made to industrialise. Many countries tried the Import Substitution Industrialisation (ISI) strategy but failed because of the inefficiencies of some of the protected industries. The ISI model was abandoned in favour of Export-Oriented Industrialisation (EOI). External indebtedness and deterioration in external balance positions led some countries to borrow from the World Bank and International Monetary Fund. There were conditionalities attached to the Structural Adjustment Programmes (SAPs) and these included trade liberalisation and removal of subsidies and price controls in order to promote market activities. There appears to be consensus in the literature that SAPs led to the de-industrialisation of those countries which adopted the adjustment programme (for example, Zimbabwe, Zambia and Ghana). Trade liberalisation led to the collapse of some industries as they could not compete against cheaper producers from Asia, for example. Evidence from studies by both the United Nations Industrial Development Organisation (UNIDO) and the United Nations Conference on Trade and Development (UNCTAD) show that over the past decade, Africa has the lowest Manufacturing Value Added (MVA) performance in relation to the rest of the world. They also show that the continent is still dependent on production and export of commodities and heavily reliant on imports for most of its manufactured goods. According to the AU Commission (2013), most of Africa's economies are still driven by commodity production and the exportation of agricultural and mining products. Africa remains the least industrialised continent in the world.

The failure of most African countries to industrialise explains why they are still exporting primary commodities and importing manufactured goods. The global economic and financial crisis of 2009 adversely affected those primary commodity producers and exporters as the fall in external demand led to declining export volumes, sales and revenues. Resource-dependent and primary commodity exporters such as Namibia, Botswana, South Africa, Zambia, Congo DRC and Kenya, to name a few, are among those economies which were adversely affected by the crisis. The crisis once again demonstrated the vulnerability to external shocks, of many African economies and this appears to have revived interest in intensifying efforts for industrialisation. The United Nations Economic and Social Council (UN ECOSOC), Economic Commission for Africa (ECA) and the African Union (AU) caution against the dependence on primary commodity production and exports because;

“it exposes the continent to external demand shocks and leads to pro-cyclical fiscal spending in many resource revenue dependent countries. More importantly, the commodity-driven feature of Africa's economy poses serious questions about its long-term sustainability, as agriculture is subject to diminishing returns to scale due to land constraint while exploitation of non-renewable natural resources is limited by available reserves”. UN ECOSOC, ECA and AU (2013:12).



Although a number of strategies have been proposed (from the Lagos Plan of Action to the current African Industrialisation Development Action (AIDA) Initiative, African states face a number of challenges largely because the era of globalisation has ushered in new trading and financial rules which prevent the continent from using some of the measures which the now industrialised countries used to develop their industry. Restrictions on the extent to which states may use protectionist tariffs as well as various types of subsidies, protectionist policies of some Northern countries against goods and services from the developing South, among others, create obstacles against the industrialisation agenda. As observed by the UN ECOSOC, ECA and AU (2013:8), among the factors that have shaped the new global environment are globalization and the changing international economic order; the rise of (East) Asian countries; and climate change. In terms of globalisation, as argued above, SAPs destroyed rather than developed industry on the continent. They also argue that globalization has also changed the pattern and rules of international trade. Firstly, through value chains around which the current international trade and division of labour are organized. Economies are also affected through the impact of multinational companies who play a dominant role in creating and controlling these value chains. The challenge is how African economies can access larger external markets without at the same time being integrated into these value chains. Such integration may unfortunately further entrench them into risky and exploitative trading and financial arrangements. Another challenge is that globalization has brought about new global trade rules which have reduced the space of industrial policy in Africa. Traditionally, these policies have been critical tools for industrial policy.

For these reasons therefore, any futuristic industrialisation strategy inevitably and critically depends on the creativity and innovativeness on the part of national governments, the business/private sector (both local and international). Also important is the nature and character of prospective foreign investors and other partnerships/networks which states collaborate with.

The purpose of the paper is to discuss innovative approaches to industrialisation in Africa within a futuristic framework. As has been emphasized by many other authors, it argues that the industrialisation agenda must become a top priority for the continent firstly because continued reliance on primary commodity production and exports will not yield sustainable and inclusive development for the continent.

The paper focuses on the experiences of the first Botswana, Mauritius and South Africa. They are considered here because they have made some significant progress with regard to industrialisation and diversification of their economies. It must be emphasized that their selection does not in any way suggest that they should be treated as ‘role models’ for the rest of Africa particularly in view of the controversial nature of some of their strategic approaches. In addition, they themselves still have a long way to go in terms of implementing a comprehensive and diverse industrialisation agenda. However, their experiences may offer some useful lessons on innovations for industrialisation. Botswana, once a monocultural



economy, has diversified significantly. Its major innovation has been the establishment of value-addition through diamond polishing and jewellery manufacture. This follows from knowledge that diamond reserves will be depleted or exhausted by 2020. The government has also used revenues from diamonds to support industrial development in other sectors. Mauritius has developed one of the most comprehensive industrialisation strategic frameworks, in Africa and has been able to diversity its economy from a monocultural economy dependent on sugar to one in which processing of sugar, establishment of a vibrant tourism and services sector, now characterise its economy. In the case of South Africa, state involvement in industrial development dates back to the 1970s and 80s. Massive investments were made in infrastructure, industrial development zones and institutions to support industry. Since democratic transition in 1994, the Department of Trade and Industry (DTI), has actively developed policies and a range of strategies to promote the development of industry. The paper argues that there are a number of factors behind the successes made by these countries in their industrialisation efforts. At the political level, adoption of the developmental state as a guiding principle for economic transformation. This approach recognises that markets alone cannot deliver structural change for an economy and that therefore, the state has important role to play. The experiences of many industrialised countries in Asia (for example, Malaysia, Singapore, Republic of Korea and China, among others) also demonstrate the pivotal role of the state in achieving the goal of industrialisation. The development and implementation of a long-term industrial development vision and framework has been key to success. These countries have all developed medium to long-term industrial development plans. They have also established a strong institutional base to support industry. These include government ministries and agencies, private sector associations or networks, export promotion agencies, parastatals, development finance institutions and skills development and training institutions. They have also nurtured strong public-private sector partnerships and a culture of engaging and consulting private or business sector in designing industrial policies and incentive systems. The governments have invested significantly into infrastructure, trade logistics, and human resource development through a variety of skills development programmes. They have also taken measures to create an environment which attracts foreign direct investment to bring in the much needed technology and technical skills.

The paper uses these experiences to reflect on a framework for a futuristic industrialisation agenda for Africa. Secondary data sources were used to present this qualitative piece of work.

The paper is organised into four sections. Section 2 presents the theoretical framework on the arguments for industrialisation. Section 3 reviews relevant literature on innovative industrialisation strategies. Section 4 presents and analyses the experiences of the three countries and draws key lessons. Finally, Section 5 concludes the paper and makes some recommendations for a futuristic industrialisation framework which, it must be emphasized, should not be a prescription for African countries but rather, a pointer on possible strategies which they could consider in their quest for developing their own industrial sectors.



2. Theoretical framework

Owusu and Samatar (1997:3) argue that the role of industrialization in development cannot be overemphasized, and the emergence of a dynamic manufacturing sector has typically marked a country's transition from low to intermediate income levels. A strong industrial sector also generates employment and enhances the development of backward and forward linkages in the wider economy. Drawing on the works of Szirmai (2009) and Tregenna (2013), Naudé (2013:50) provides the main arguments in favour of industrialisation. He points out that manufacturing has a higher productivity impact compared to other sectors and it also contributes to economic diversity which is fundamental in reducing a country's vulnerability to negative external shocks. He also argues that industrialisation is key for structural change. Rodrik (2007:6) holds the view that 'development is fundamentally about structural change'. He explains structural change as a process which leads to an increase in the share of manufacturing in a country's Gross Domestic Product (GDP). A strong argument in favour of manufacturing is that it is able to generate positive externalities.

Naudé (2013:49) emphasizes that the manufacturing sector generates 'Marshallian' externalities due to knowledge spillovers within the industry (technology diffusion), linkages (backward and forward) with the rest of the economy, dynamic economies of scale, and labour pooling (Harrison and Rodriguez-Clare, 2009; Tregenna, 2013).

Szirmai (2009) argues that there are powerful empirical and theoretical arguments in favour of industrialisation as the main engine of growth in economic development. Their econometric analysis of 90 countries over the period 1950-2005 confirmed that there was an *empirical correlation* between the degree of industrialisation and per capita income in developing countries. They also established that productivity was higher in the industrial sector than in the agricultural sector. Their analysis also showed that as the share of the service sector increases, aggregate per capita growth tended to slow down. Compared to agriculture, they observed that the manufacturing sector offers special *opportunities for capital accumulation* in developing countries. Capital accumulation can be more easily realised in spatially concentrated manufacturing than in spatially dispersed agriculture.

Industrialisation is not just an economic issue. It is ideological and political. Ideological in that, as demonstrated by historical experience, capitalist accumulation during colonial era was made possible through exploitation of Africa's natural and human resources. Based on the Ricardian notion of comparative advantage, African countries were made to specialise in the production and export of commodities (raw minerals, agriculture and forestry resources) and to depend on imports for their need for capital goods and other manufactured goods. The story is well-known and need not be repeated here. The unequal terms of trade which characterised this pattern of specialisation have always disadvantaged African countries and that too is on record. Neoclassical economists like Kuznets (1973) argued that in our time the end goal for any society is to reach 'modern economic growth' (MEG), thereby leaving the pre-modern growth process behind. This modernisation, which is



the equivalent of development, is characterised by technological advances, high rates of growth, a rise in productivity, and structural transformation of the economy, society and ideology. Depending on its causes and characteristics, growth may be more or less likely to promote such processes of structural change, and societies can experience growth while staying pre-modern. Kuznets analysis was in the context of capitalist accumulation. Hillbom, (2012:193) argues that industrialisation should not be primarily for purposes of capital accumulation as an end game but rather, it should be a means to an end, enhancing value creation, reducing external dependency on primary commodities and therefore strengthening Africa's capacity to negotiate better terms.

That Africa remains largely not industrialised is therefore not a coincidence but rather, a reflection of the prevailing ideology which shapes the international division of labour and seeks to perpetuate the underdevelopment of the continent because that is an important pillar for capital accumulation for the more economically and politically powerful industrialised nations. The implications of this analysis are clear. Industrialising Africa therefore shall require a cadre of leadership who have vision and determination to reverse those ideological underpinnings which perpetuate Africa's position as a commodity producer and supplier and its continued dependence on the North for any manufactured goods. It calls for crafting of national visions and strategies for long-term development and structural transformation and commitment of human, financial, technological and other resources in order to systematically and effectively implement them.

Rodrick (2004:16-19) proposes the 'developmental state' approach which advocates active state participation in the economy. He emphasizes the need for close communication between state and private sectors or business in order to ensure that the right policies and programmes are pursued. Industrial policy should be time-bound, focused on incentives in order to provide new activities in which can lead to diversification of the economy. Schmitz argues against a one-size-fits-all approach. Rather, industrial policy must be accommodative of two issues, technology and marketing gaps that developing countries tend to experience. Access to technology is a problem due to copyright laws and lack of knowledge of international markets and customer requirements.

Industrialization and structural transformation lead to intensive use of natural resources at the expense of the environment. The challenge for Africa is not only to successfully transform its economies, but to do it in a sustainable way, using and adapting existing environmentally sound technologies to local conditions as well as indigenous technological innovation. Implementing sustainable structural transformation in Africa will not be easy and there is no "one size fits all" approach. Each African country will have to design strategies and policies based on its own sectoral and resource priorities, environmental challenges, initial conditions and domestic capabilities. Among other areas, focus should be placed on efficient, sustainable resource use in energy, industry and agriculture. African countries that are well embarked on that path include Kenya, Mauritius and South Africa (UNCTAD, 2012);UN ECOSOC (2013:5).



The experience of developed and emerging countries shows that light industry is an inevitable stage on the path to industrialization. Traditional industries are not technology or capital intensive (factors that do not exist in abundance in developing countries), but are rather mainly dependent on low-skilled labour which is abundant in Africa. It is thus natural that as a country advances in its process of take-off its income per capita also rises, thus gradually losing its competitiveness in traditional industries to other less rich countries. African countries should capitalize on their situation of poor countries brimming with abundant low skilled labour in order to win market shares in sectors such as clothing, agribusiness processing and other traditional sectors. To achieve this, specific interventions would be required in the area of vocational (AU & ECA:19).

Naudé *speaks of the entrepreneurial economy where skilled entrepreneurs, equipped with appropriate technology*, create and offer new products and introduce new processes Naudé (2013:30-59) makes some pertinent arguments regarding the importance of entrepreneurship and innovation in the quest for industrial development. He contends that because of the changing nature of the global manufacturing environment, no blueprint should be prescribed for any country's industrialisation path. He proposes that countries have to research into and discover new advantages which they can create and take advantage of in their explorations of global opportunities in order to build their technological capabilities and manufacturing base. The challenge for industrialisation for any country attempting to do so today consists in that the prevailing global environment is very different from that in which the earlier generation of countries industrialized. The situation therefore calls for industrial policies that foster innovation and entrepreneurship.

Today, he argues, there is increasing globalisation of the world economy and most pertinently the rise of global production sharing and the rise of 'smart' and networked manufacturing and also the rise of what he terms as the 'entrepreneurial economy'. It is an economy whose success critically depends on skills, technology and innovativeness. He also explains that globalization is now characterized by supply chains which are now controlled by a number of large multinational enterprises (MNEs) in production and buyer-lead networks organized by retail firms. Within such a 'vertical specialization' or 'unbundling', trade in intermediate goods has become more prominent and has contributed significantly to growth in world trade. Lead firms in these global supply chains set minimum requirements for product quality from those firms that wish to break into these supply chains. Investments in skills becomes critical for successful participation in those chains. All these developments imply that innovative strategies are therefore required in order to achieve industrialisation in a globalised world economy Naudé (2013: 58-59). According to Aghion (2009:15) as cited by Naudé, (2013:15), the entrepreneurially-consistent and innovative industrial policy needs to be able to facilitate experimental state intervention but must be able to 'stop the intervention if it turns out not to be efficient'. This is where the problem with many developing country policies is that their industrial policies are flawed in that they tend to support failing firms or sectors. Naudé (2013:59). In order to avoid corruption and rent-seeking behaviour which tended to weaken the impact of industrial policies, countries in East



Asia, for example, in the Republic of Korea, linked protection to productivity gains such as export performance, profitability and achievement of scale economies and also increasing domestic competition through facilitating firm entry and exit.

In short, most literature on industrialisation as highlighted above indicates the importance of industry in a country's development. It has backward and forward linkages which are key for growth and employment. It also enables a country to earn more from its exports than commodity exports and cushions against the volatility of prices and other external shocks. The evidence also showed that in those developing countries who successfully industrialised (for example, some countries in East Asia), the state complimented markets by creating a conducive regulatory and investment environment and by also providing financial resources, various incentives and other support systems.

3. Literature review

There is vast literature on cases of successful industrialisation in Europe, America, Asia and Latin America. In this section, we present some of the pertinent cases to explain what factors contributed to their success.

Ville and Wicken (2012:1-14) present the experience of Australia and Norway who took the path of resource-based industrialisation. By inventing new technologies and also partnering with foreign companies, they were able to diversify into new resource products and industries. Their success relied heavily on innovation, particularly in the context of close ties between resource-based industries and knowledge-producing and disseminating sectors of society. They also argue that the dynamic growth of America as a resource based economy was linked to the establishment of an efficient innovation system or the creation of a development block.

Its ability to create new knowledge (learning) and to involve many parts of the society and economy in their development and implementation of relevant and useful knowledge and technologies, was an important factor for success. This example aptly explains what innovativeness means. To further illustrate their point, the authors argue that:

“The mining industries built links to universities and geological expertise. They collaborated with engineering firms in developing machinery and technology for improving productivity in the mines. New knowledge and technological investments created opportunities for the profitable extraction of lower grade ore. New infrastructure for the transport and distribution of minerals improved the efficiency of commodity markets. Finally, financial institutions supported the large scale investments necessary for such developments in resource-based industries”.

They also give the example of Norway's resource-based industries which were highly innovative in that they capitalised on domestic sources of innovation, technology transfer from foreign sources and Norway's universities and research institutes. New resource based sectors often emerge not because new natural resources are discovered, but because new



technologies create the basis for commercial production and marketing of a known resource. The story of natural gas in Australia and oil in Norway illustrates the transforming capabilities of technology to develop a large scale export market for a resource product. Ville and Wicken (2012:10-16), also argue that the transformation of Norway's forestry industry from sawmill production to wood processing (pulp) involved close interaction with local engineering companies, in addition to foreign expertise. The emerging wood processing industry demanded water turbines and other sorts of machines. The manufacture of those products was a product of close interaction and collaboration with engineering firms, universities and other relevant bodies.

The ECA (2011:17) indicates that three features of the East Asian model made it successful. First, governments provided stable and predictable incentive frameworks that supported investments. Second, they had close and continuous, and, most importantly, 'strong' dialogue with the private sector. Indeed, as in all the other developing countries where they have been implemented, industrial policies in East Asian countries also created inefficient firms. However, different from what happened elsewhere, the State was able to withdraw support whenever a firm's performance was not satisfactory and imposed export-performance standards. Third, governments used simultaneously, import substitution and export promotion policies, combining them in the most efficient way to serve the industrialization need.

Lall (2000) emphasizes that although the approaches used by the industrialised Asian economies had some similarities, they also had some significant differences. Whereas government intervention was more widespread in South Korea and Taiwan, it was much less relevant in Singapore and Hong Kong. Both South Korea and Taiwan heavily invested in the development of domestic-innovation capabilities while the main technology policy for Singapore and Hong Kong has always been attracting FDIs (see Lall, 2000).

The literature has some examples of successful industrialisation from Asia.

Khaled (2007:5) explains that the key factors for the industrialisation success of the Republic of Korea (RoK) were:

- i. Proper planning which meant that government fixed plan for deciding what, when, and how much to produce and what authority and support was granted to the *Chaebols* (large corporate groups). The RoK used successive five-year plans which were religiously implemented and industry development was always a central pillar of those plans.
- ii. Recognition of the shortcomings of a free market system and proposed a shift to government-driven capitalism (this was popularly referred to as 'guided capitalism'.
- iii. Prioritised and provided necessary policy and financial support for a self-supporting economy which placed its main focus on key industries, such as cement, fertilizer, steel, and oil refining. In later years, the government embarked on developing heavy industries--- steel, nonferrous metal, shipbuilding, machinery, electronics and chemicals



- iv. Massive expansion of vocational education, training of scientists, engineers, and other technologically skilled workers.
- v. Identified the boosting of exports as the primary means of restructuring the balance of payments.
- vi. Adopted restrictive labour market policies which limited labour rights to strike or unionise.

Other countries in East Asia followed a variant of this model in that the state played an active role in developing industry using similar strategies. Rodrik (2001:2) emphasizes complementarity between state and markets. He also argues that the experiences of most of the successful East Asian countries was also due to creation of appropriate institutions, provisions of incentives (eg tax incentives and subsidies) and reliance on state funding mechanisms and in some cases, foreign direct investment. Contrary to arguments by proponents of liberation, he argues that the best performing countries are those that liberalized partially and gradually. He gives the example of China's success since 1978 which he attributes to a strategy based on what he terms as 'dual tracks', by which is meant gradualism and experimentation. He also argues that except for Hong Kong, which has always been a laissez-faire haven, all the other East Asian success cases have followed gradualist reform paths. India, which has done very well since the 1980s, has also liberalized only partially.

After earlier failures, Indonesia adopted a new industrial policy in 2005-2008 with the vision that *'In the year 2020 Indonesia shall become a New Industrial Developed Country'*. The vision set out a package of policies to promote industrialisation, for example, selective promotion of certain industries, in particular agricultural based industries (e.g. palm oil, cocoa, or aquaculture), transportation goods (shipbuilding or aerospace), and ICT industries, Government would provide financial incentives in the form of tax breaks and rebates. These policies did not yield immediate benefits, however. (Naude 2013:49). The creation of a competitive industrial sector was hindered by poor infrastructure (energy, transport, communications, etc.), resulting in higher production and transaction costs.

Gibbon and Ponte (2005) suggest that African firms should increase specialization, and focus on simple and labour-intensive technologies and to try to access large markets via large-scale retailers. As to what products to build an industry base on, UNIDO (2013:1) suggests that Least Developed countries have immense potential for industrialization in food and beverages (agroindustry), and textiles and garments, with good prospects for sustained employment generation and higher productivity. The organisation also argues that Africa has a lot of potential in the area of green technology that it can tap considering its vast tracts of land and nature reserves. In the sectors of tourism, agriculture, agro-industry and traditional industries, there are important competitive niches that the continent could exploit in order to build an industrial base. UNIDO also proposes that these countries have openings in low-tech labour intensive industries like agroindustry, textiles and apparel, medium-tech industries such as basic and fabricated metals. Although they do not generate large amounts of



employment, they are high-productivity industries and can generate resources for investment. Manufacturing also offers the potential to boost wages and incomes, helping to create a domestic market. (UNIDO 2013:2).

4. Presentation of the experiences of Botswana, Mauritius and South Africa

The experiences of the three countries cover the status of industrialisation, particularly with a focus on the manufacturing sector which is central to the sector. More attention is devoted to a review of the kind of policies and strategies which they pursued in order to achieve some measure of success in their industrialisation agenda and the key factors which contributed to success. An attempt is also made to highlight any specific innovative ideas (where they exist). The limitations of the approaches are explained. Finally, lessons are drawn and the implications for a futuristic industrialisation strategy are discussed.

Tables 1 to 3 below present some information on trends in GDP growth and the structure of the three economies over a period of time. They provide a background for the discussion.

Table 1 GDP Growth (%) for Botswana, Mauritius and South Africa

Year	Botswana	Mauritius	South Africa
2012	4.2	3.2	2.5
2013	4.2	3.2	1.9
2014	4.1	3.7	2
2015	4.1	4.1	3
2016	4	4.2	3.5

Source: www.worldbank.org accessed 18/08/2014

Table 1 shows the growth rates for the 3 countries between 2012 and 2014. The 2015-2016 figures are projections. Except for 2012, the GDP growth rates in all cases (and including the projections for 2015-2016), were below the Sub-Saharan average. Botswana had higher growth rates than Mauritius and South Africa. Mauritius fared better than South Africa. Although South Africa is one of the most industrialised countries in Africa, its economy has been stagnating as the GDP growth rates.



Botswana, Mauritius and South Africa
Table 2 Structure of output 2000-2012

Country	GDP (\$ billions)		Agriculture (%)		Industry (%)		Manufacturing (%)		Services (%)	
	2000	2012	2000	2012	2000	2012	2000	2012	2000	2012
Botswana	5.8	14.5	3	3	51	35	6	6	46	62
Mauritius	4.6	11.4	7	3	31	25	23	17	62	72
South Africa	132.9	382.3	3	3	32	28	19	12	65	69

Source: www.worldbank.org accessed 15/08/2014

Table 2 shows the structure of output. Although the value of Gross Domestic Product (GDP) has increased from 2000 to 2012, sectoral performance presents a different picture. The share of industry in GDP has decreased in all cases. While the share is constant at 6 % per cent for Botswana, it declined for Mauritius and South Africa. The share of agriculture remained constant in the case of Botswana and South Africa whereas it declined for Mauritius. Only services out of the sectors presented in the table, improved in all countries over the period 2000 to 2012. This explains why in their diversification strategies, these countries are putting more emphasis on services. What is evident in these statistics is the decline in the share of industry overall and manufacturing in particular. This demonstrates the need to reverse that trend and grow the industrial sector, for reasons which are presented in the paper.

Table 3: Agriculture Value Added (%) for Botswana, Mauritius and South Africa

Country	2009	2010	2011	2012	2013
Botswana	3	3	3	3	3
Mauritius	4	4	4	4	3
South Africa	3	3	2	3	2

Source: www.worldbank.org accessed 18/08/2014

Value added for the agriculture sector has been stagnant for Botswana (3%) since 2009 to 2013. It has also been constant for Mauritius between 2009 and 2012 but declined to 3 % in 2013. In the case of South Africa, the share of agriculture value added has declined since 2012. One of the arguments for industrialisation is to improve agriculture value added through productivity improvements. Stagnation of agriculture coupled with a low share in value added can impede industrial growth because of the backward and forward linkages between the two sectors.

The experiences of each country are presented in the sections below.



Botswana

At independence, Botswana was one of the poorest countries in Africa, ranking amongst the least developed countries of the world, with a per capita GDP of about USD 70. Thirty years later, Botswana had transformed itself into an upper-middle-income country. Mineral (diamond) discoveries and effective use of its revenues contributed to the country's status as one of the fastest growing economies in the world, with an average annual growth rate of about 9% between 1966 and 1999. AfDB (2013:34). More impressive has been the investment of diamond revenues in social and infrastructural services with rapid expansion of education, health facilities, housing and roads in both rural and urban areas. Hwedi (2001:22).

According to Marti and Ssenkubuge (2009:10), the government's objective was to diversify away from mining and cattle ranching towards the processing of local raw materials (e.g. leather building on the meat industry). As at 2009, the economy was heavily dependent on mining (about 50 per cent of public revenues) and specifically the diamond industry (73 per cent of merchandise exports). Average growth in manufacturing during the 1990s was 3.8 per cent, but its importance has been rising as the country experienced some noticeable diversification. At independence in 1966, Botswana's manufacturing output was almost wholly (95 per cent) meat and meat products. By the late 1990s, their share had fallen to 15 per cent as the shares of beverages, textiles, agro products, metal and metal products rose. New manufacturing projects, such as those for confectionery and electrical equipment, also contributed to the expansion of output in the sector. Robinson (2009b) in ECA (2011:31) argues that the economic success of Botswana can be explained by the historical development of its political institutions. The peculiar historical evolution of the country created the conditions for a more stable and accountable government than elsewhere in Africa adoption of exceptionally good economic policies.

A number of factors contributed towards achievement of the government's goal of diversifying the economy:

i. Good governance and effective leadership

Good governance has been one of the key success factors. The country is the least corrupt country in SSA according to rankings by Transparency International's Corruption Index. It has a high regulatory quality, (Hillbom, 2012:192). Botswana's political environment is arguably the most stable in Africa. The country has a well-functioning democracy that respects political rights and guarantees civil liberty and economic freedom AfDB 2009:1. The government has exhibited a consistent pattern of commitment to national development. Over the years, it has crafted development plans which it has implemented using its diamond revenues. Introduction of an Industrial Development Policy (IDP) in 1998 which has been revised in successive years. National Development Plans are the main instruments for implementing the policies, programmes and actions to achieve its objectives. The government realised that increasing competitiveness in globalised markets made it necessary to improve the competitiveness of local industry. The Policy made provisions for productivity



improvements through employment of highly skilled workers and modern technology. It was based on the export-oriented model which was highly dependent on Foreign Direct Investment. Under recent national development plans, industrial development is a priority focus. More recently, the Botswana's Vision 2016 was introduced as the country's development roadmap. NDP 10, prepared through a wide consultative process, covers the period April 2009 to March 2016. Its main theme is "*Accelerating Vision 2016 through NDP10*". The strategic thrust of NDP 10 is to accelerate diversification and competitiveness through: (i) harnessing productive and knowledgeable human AfDB (2009:9).

ii. Use of industrial policy

In order to provide the necessary environment for the growth of industry in Botswana, government over the years adopted a number of policy measures in the form of grant schemes; tax measures; training, mentoring and advisory services through development support institutions; and others, as outlined below.

A lower company tax regime (15%) for manufacturing enterprises as a way of diversifying productive activities away from the dominant diamond industry;

The government introduced special schemes to encourage participation of citizens in business activities. Examples include the Citizens Entrepreneurial Development Authority (CEDA) which was established in 2001 to replace the FAP. The Authority provided subsidized funding and implemented a preferential procurement scheme which gave special preferences to local producers for supplies to public institutions. The Financial Assistance Plan (FAP) was a cash grant scheme which was introduced to support SMES. However, it was later abandoned because although it had good intentions, it was poorly designed. A cash grant for business purposes did not encourage efficient use of resources. It was also abused by many opportunistic entrepreneurs. Zizhou (2009:10-15).

Another intervention was the introduction of the reserved sectors policy in 1982 to protect local entrepreneurs from competition from external investors in what are considered easy investment areas, (such as small scale mining, brick making, bread baking, and manufacture of school furniture, uniforms and protective clothing, burglar bars and sorghum milling). The policy has now been relaxed to allow joint ventures between foreign investors and Botswana local businesses to be eligible. Government also introduced import duty rebates or exemptions for selected industries, industry rebates concessions –this entails exemption from customs duties, imports of raw materials which are used for local and external markets in the textiles, foodstuffs and beverages sectors. *General rebates, Customs Duty Drawback Facility and Schedule for the* available for the import of raw materials for manufactures destined exclusively for export either within or outside the Southern African Customs Union (SACU). Companies seeking to benefit from import duty exemptions must be licensed and might be subject to bonded storage requirements. The *Duty Credit Certificate Facility* is a product-specific duty rebate applies to clothing and clothing accessories, household textiles, yarns, fabrics and other textiles. Rebates apply to exports outside the SACU area. The amount of duty rebated is a percentage of the value of the exported goods,



not the actual rate of customs duty. The percentages are 25% for clothing and accessories, 8% for yarn, 17.5% for household textiles and 12.5% for fabrics and other textiles. The progressiveness in rates clearly denotes a policy intention to favour the export of greater value-added products. *With respect to machinery and equipment:* All machinery and equipment for purposes of manufacturing is imported duty-free. Marti and Ssenkugube, 2009:13

The Government has also used trade agreements to promote industry development. For example, Botswana's exports enjoy favourable access to the European Union (EU) by virtue of the Cotonou Agreement and since 1 January 2008, by virtue of the interim Economic Partnership Agreement (EPA This has enhanced market access abroad,). In addition, Botswana has preferential access to the United States' market under the African Growth and Opportunity Act (AGOA). Botswana benefits under AGOA provisions for textiles and clothing seem to have spurred exports in the sector (clothing is currently the third largest export sector). The government also uses sectoral policies to promote growth of particular industries. For example, Botswana has identified the motor industry sub-sector as a priority sector for economic diversification.

Automobile assemblers benefit from a number of schemes such as low taxation rates and SACU's Motor Industry Development Programme (MIDP). The MIDP aims to improve regional competitiveness by encouraging export activities in the light vehicle and medium and heavy motor vehicle sub-sectors. Incentives in the form of concessional duties and rebates of customs duties.

Local Procurement Programme utilises government procurement activities to foster local manufacturing and promote entrepreneurship. The main purpose of the programme is to reserve 30 percent of Central Government purchases for local manufacturing companies. To qualify for the programme, companies must satisfy requirements relating to their size (annual turnover and productive machinery) as well as employment capacity (no more than 200 employees).

The policy made provision for financial assistance, initially through the *Financial Assistance Policy (FAP)* focused on manufacturing and non-traditional agriculture, but it expanded over the years to include tourism, small-scale mining and related service businesses. Grants were linked to the employment of skilled and unskilled labour. For medium- and large-scale projects, the grants were available to both foreign and national investors but they were higher for national investors. Marti and Ssenkugube (2009:11). Corporate tax rates in Botswana are the lowest in the SADC region at 15% for all companies operating within the jurisdiction. There are also a number of taxation allowances, for instance for the acquisition of buildings, plant and machinery as well as for the costsof training employees.



iii. Preferential trading arrangements

Most of Botswana's manufactured exports are sold under preference, whilst diamonds and copper nickel are sold to Europe duty-free. Beef is sold preferentially to the EU under quota. Textiles markets are SACU (duty-free) as well as the United States of America (duty-free under the Africa Growth and Opportunity Act (AGOA) arrangement). South Africa accounts for more than 85% of Botswana's imports and these are duty-free under the SACU agreement. Botswana now has duty-free access to markets of the majority of SADC states following the attainment of the SADC Free Trade Area. Botswana also enjoys bilateral duty free trade agreements with Zambia, Malawi and Zimbabwe. South Africa and Zimbabwe are the most important destinations for manufactured exports. Zizhou 2009:vi. It has also signed an interim Economic Partnership Agreement (EPA) with the European Union and this gives it duty free access into European markets. It has also signed an interim Economic Partnership Agreement (EPA) with the European Union and this gives it duty free access into European markets.

iv. Establishment of institutions to support industry growth

The Botswana government has established some institutions to support industry development. AfDB, OECD and UNDP (2014:75). Botswana Development Corporation (BDC) was established in 1971 to provide business support services such as provision of advisory services, identification of business opportunities, conduct of feasibility studies, building factory shells, provision of venture capital and facilitating linkages among investors. It also assists local businesses to enter into joint venture arrangements with foreign companies. The Botswana Export Development and Investment Authority (BEDIA) was established in 1997 as an autonomous private sector led organisation which is "mandated to encourage, promote and facilitate the establishment of export-oriented enterprises and selected services which will result in economic diversification, rapid economic growth and creation of sustained employment opportunities." BEDIA (2009). Since its establishment, it has actively supported the growth of export-oriented enterprises. Botswana Textile and Small Business Owners Association (BOTSBOA) is the voice of small and micro citizen enterprises. It was established to promote the creation of business linkages among SMEs and large scale enterprises and to enhance their growth. The Botswana Confederation of Commerce Industry and Manpower (BOCCIM) is the recognised representative of commerce and industry. It represents the private sector during sessions of the High Level Consultative Council (HLCC), where the private sector discusses matters of mutual interest with government. An Automotive Trades Technical College was established in 1982 in order to support the growth of the automotive industry through the supply of skilled labour, and was established in 1982. It offers apprenticeship training in a variety of trades leading to national certificates. The School also runs the Entrepreneurship Development Programme in order to develop entrepreneurial skills particularly among SMES. The Local Enterprise Authority (LEA) was established by the Small Business Act (2004) to promote SMEs in the key sectors of manufacturing, as well as in agriculture, tourism and services. Part of the strategy is to



encourage businesses to use locally available natural resources and raw materials, within the identified sectors. Also the Authority endeavours to build competencies in quality and efficiency. Support services offered to SMEs include training, mentoring and advisory services; identification of business opportunities; promotion of domestic and international linkages; facilitation of access to government and large firms' procurement, facilitated access to finance; and promotion of technology adoption. The government has also put particular emphasis on technical and vocational education and training. The Botswana Training Authority (BOTA), established in 2000, oversees vocational training and provides quality assurance, accreditation, policy advice, monitoring and evaluation within the National Vocational Qualifications Framework. In addition, the government has a policy for human capital development and for the diffusion of technology and innovation. Botswana's strategy for education and training, as outlined in the Revised National Policy on Education, includes the development of a responsive education and training system that is in line with economic growth. The Rural Industries Promotion Company (1974) to promote industrial development and employment in rural areas by assisting in the dissemination of technology. It is aimed at achieving self-sufficiency in developing technology to reduce reliance on imports. The Government adopted a science and technology policy in July 1998, which involved the formation of the Specific responsibilities include: providing policy guidelines for the establishment of a new science and technology research development system; promoting linkages with other sectoral programmes and policies. The Small Business Council (SBC) assists in reviewing all policies, programmes and legislation in support of SMMEs. The Botswana Technology Centre (BOTEC) government-funded. In addition, the government has a policy for human capital development and for the diffusion of technology and innovation. Botswana's strategy for education and training, as outlined in the Revised National Policy on Education, includes the development of a responsive education and training system that is in line with economic growth. The Botswana Bureau of Standards (BBS) was set up to enhance the quality and standards of domestic industries. The government also established an AutoTrades Technical College. The college was established in 1982 in order to support the growth of the automotive industry through the supply of skilled labour, and was established in 1982. It offers apprenticeship training in a variety of trades leading to national certificates. The School also runs the Entrepreneurship Development Programme in order to develop entrepreneurial skills particularly among SMES. The Local Enterprise Authority (LEA) was established by the Small Business Act (2004) to promote SMEs in the key sectors of manufacturing, as well as in agriculture, tourism and services. Part of the strategy is to encourage businesses to use locally available natural resources and raw materials, within the identified sectors. Also the Authority endeavours to build competencies in quality and efficiency. Support services offered to SMEs include training, mentoring and advisory services; identification of business opportunities; promotion of domestic and international linkages; facilitation of access to government and large firms' procurement, facilitated access to finance; and promotion of technology adoption. The Botswana Training Authority (BOTA) was established in in order to promote technical and vocational education and training. The Rural Industries Promotion Company (1974) to promote industrial development and employment in rural areas by assisting in the dissemination of technology. It is aimed at



achieving self-sufficiency in developing technology to reduce reliance on imports. The Government adopted a science and technology policy in July 1998, which involved the - formation of the National Commission on Science and Technology (NCST) in 2002. Specific responsibilities include: providing policy guidelines for the establishment of a new science and technology research development system; promoting linkages with other sectoral programmes and policies.

A major innovation towards its industrialisation effort is the establishment of a diamond processing and jewellery manufacturing industry. After expert projections which showed that Botswana's diamond reserves will be depleted by 2020, transformation of the industry from being a commodity producer and exporter became a top priority. The decline in diamond exports as a result of the global crisis led government to embark on promoting manufacturing activities around the mineral. Diamond polishing and jewellery manufacturing companies have been established and these involve local entrepreneurs. The government has actively supported them through the provision of loans and infrastructure as well as skills training. The Botswana government jointly owns Debswana on a 50:50 basis with De Beers Pvt Ltd, a multinational company which has mined diamonds in Botswana, South Africa and Namibia for many years. De Beers mining licence was coming to an end and the government used its position to demand new conditions for renewal of the licence. One of them was the insistence that the company should assist the government to establish a local diamond polishing and jewellery manufacturing industry where many Botswana or nationals were employed. In 2005, in addition to the four companies cutting diamonds, the Government has issued other companies to polish diamonds in Botswana. It is estimated that this will result in the creation of about 3000 jobs in the next five years. The biggest challenge is competition from India. In Botswana the cost of polishing 1 carat of diamonds is USD 30 while in India it is only USD12. AfDB (2009. Annex 7:x). The diamond industry also received a boost in October 2013 when the Okavango Diamond Company conducted its first full-scale sale, in which 76 companies from the world's major diamond centres participated and over 220 000 carats were sold. The diamond cutting and polishing sector has continued to grow, with the licensing of 11 additional companies, bringing the total number to 27. Sales to the local polishing industry are estimated to grow from USD 618 million in 2012 to USD 770 million in 2013. However, the most remarkable milestone was achieved in November 2013 when De Beers relocated its Diamond Trading Company's aggregation, quality-assurance and sight-preparation operations from London to Gaborone ahead of schedule. In the same month, the company successfully conducted the first sight sale in Botswana. The outlook for 2014 and 2015 for the diamond sector is promising on account of improved global prospects. AfDB OECD and UNDP (2014:3-4). This project has been very successful.

The major challenge is that globalisation poses serious challenges for Botswana. Most notably is the stiff competition with more industrialized economies of South Africa, Europe, North America and others because of the intensity of free trade promoted by WTO, SADC, SACU and other organizations and trade agreements. The current flood of imported cheap products especially textile from East Asia tends to be a great challenge of the industrial



development. The liberalisation agenda under the WTO of which Botswana is a signatory, is creating pressure on the government to reduce direct subsidies for the micro, small and medium enterprises and other industries. While recognising the successes which the country has made towards industrialisation, the African Development Bank has been critical of its failure to eradicate poverty and inequality. It observes that Botswana faces challenges in translating its impressive success in macroeconomic and governance performance into poverty and inequality reduction. As at 2009, the level of poverty, with about a third of the population living below the poverty line, and unemployment rate of nearly 20% contradict its status as a middle-income country. Unemployment stems, in part, from the capital intensive nature of mining, which employs less than 5% of the labour force. In addition, the country's high income inequality (Gini coefficient of 0.61) could adversely affect its long-term development prospects, despite an impressive economic record and tremendous achievements in human development. (AfDB 2009:5).

Although there is evidence of industry development in Botswana, there is however, some debate as to whether Botswana should be considered a role model for industrialisation. A critique, Hillbom argues that what Botswana is pursuing is not industrialisation but economic growth and social development. (Hillbom, 2012:479). The basis of her argument is that the government has maintained the status quo and economic diversification remains limited. The author argues that the long-term development of gate-keeping state structures that originated in colonial development policies; continued dependency on natural resources for export incomes; lack of diversification of the economy; the creation of a dual society; social development as a byproduct of economic growth; and a struggle for political power to control the state. Hillbom (2012:48).

Mauritius

Mauritius is one of the few African countries which have achieved a measure of success in the industrialisation and diversification of their economy. Most of this success is attributed to the adoption of the East Asian model of industrialisation where the state took an active role in the process, using state resources to fund industry infrastructure and a range of incentives to attract domestic and foreign investments into the sector. It was an export-oriented and to a large extent market-driven model. We demonstrate that while pursuit of such a model contributed to industrialisation in Mauritius, its sustainability was brought to question during the global economic and financial crisis of 2008-2010 when economic performance declined. It is argued that it was the innovativeness and creativity of the government which made it possible to wither the crisis and to achieve further diversification and growth of the economy. In 1968, at the dawn of its independence, Mauritius was a sugar-based monoculture, with a stagnating GDP per capita of barely US\$200. Agriculture made up 25% of the gross domestic product (GDP), as shown in Figure 1, and sugar alone accounted for over 90% of total exports. Unemployment was rampant, estimated at 20%. Today, the contrast is striking: the economic landscape is completely transformed. GDP per capita is estimated at slightly above US\$8,000, and the country has a diversified economic structure oriented towards services,



with numerous contributing pillars. Agriculture accounts for less than 4%, of which sugar barely accounts for a third of sector.

When the island gained independence in 1968, the economy was characterized by high unemployment, chronic balance of payments deficit, low levels of savings and investment as well as low economic growth averaging to less than 0.3 percent annually.. It was a monocultural economy, with arable land almost entirely devoted to sugar cultivation. Sugar refining was the only major secondary industry. Greig et al (2011:159). The government at independence realised the vulnerability posed by monoculture and that is what led it to embark on a path of economic diversification and industrialisation. As a result of the economic policies pursued by successive governments, real GDP growth has averaged more than 5 percent since 1970 and real annual growth in per capita income, likewise, has been strong. GDP per capita increased more than tenfold between 1970 and [2010], from less than \$500 to more than \$6,000. Efforts at economic diversification have been successful, allowing the country to move from sugar to textiles to a broader service economy. According to Hwedi (2001:20), in spite of being a small island, with a population of 1.3 million people of diverse racial and ethnic origins, Mauritius has enjoyed a high GDP per capita of \$13,172 and a low unemployment rate of five percent. Between 1990 and 1994, its GDP grew by a yearly average of 5.3 percent compared to 0.9 percent for sub-Saharan Africa. The pace of growth has slowed down though since the global financial and economic crisis.

A number of factors have contributed to the success of Mauritius in the industrialisation and diversification of its economy. Brautigam (005:77) argues that the economic success of Mauritius offers strong evidence that intelligent planning, making use of the global ties and networks found in one's own society, and creating a shared vision can help achieve national economic goals. This sums up the different facets which contributed to the success of the country. The country has developed over time, democratic systems of government which are anchored on the principles of accountability and responsiveness to electorates. This has compelled successive governments to select appropriate economic policies for efficient allocation and utilization of resources, and to provide sufficient incentives to foreign investors to propel development. Creation of a democratic system of government which was largely accountable and responsive to citizens played a crucial role. Successive administrations committed to a national vision of transforming Mauritius from a poor, low-income economy to a middle income country. Although it has had its share of corruption, generally Mauritius is widely rated highly in terms of economic governance. It was ranked first in the 2007, 2008 and 2009 *Ibrahim Index of African Governance*. World Bank's (2009) *Doing Business Report* ranks the island as sub-Saharan Africa's best entrepreneurial environment. Greig et al. (2011:166) and AfDB-OECD, (2008). Mauritius has implemented macroeconomic policies which created a stable environment which attracted both domestic and foreign investors. They also implemented industrial development strategies which at the time were deemed critical to achieve industrialisation, the shift from ISI to a more open and export-oriented approach. Mauritius adopted the 'developmental state' approach where government took an active approach in using its fiscal, monetary, and financial leverage to



develop industry infrastructure, offer incentives to support exporters and Small and Medium Scale Enterprises. Mauritius modeled its development on the East Asian countries in terms of export-led growth based on manufacturing complemented by generous tax incentives. The government also developed strong partnerships and networks especially with Asian investors. The government actively wooed foreign investors mainly from China, Taiwan, Malaysia, and Singapore. These arrangements were beneficial to the economy. Government leaders made numerous trips to Asia to court investors, and regulations were changed to facilitate investment. It is said that by 2000, Mauritius had concluded twelve treaties with Asian countries in order to avoid double taxation; among other sub-Saharan African countries, only South Africa came close to this total with five.²³ Between 1986 and 1993, three Asian countries joined the two former colonial powers, France and the UK, as the top five sources of foreign investment in Mauritius. Hwedi (2009:24). As argued by Brautigam (2005: 66), while Asian business networks brought capital to Mauritius, they also brought ideas and transferred technology and know-how. In many cases local investors had been joint venture partners or had been employed by Asian firms located in the Mauritian EPZ. The knowledge they gained from close contact with experienced producers and from their marketing stood them in good stead when they launched their own firms, sometimes as subcontractors to their original employers. Mauritius benefited from trading and investment agreements which were instrumental in growth of its exports and other productive sectors. Examples include the American Growth Opportunity Act (AGoA) with the United States. The agreement provided free market access to Mauritian textile and clothing industry into US markets. In its early years of industrialisation, Mauritius benefited from preferential market access which was made possible under the Multi-Fibre Agreement (MFA) and the Lomé Convention. This attracted clothing entrepreneurs from Hong Kong who had reached the limits of their MFA export quotas into Europe. After the failure of ISI, the government adopted an export-oriented strategy, starting with the establishment of the Export Processing Zone (EPZ) in 1970. The aim was to attract export-oriented foreign direct investors and to rely on the potential benefits of FDI through spillover and linkage effects. Government subsidized export companies with tariff-free access for productive inputs and with tax incentive subsidies, and relaxed labor market regulations, in the export sector. It established export processing zones (EPZs) to export key manufacturing goods, mostly apparel and textiles. The creation of a common national vision and long-term development perspective. Mauritius was able to unify its population around a common national vision which has sustained consensus around its long-term development goals. For example, the “Vision 2020: The National Long-Term Perspective Study”, which was formulated by two successive administrations (1994-1997) through a broad consultative process centred on moving away from low-wage, labor-intensive exports to more skilled, high value added, knowledge-based ones. It constitutes a holistic development framework. In line with this development vision, the Government’s Development Strategy aims at transforming Mauritius into a globally competitive economy by¹⁰ promoting five sectors: sugar, tourism, export-oriented entities (EOE), financial services and ICT. The strategy is articulated in four pillars: (i) enhancing competitiveness; (ii) consolidating fiscal performance and improving public sector efficiency; (iii) improving the



business climate; and (iv) widening the circle of opportunity through participation, social inclusion and sustainability. AfDB 2009:11.

Introduction of reforms throughout all sectors of the economy improved productivity and efficiency. In agriculture, policies included the reduction of export taxes on transfers of agricultural land and abolition of restrictions on sugar mill closures. In industry, the government eliminated restrictions on imports and reduced tariffs and promoted foreign private investment in the Export Processing Zones (EPZ) by providing fiscal and financial incentives. In 1983, the government established the Mauritius Export Development and Investment Authority (MEDIA) to undertake investment missions and export promotions to boost the number of foreign investors and amount exported, respectively. Hwedi (2001:20). Although this FDI-driven, export-oriented, market-based model contributed to economic growth and diversification of the Mauritius economy, serious questions have been raised. The phasing out of preferential arrangements under the Lome Convention exposed many companies to international competition from cheaper producers such as China, Madagascar and many other African countries. This has forced many Mauritian-based apparel manufacturers to relocate offshore. A sign of these problems over recent years has been recurrent balance of trade deficits. Greig et al (2011:163). Questions have also been raised around the sustainability of the export-oriented and FDI-driven model of industrialisation. EPZs were exempt from full compliance with labour laws and consequently, and consequently, a serious indictment against them were the low wages which they paid to workers. The global economic and financial crisis demonstrated the fragility of the model when growth performance declined since 2009.

Mauritius has demonstrated capacity to adapt through innovative approaches in response to the changing circumstances, over the past decade successive governments have sought to realign national development by laying the foundations of a 'knowledge economy'. The aim is to become a 'hub' linking Africa and Asia for ICT services, financial services, transportation and fishing (Republic of Mauritius, 2010: 130-1). The state accessed a line of credit from India to establish a 'cybercity' at Ebene, adjacent to the University of Mauritius at Le Reduit. Various MNCs have been persuaded by this vision, including IBM, Microsoft, Sun Microsystems, Ericsson, Hewlett Packard and PentaFour. In addition, an agreement has been reached with China to establish a special zone for the Tianli project at Riche Terre, which will accommodate a range of Chinese entrepreneurial activities. This corresponds to the Mauritian government's vision of transforming the island into a transportation hub – or a 'gateway' into Africa - taking advantage of the deep-water port access at Port Louis. An attraction for these companies is that the island is considered among the top African nations in terms of the quality of its communication infrastructure and port facilities. Greig et al 2011:164. Over the past decade, the potential for Mauritius to enhance its role as a world class 'seafood hub' has also been explored. The Government of Mauritius (2010: 46) has noted that coastal marine resources "remain our most valuable assets on which the socio-economic development depends". Fishing and associated activities contribute some 2.5 to 3% of GDP and around 15,000 full-time equivalent jobs. Greig et. al (2011:164).



South Africa

South Africa is the most industrialised country in Sub-Saharan Africa. Despite such a status, there are reasons why the government continues to be actively involved in shaping and growing the industrial sector. Like Mauritius and Botswana, South Africa has adopted a developmental state approach where, although recognising the important role which private markets have to play in the economy, government participation is critical in order to achieve desired economic and social outcomes which markets alone may not be able to deliver. State intervention to promote industry development dates back to a previous dispensation when the apartheid state responded to international isolation by pursuing ISI-led industrialisation. Since 1994 when the country achieved democracy, the government has integrated industrial development into its national development planning processes. The Reconstruction and Development Programme (RDP), the Growth, Economic and Redistribution (GEAR) Programme, the Accelerated and Shared Growth Initiative (AsgiSA), all had industrial development as part of their national development strategies. However, slow implementation has been a major challenge. In 2007, government introduced the New Growth Path, a strategy which emphasized the need to ensure that economic growth was accompanied with distribution. Among other things, this was to be achieved through a massive job creation programme in which all sectors (including industry), were expected to contribute. In 2012, the Cabinet approved the National Development Plan, which is South Africa's Vision 2030. The Plan has identified poverty, inequality and unemployment as the major problems facing the economy and has developed a number of strategies to address them. Thus, industrial development is viewed as a tool to solve the triple challenges indicated above. The Plan spells out specific strategies to promote the development of industry. It builds on previous frameworks such as the National Industrial Policy Framework (NIPF) and the Industrial Promotion Action Plan (IPAP) I and II which have been developed by the Department of Trade and Industry (DTI) in consultation with other government ministries and departments, business, labour and civil society.

As a result of massive investments in infrastructure and industry in previous dispensations, South Africa inherited a relatively 'developed' industrial base-developed in the sense that from a technical perspective, it served the purpose of adding value to production. However, it was not inclusive because it primarily served the interests of a white minority and a privileged few because of the apartheid policies of racial discrimination against Blacks and other marginalised groups. Industry was based on capital-intensive production and its contribution to employment has therefore been relatively much smaller than other sectors of the economy. In addition, industry is heavily concentrated in urban areas even though there are rural areas where the vibrancy of the agricultural sector and related activities could have formed a sustainable basis for agro-processing industries. Industry is also dominated by multinational capital. While recognising the importance of foreign direct investment for its contribution in terms of technology and skills transfer, in a country where poverty, inequality and unemployment are a major challenge, the role of domestic capital (large and small),



cannot be overemphasized. The challenge in 1994 therefore was for the newly elected democratic government, led by the African National Congress (ANC), to build an industrial base which is inclusive, competitive and one which also utilises the vast mineral and land resources of which South Africa is richly endowed with. Inclusivity means ensuring that there is transformation in industry in terms of participation of Blacks not only as a source of labour but also and equally importantly, as owners and managers of companies or enterprises in industrial sectors. It also means enhancing participation by indigenous business and entrepreneurs. The government introduced legislation on Black Based Business and Economic Empowerment (BBBEE).

Although its economic growth and industry development is on the decline, South Africa has achieved some successes in industrialising and diversifying the economy. A number of factors explain this. It is generally agreed that the country has a well-functioning democratic institutions. Its constitution is one of the most comprehensive and democratic, upholding the rule of law and upholding protection of property rights. Since achievement of democratic change in 1994, South Africa has used monetary and fiscal policies to create one of the most stable macroeconomic environments in Africa, with inflation rates of below 5 per cent over most of the period 1994-2013. Economic growth in the first 10 years since democratic transition averaged between 4 to 5 per cent. However, since the global financial and economic crisis, GDP growth has declined and in 2013, it fell below 3 per cent. Statistics South Africa (StatsSA, 2013).

The successes achieved by the country are enched in a number of factors. In terms of governance, South Africa is widely recognised as a democracy in which the rights of all are protected under one of the most comprehensive Constitutions in the world. The legal system provides effective protection of property and contract rights; both are respected and enforced. The country ranks 20th and 27th out of 144 countries on intellectual property protection and property rights, respectively, according to the *Global Competitiveness Report 2012-13*. Private ownership of property is guaranteed in the constitution. Both foreign and domestic investors are allowed to participate in all sectors without any discrimination. South Africa also performs relatively well on contract enforcement, ranking 81st out of 183 countries surveyed by *Doing Business* South Africa scored 73 out of 100 in law enforcement, particularly in conflicts of interest, safeguards and professionalism of the legal system according to the *Global Integrity Report 2010*. The legal system is very efficient in settling disputes. AfDB (2013:125). South Africa ranks first in the Southern Africa region in protecting investors (*e.g.* ease of shareholding, extent of direct liability. The country also has a vibrant and independent judiciary system ranking 27th in the *Global Competitiveness Report 2012-13*. AfDB (2013:124). Another strength is its very stable financial system because of an efficient regulatory infrastructure, well-developed financial markets and sound financial institutions. The country ranked 3 rd out of 144 countries in financial market development and first in both legal rights in the financial sector and in securities exchanges regulation, according to the *Global Competitiveness Report 2012-2013*. Domestic banks are already capitalised above Basel III levels, a new global regulatory standard. South African



banks are currently operating with an average capital adequacy ratio of 15% (12% for Tier 1 capital), well above the minimum prudential capital adequacy requirement of 10%. AfDB (2013:124). The government has used various policies to create an environment which is conducive for business. The World Bank's Doing Business 2012 Report ranks South Africa 35th globally and 2nd in Africa after Mauritius. AfDB 2013:4

The manufacturing sector is at the centre of the Government of South Africa's development policy. Growth in manufacturing is seen as critical to enhancing economy wide growth and creating employment. Earlier, the inward-looking direction of South African development policy was emphasised, a process that continued apace as a consequence of the increasing isolation of the economy in global markets. The transformation to democracy in 1994 permitted a major change in trade policy. Acceptability in world markets now made it possible for South Africa to change its policy track from inward-looking policies to an outward-looking strategy of trade liberalisation. The removal of trade and investment sanctions in the early 1990s and the subsequent reintegration of South Africa into the world economy, multilateral and bilateral trade liberalisation, and the depreciation of the currency combined to increase export orientation, primarily in manufacturing sub-sectors, as revealed by the growth rates of exports to real sales ratios. Manufacturing boosted economic growth, notably through the export performance of basic metals, transport equipment, chemical products and electrical equipment. Prior to 1994, South Africa's development was based on exports of primary products, particularly gold and other minerals.

South Africa has used industrial policy comprehensively since the pre-1994 period. Most of its industry developed under heavy protection which was achieved through high tariff walls and other restrictions on imports. Although industry grew, it is widely acknowledged that the policies resulted in inefficient industries. Liberalisation of the economy since the 1990s led to stiff competition with lower-cost producers and while some industries survived, some were negatively affected. Through the Department of Trade and Industry, the government extensively used incentives to support its major sectors, for example, the automobile and components manufacturing industries; the textile and clothing industry. Incentives were in the form of subsidies on electricity, funds for research and development, infrastructure development, export promotion, skills development and support for linkage development with companies abroad. The Motor Industry Development Programme (MIDP) was a major initiative to support the auto industry. In 2008, the government approved the new Automotive Production and Development Programme (APDP). The Programme is successor to the MIDP. The APDP aims to stimulate growth in the automotive vehicle production industry to 1,2 million vehicles per annum by 2020 with associated deepening of the components industry Moyo (2013:37). Another support scheme was the Clothing and Textile Competitiveness Programme (CTCP) which was introduced to assist the industry to upgrade its processes, products and people, as well as to reposition it to compete effectively both domestically and globally. The DTI also offers many other schemes to promote both large and small businesses.



Since 2007, the Department of Trade and Industry has introduced more policies actively to support various industry sectors. It introduced the National Industrial Development Framework which articulates government's thinking on industry development. In order to operationalise the framework, In March 2010, it launched the R100 billion Industrial Policy Action Plan (IPAP I and II), which aims to boost manufacturing capacity and to create jobs. The plans, which are being implemented by the DTI, are expected to run from 2012 to 2015 Moyo (2013:38). These plans are significant because of their more comprehensive and integrated approach towards supporting industry. The aim of the government is to build South Africa's industrial base in critical sectors of production and value-added manufacturing. It is also expected that they would contribute to the reduction of chronic unemployment. IPAP I identified the priority sectors which the government would support over the next few years. IPAP II has developed detailed strategic interventions, with specific key result areas. Priority sectors under IPAP II are the automobile and component manufacturing industry, agro-processing industry, wood and furniture, pharmaceuticals, mineral beneficiation and metals and metal fabrication. Implementation of IPAP II has already been integrated into the Government's Medium Term Expenditure Framework Moyo (2013:38).

South Africa's manufacturing sector which was strong prior to 1994 has declined. Manufacturing's linkages to the rest of the economy are declining – both forward and particularly backward linkages. Declining linkages combined with a reduced overall share for manufacturing in the economy and the changing composition within manufacturing away from the more labor-intensive sectors – all suggest that the capacity for manufacturing to drive the economy wide output increase and enhance employment is limited and declining. Globalization has meant a collapse of the tariff barriers that protected manufacturing, and the influx of cheap manufactured goods has led to the decline of local industries. The local shoe and clothing manufacturing industry, for instance, has been dramatically reduced as a result of imports from Asia. The decline of manufacturing has increased structural unemployment AfDB (2013:8).

A capital- intensive production structure, established over a period of decades, has become imbedded in the economy and is unlikely to be changed by active government intervention in the near future. It is also unlikely that relative factor prices will change in a way that will encourage South African firms to become competitive in low-skilled, labour intensive goods in which firms in countries such as India and China excel. The stance of the government is that the economy should not try to compete in these industries and that growth opportunities should rather be sought in higher value added products that utilise skilled labour. In a policy document on industrial development strategy, the government has been quite explicit in its view on using cheap labour as a source of comparative advantage:

“...cheap labour is no longer a sustainable advantage. Increasingly, selective and demanding consumers, and the emphasis on technology, limit unskilled and semi-skilled labour creation and require skilled and adaptive labour and effective management capacity. In addition, as the large population countries, notably India and China, increasingly integrate into the global economy, the supply of unskilled and semi-skilled labour has risen



dramatically” (Department of Trade and Industry, 2002: 16). China and India are not only proving to be formidable low-cost producers of unskilled, labour intensive goods but are increasingly proving to be very competitive in the production of skill-intensive goods on the basis of low wage costs over the range of skill levels. The challenge for South Africa is presented by the World Bank:

“...to exploit manufactured exports as a source of growth requires ability to export labour-intensive goods that can compete with exports from newly emerging exporters such as China, India or other middle-income Asian exporters..... presently, South African exporters cannot compete with these countries in the OECD, North American or SADC markets. The political economy implications of an export strategy are enormous for South Africa if it chooses to opt for export-led growth” (Chandra, 2002: 4).

Department of Trade and Industry appears to opt for capital-intensive manufacturing in order to enhance competitiveness of the country’s exports. It proposes an industrialisation strategy which is based on higher value addition products which are based on Medium to High Technology rather than use of labour.

“Coordinated and concerted actions have to be taken to maximise the potential within our domestic economy, integrate beneficially into the global economy and build competitiveness based on increased knowledge intensity, value addition, wider and more equitable participation in the economy and regional production systems. At the core of the accelerated trajectory is knowledge intensity, which means utilising and developing the knowledge and skills of our people in order to integrate ICTs (Information and Communication Technologies), technology, innovation and knowledge-intensive services into the functioning of the economy as a whole” (Department of Trade and Industry, 2002: 5).

The strategy inevitably requires developing the high level skills which Medium to High Technology-based production depend on. The dilemma is how this can help to solve the high unemployment problem in the country. It means that the government has to embark on an intensive and extensive path of training and skills upgrading but given the slow pace which such change entails, it will be necessary for the government to consider implementing strategies based on labour-intensive (using unskilled and semi-skilled labour) while at the same time embarking on productivity improvement measures. There needs to be more reflection and debate around this issue.

There are serious challenges which impede faster progress on the industrialisation agenda. A major issue is the shortage of skills in terms of the requirements of industry. As pointed out by the African Development Bank, the economy is highly concentrated and anti-competitive trade practices are widespread. Both domestic and foreign investors complain about what they perceive to be rigid (particularly in regard to hiring and firing workers). The Bank also notes that while minimum wage demanded by new entrants is considered to be three times the average for the other BRICS countries AfDB (2013:4).



Finally, failure to achieve minimum growth rates of at least 5 percent as envisaged in NGP, the skills mismatch and the resulting chronic high level of unemployment, poverty and inequality could cause social tension and derail the democratic gains made during the past 18 years. Lack of skills and capacity at national, provincial and local government levels but also skills gaps in the private sector continue to hamper project implementation. AfDB (2013:19).

Inequality in income distribution is still very high and this dampens demand which is crucial for growing a domestic market for a growing industry. The top deciles accounts for 58 percent of the country's income while the bottom deciles accounts for 0.5 percent. Income Gini coefficient remains around 0.70 while consumption Gini was 0.63 in 2011 (see Annex 2). Its dual economy is characterized by a well-developed economy on one hand and an underdeveloped and marginalized one on the other. AfDB (2013:7). South Africa's poor performance in terms of innovation is an indicator not solely of current weakness, but also of the likely future prospects for technology and innovation intensive manufacturing and service activities. Measured in terms of economy wide technology and innovation performance indicators South Africa performs poorly in comparison with the other BRIC countries. In only one area, namely in mining related technologies, is there evidence that South Africa is proximate to the global technological frontier. South Africa's presence in mining and related activities is of long standing. AfDB Annex ix: The quality of education in South Africa has also been widely acknowledged as a challenge for the country. Thousands of graduates cannot find employment because of the mismatch between their qualifications and what the job market requires. An intensive Human Development Programme has to be prioritized and implemented in order to deal with the problem.

The *Global Competitiveness Report 2012-2013* presents similar arguments. It identifies five greatest obstacles to doing business in South Africa as: *i)* an inadequately educated labour force; *ii)* restrictive labour regulations; *iii)* inefficient government bureaucracy; *iv)* inadequate supply of infrastructure; and *v)* corruption. The same report ranks South Africa 113th out of 144 countries in labour market efficiency. South Africa performs particularly poorly in labour-employer relations, flexibility of wage determination, hiring and firing practices and pay and productivity. Innovations are required in order to address these pertinent issues. Strategies to improve the employment intensity of manufacturing are critical and industry policies have to be developed to achieve this goal. There have been debates about labour market reforms. Business strongly advocates liberalisation of labour markets or reduction in government controls so that wages are more market-determined. This has been intensively resisted by the well organised and powerful trade union movement. It is argued here that building a labour-absorbing does not necessarily depend on institutionalising low wages through free markets. Instead, industry has to be conceived as a differentiated sector in which some sub-sectors can be capital-intensive while others are labour-intensive. For example, the diversity of agriculture activities could be the basis for agro-processing industries which range from small scale to large scale and which use a different mix of capital and labour ratios. Innovations imply that based on thorough research, new industries can be identified and supported in ways which promote both capital and labour-intensive technologies.



Innovations are also necessary in order to explore how labour-intensive industry can be competitive (both locally and internationally) without necessarily adopting the low-wage/cheap labour models which characterised much of the industrial success of Mauritius under its Export Processing Zones. The Department of Trade and Industry in South Africa has recently announced its intension to set up Special Economic Zones (SEZs) in every one of the nine provinces of South Africa. Policy interventions will also be necessary in order to deal with the constraints faced by new manufacturing firm entrants.

5. Conclusion and recommendations

The experiences of Botswana, Mauritius and South Africa provide some useful lessons in regard to industrialisation. Although they are very different with respect to their histories, resource endowments, levels of development, there are some similarities. It was the poverty inequality and underdevelopment which characterised their economies at the time of independence which spurred them to find ways to grow and address the pressing political, social and economic challenges. In the case of South Africa, it was the inequality. In the case of Botswana and Mauritius, the dependence on a monocultural economy was not sustainable and diversification had to be prioritized. A major similarity was the adoption of the model which many successful East Asian countries followed, namely, and outward-looking and export-oriented industrialisation strategy which was led by the state, and which largely depended on Foreign Direct Investment (FDI). In all the countries, the government played a central role in developing and implementing long-term industrialisation strategies and providing the environment which attracted both domestic and foreign investment. They used industry policy to support and nurture new and existing industries. They also created a range of institutions to support industry on aspects such as infrastructure, provision of incentives, finance and business advisory services, and support with regard to education and training.

Although the model was successful in that it led to the growth of industry and some diversification of the economies, its sustainability was brought to question during the global economic and financial crisis when all the three economies experienced economic decline in virtually all export-oriented sectors (for example, the diamond sector in Botswana, textile and clothing and sugar sectors in Mauritius, and the textile and clothing and automotive sectors in South Africa, among others). In their response, these countries realised the need to develop interventions to improve the productivity of labour in industry in order to enhance their competitiveness against lower-cost producers in Asia and other regions. Consequently, their industrial development strategies are now putting more emphasis on education and training and in building the technical skills required for a competitive industry. Botswana's innovativeness in establishing a local diamond beneficiation industry is a good example of the dynamic responsiveness to a changing global environment. The three countries have also realised the need to diversify their markets by stimulating domestic demand for their products and exploring regional cooperation in the context of SACU, SADC and COMESA.



Botswana and Mauritius have been quite successful in building an inclusive industry through their intensive efforts to support Small and Medium Sized Enterprises (SMEs) and local entrepreneurs as the case with Botswana's diamond polishing and jewellery manufacturing industry. In the case of South Africa, the agenda for an inclusive industrial development strategy must receive more priority and support. The apparent reluctance in policy to change the capital-intensive orientation of industry in the interest of achieving competitiveness, has to be seriously challenged. Innovativeness means that alternative approaches towards more labour-absorbing industries (yet also competitive) must be found and implemented.

Despite these successes, the decline of both GDP growth as well as industry and the manufacturing sector, demonstrates that they have to do more in order to build a sustainable and resilient industrial base. In the competitive global environment, this calls for more innovations. Priority investment in knowledge-based economies and in fostering partnerships with foreign investors in order to access the necessary technology and skills. They need to explore the opportunities which exist in the context of South-South Cooperation (for example, forging those partnerships with the BRICS (Brazil, Russia, China and South Africa) which add value to each country's industrialisation agenda. A major recommendation is that a futuristic industrialisation strategy for Africa must be driven by governments who should engage industry players in order to determine how best to expand that sector. Because the pace of industrialisation has been slow in many parts of the continent (despite existence of many action plans both at continental as well as domestic levels), innovativeness implies that there should be a serious 're-think' on why past and existing strategies have had a limited impact. As argued in the literature review, the lack of requisite skills and knowledge as well as the technology required to build industry, calls for a more radical approach to human resource development. A major challenge in most African countries is the lack of access to the technology and know-how for establishing and operating a sustainable industry. It therefore has to be admitted that Foreign Direct Investment (FDI) will have to play a major role in the industrialisation agenda of the African continent. That is not to say FDI at all costs. A selective approach based on more mutually beneficial terms and conditions that in the past, should be the pillar of innovative FDI partnerships where African countries can enter into contractual arrangements with Multinational Companies in order to access the much needed technology and skills. Botswana's diamond polishing and jewellery manufacturing industry in partnership with De Beers demonstrates the possibilities of a different role for MNCs. The experiences of Japan and the Republic of Korea, while they should not be treated as role models, could provide very useful lessons for Africa in terms of *the urgency, rapidity and sheer scale of implementation of their industrialisation agenda*. This could be the basis for crafting more innovative approaches for an inclusive, comprehensive and sustainable futuristic industrialisation strategy.



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