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HD **Africa Awakening Opportunities for Indian Chemical Industry in Africa**

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The chemical industry in Africa is an emerging market and offers opportunities galore for the Indian chemical industry. As the countries in Africa grow and urbanize, household consumption will increase, resulting in an increase in demand for chemicals. Currently, the major exporters of chemicals to Africa are **China**, Germany, USA, India and Australia. These four countries constituted 41% share in Africa's imports of chemicals in 2011. **China** remains the top exporter of chemicals to all the major destinations in Africa. Major importers of chemicals in Africa are South Africa, Egypt, Nigeria, Algeria, and Tunisia, together having a share of over 76.7%. The article discusses the chemical industry in Africa, trends and emerging issues in use of chemicals in the continent and opportunity areas for Indian chemical industry to increase its exports to Africa.

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Overview

Although Africa's contribution to global chemical production is fairly moderate (Figure 1), the sector is expected to play an increasingly important role in the economies of specific African countries. In terms of the distribution of the chemical industry within the continent, South Africa's chemical industry is the largest, contributing about 5% to the country's GDP and employing approximately 150,000 people.1 Annual production of primary and secondary process chemicals is 13 **million** metric tonnes, with a value of approximately US$ 3 **million**.2

In northern Africa, there are strong chemicals industries in Algeria, Egypt, Libya, Morocco and Tunisia, while in western Africa, Nigeria is the primary producer and user of chemicals. Currently, petrochemical commodities, polymers and fertilizers are the main chemical products of African countries.

However, greater investment in **oil** and gas in a number of African countries suggests increasing capacity to support production of a range of chemical products, including pharmaceuticals and specialty chemicals. 3

Major trends in demand of chemicals in Africa

The chemicals industry and its products have many potential benefits, particularly related to improving and sustaining human capital through new opportunities for employment, improved health and nutrition. Incidentally, Africa needs to utilise all these opportunities to provide a better standard of living. At the same time, the continent is currently in a developmental phase with characteristics that would provide the necessary thrust to increased consumption of chemical and related products (Table 1). As the population in Africa in- creases in the future, there will be an urgent need to cater to the increasing agricultural production and industrialization. This trend will undoubtedly increase the use of chemicals, particularly fertilizers and pesticides in the agricultural sector.

The continent is largely prone to insect-borne diseases (particularly malaria) that impact negatively on human health and insect-borne plant pests. These threats are likely to increase with climate change, adverse impacts of which are already visible around the continent. Consequently, use of chemicals is expected to increase in order to control insects that transmit diseases to humans, plants and animals.

There has been a trend towards urbanization across Africa that is predicted to continue into the future. Urbanization is generally associated with increased consumption of industrially- manufactured goods. This scenario will therefore, facilitate the increased consumption of household chemicals across many expanding and upcoming urban centres in Africa.

The development of new chemical products is closely linked to investment in research. Currently most research takes place in developed countries and within large multinational companies. Investments in this area can help expand Africa's share of trade, especially in potential niche markets such as specialty chemicals and cosmetics. Africa, along with other countries in the tropics, is a major source of genetic resources that could support a growing localized industry and ensure that a higher percentage of the profits generated from the industry remain in Africa.

The development potential of the chemical industry is closely related to research and development activities in this area. Africa needs to be strategic about its research investments in this area. On the one hand, increasing its share of global trade is important; on the other hand it needs to focus on meeting urgent health needs within Africa. Research partnerships, including multilateral and public-private-partnerships, as well as the regional or sub-regional pooling of resources can be important factors in creating a resource base for effective research and innovation.

Emerging issues in use of chemicals in Africa

Increasingly more African countries are importing chemicals and products containing chemicals, due to inter-alia, trade liberalization and creation of free trade industrial zones. In this context, of particular concern is the lack of ability of many African countries to assess and monitor the risks associated with trade in chemicals and chemicals contained in products. This is leading to concerns such as the production of chemicals in the continent that are unlikely to be allowed in industrialized countries. This is a major issue facing the continent, and hence has to be suitably addressed by the new entrants.

Cheap labour and resources, and environmental management norms provide an economic opportunity for relocation of some industries from industrialized countries to Africa. Whilst the contribution to economic development and employment generation is welcomed, there remains concern about the environmental and human health impacts of such relocated industries, especially in situations where the primary reason behind their relocation is to avoid complying with stringent environmental regulations in the countries of origin.

Access to safe drinking water and sanitation is still low in most parts of Africa. Of particular concern is the impact of discharge of chemicals in water bodies, thereby posing risks to communities relying on untreated water. Resolving this is an urgent need for development of Africa, but will undoubtedly also increase the demand for chemicals for water treatment.

In order to capture opportunities for trade with industrialized countries, African countries will have to harmonize their trade and environmental policies, as overseas buyers increasingly demand evidence of environmental responsibility including sound management of chemicals, in part as a result of chemicals legislation coming into force through, for instance, the European Union's REACH Regulations. This presents an opportunity for supplying environmentally sound goods and services (e.g. organic produce) to niche markets at the national and international levels.

Trade and investments in chemicals in Africa

The chemical market in Africa is primarily targeted at meeting local needs rather than being export-oriented. Many countries are primarily importers of chemicals and are not significant producers. Nevertheless, Africa's international trade in chemicals has been on an upward swing. This trend is expected to continue given the increasing demand for chemicals by Africa's growing economies. The proximity of countries in northern Africa to European markets has led to a greater focus on exports than in other areas.

Although in all chemical segments, consumption is currently higher in developed countries than in developing countries, demand for chemicals and chemical products is likely to increase as disposable income grows. Globally, there is a correlation between chemical consumption and GDP per capita, which suggests that there is tremendous scope for increased consumption of chemicals in developing countries of Africa.

Generally, imports of chemicals 4 exceed exports due to a mismatch in production and the size of the market. Trade deficit in chemicals in the African continent has increased from US$ 3.2 **billion** in 2007 to US$ 6 **billion** in 2011, thereby registering a CAGR of 17% during this period. While exports have recorded a CAGR of 3.1%, imports have grown at a far greater pace at 8.8%, reflecting the increasing demand for chemicals in the continent. During 2011, imports of chemicals to the continent were nearly twice that of exports. In terms of products, organic and inorganic chemicals constitute a predominant share, with the continent exporting more of the latter and importing more of the former.

South Africa and Egypt have been the primary exporters from the continent across most categories of basic chemicals. Apart from the emerging countries like South Africa and Egypt, other countries in Africa like Nigeria, Ghana, Algeria, and Tunisia are also key importers of chemicals in the world. The key destinations of exports from Africa are primarily, USA and India, followed by France and Belgium. India imports inorganic chemicals largely from Senegal and South Africa, albeit in small quantity.

As far as imports are concerned, Africa has been importing from **China**, Germany, USA, India and Australia. These four countries constituted 41% share in Africa's imports of chemicals as in 2011. Major importers of chemicals however have been South Africa, Egypt, Nigeria, Algeria, and Tunisia, together having a share of over 76.7%. It has been observed that **China** remains the top exporter of chemicals to all the major destinations in Africa.

FDI investments in the chemical 'sector' (Figure 2) exhibit that there has been a significant jump in interest of countries investing in the continent. During the period 2003 to 2013 (till October), 155 projects have started with a total capital expenditure of US$ 25.6 **billion**. Most of the investments have been undertaken with the objective of tapping the domestic growth potential.

Chemical companies in Africa

The companies participating in the African chemicals sector include private indigenous African companies, various state owned structures, semi-private companies, multinational chemical **company** majors, traders, agents and distributors.

There are a number of medium sized private sector chemical companies operating in Africa. They generally tend to be regional or single country players and in many instances are involved in manufacturing, processing and marketing. In South Africa there are a number of chemicals companies, which play a dominant role in Sub-Saharan Africa. These include the various subsidiaries and joint venture companies of the Sasol, AECI and Dow-Sentrachem groups.

Sasol Chemical Industries manufactures a wide range of primary, intermediate and final chemical products, which are marketed in Africa and to the rest of the world. Its products include solvents, waxes, ammonia, fertilisers, alcohols, explosives, phenolic products, carbon-tar products including anode coke, acrylonitrile, acrylic fibres, **mining** chemicals and alphaolefins. AECI has recently opened new explosives factories in four African countries.

Protea Speciality Chemicals is a South African **company** active in the supply of key products to the **oil** refining, lubricant and fuel markets. Its products include catalysts, process chemicals, performance additives and specialised dyestuffs. Protea Speciality Chemicals's Rogoff Fine Chemicals Division is active in the supply of materials to the personal care and health care manufacturing sectors.

Protea Industrial Chemicals distributes chemicals in the southern region of the continent. Amine products and fertiliser anti-caking agents are manufactured in South Africa by Kenochem. Distributors for Kenochem are active in West Africa, Europe and Australia.

National **oil** and chemical companies play an important role in the African chemicals industry. Some of the major companies are Sonatrach, the Algerian national **oil company**; the Egyptian Petrochemicals **Company** (EGP), which is a subsidiary of the Egyptian General Petroleum Corporation (EGPC); the Nigerian National Petroleum Corporation (NNPC) and the National Petrochemical **Company** (Napecto) in Libya. A number of national companies are active in the fertiliser sector. These include the Office Cherifien des Phosphates (OCP) in Morocco, the National Fertiliser **Company** of Nigeria (NAFCON) and the state-owned Groupe Chimique Tunisien.

Multinational chemical and petrochemical companies active in Africa include Hoechst, Du Pont, Bayer, Shell, TotalFinaElf and Exxonmobil. Offshore chemical principals which are represented in Africa include many of the world's major chemical companies such as Akzo Nobel Chemicals, BASF, Albemarle Corporation, Bayer, Ethyl Petroleum Additives, Monsanto, Rhone Poulenc, ICI, Union Carbide and Rohm and Haas.

Suppliers of additives and chemicals for the manufacture of personal and health care manufacturing include Ambrosius GmbH, Mikrochem, Salim Oleochemicals, Sud Chemie Rheologicals, Warner Jenkinson (Europe), Witco Corporation which is represented by Rogoff Fine Chemicals.

Potential for Indian businesses

The Indian chemical industry needs to look beyond domestic shores and diversify its markets by exploring relatively embryonic and dynamic markets. This is where the African continent gains significance. Although Africa's contribution to value-added production of chemicals is small, current trends suggest that its contribution to global production will continue to grow.

The northern, western and southern African regions have stronger chemical industries than the rest of the continent. The development of chemical industries in these regions has been facilitated by access to larger markets and by the presence of feedstocks such as natural gas coupled with good downstream **oil** refining or cracking infrastructure. In northern Africa, there are strong chemicals industries in Algeria, Egypt, Libya, Morocco and Tunisia. In western Africa, Nigeria is the main producer and user of chemicals. In the south, the prime market and producer is South Africa. This country differs from the others in that its chemical industry is largely based on **coal**, which is used as a feedstock for its extensive synthetic fuels industry.

The development of chemical industries in these sub-regions has been facilitated by access to larger markets and the presence of natural resources that support growth in this sector, notably natural gas and the presence of well developed infrastructure, which supports industrial growth in general. The latter factor is especially true for South Africa, Africa's largest economy and the country with the largest chemical industry. Although South Africa's chemical industry is small compared to that of OECD, it still plays a significant role in the country's economy. Indian companies, while setting up businesses in these countries, could consider entering into a JV. Indian companies could use this opportunity to enter into these nascent markets and address the needs of the continent.

Prospects of Indian chemical product exports in Africa

This section seeks to analyze chemical products that have potential for exports from India by outlining a market/regionspecific approach. An effort has been made to identify India's capabilities in supplying such products and demand for such export products from India to Africa. The products so identified under 'Product Champions' and 'Underachievers' are those segments wherein India has prospects to enter more proactively in the African market (Figure 3).

Methodology

* Trend (average annual growth) in chemical import demand of Africa (4-digit SITC Codes - 51, 52, 53 and 59) is analyzed

* Trend in India's exports of chemicals to the world (i.e. India's capacity to export) is analyzed

* Trend in Africa's imports from India is analyzed

* Identification of chemical products with export potential from India to Africa:

* Identification of threshold demand: Products with a share equal to or more than 0.5% of the total chemical imports of Africa from the world during 2009 are considered

* Identification of India's export capability: Of the products short listed with the above mentioned process, only those where India's exports were at least US$ 100 **million** in 2009 have been considered

* Identification of export potential: An analysis of these products in terms of annual average growth rates during the period 2005-09 is undertaken to identify products with export potential and products that could be diversified to more lucrative markets

* Product classification: The products so identified are classified into 4 categories as given in Table 2.

Based on the above methodology, 19 chemical products (Table 3) have been short listed and categorized under one of the four heads as stated in Table 2. The selected products constitute a substantial share (41.1%) of Africa's chemical imports which stood at around US$ 4.16 **billion** in 2009. The overall chemical imports by Africa increased by 10.3% during 2005-09 and touched US$ 10.1 **billion** in 2009 as compared to US$ 7.6 **billion** in 2005.

India's product exports to Africa that need enhancing

Product Champions

Based on the analysis, 8 products have been identified as 'Product Champions'. These include mixed alkylbenzs etc. (SITC 5984), oxygen-function amino-comp. (SITC 5146), sulphur etc. derivative hydrocarbon (SITC 5114), acyclic monohydric alcohol (SITC 5121), albuminoidal substance etc (SITC 5922), cyclic hydrocarbons (SITC 5112), chemical products etc. (SITC 5989), and printing ink (SITC 5332). These Product Champions constituted 24.3% of the total chemical imports of Africa from the world valued at US$ 2.0 **billion** in 2009.

Underachievers

Only one product, which has been losing out share during the period 2005 and 2009, is classified in the 'Underachievers' category, in spite of India having a considerable share for this product in international markets, reflecting India's potential to enhance its market share in the African continent.

The identified product is an organic chemical - other nitrogenous function compounds (SITC 5148).

India's product exports to Africa that need to be reduced and diversified to more lucrative markets

Losers in Declining/Stagnant Markets

There are 8 products in this quadrant with a combined share of 14.7% of Africa's total chemical imports and an absolute value of US$ 1.5 **billion**. These products are, aldehyde, ketone and quinone function compounds (SITC 5162), monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulfonated, nitrated or nitrosated derivatives (SITC 5137), organic chemicals, nes (SITC 5169), synthetic organic coloring matter and preparations based thereon (SITC 5311), heterocyclic compounds, nucleic acids (SITC 5157), acyclic hydrocarbons (SITC 5111), halogen derivative hydrocarbon (SITC 5113), and insecticides, retail **sale** (SITC 5911).

Growth Products in declining markets

Two items have been witnessing growth in Indian imports to Africa, while Africa's imports from the world for these products have been on a decline. These 2 products are fungicides, put up or packed for retail **sale** or as preparations or articles (SITC 5912), and disinfectants, put up or packed for retail **sale** or as preparations or articles (SITC 5914). The combined import value of these two products is around US$ 0.3 **billion** with a share of 2.63% in Africa's chemical imports from the world in 2009. India needs to diversify its exports of these products to other regions like Europe and North America, which are exhibiting high growth in their imports, rather than focusing on declining African market.

Conclusion

There is a trend towards urbanization across Africa, which is predicted to continue into the future. Urbanization is generally associated with increased consumption of industrial products. This scenario will therefore, **lead** to increased consumption of household chemicals across many expanding and upcoming urban centres in Africa. Cheap labour and resources provide an economic opportunity for many Indian companies to move into Africa.

With its growing population, Africa will be compelled to boost agricultural production and industry. This will undoubtedly call for increased use of chemicals, in particular fertilizers and pesticides for the agricultural sector. India has an equally good opportunity to explore this area given the fact that contract farming and investments in agriculture in Africa is on rise.

Indian companies, while moving up the value chain in chemical production, could introduce best practice initiatives while doing business in the region thereby helping in managerial and technological capacity enhancement in the African chemical sector. In order for Indian entities to become successful in Africa, firms need to harmonize the trade and environmental policies in Africa.

On the whole, the Indian chemicals industry has a bright opportunity to spread its wings in the evolving African market. As investments increase and businesses flourish, the demand for chemicals across the spectrum will be on a high in Africa. Indian entities should grab this opportunity and not only garner revenues, but also help Africa unleash its true potential.

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IN i25 : Chemicals | ibasicm : Basic Materials/Resources

RE india : India | africaz : Africa | austr : Australia | china : China | safr : South Africa | usa : United States | apacz : Asia Pacific | asiaz : Asia | ausnz : Australia/Oceania | bric : BRIC Countries | chinaz : Greater China | devgcoz : Emerging Market Countries | dvpcoz : Developing Economies | easiaz : Eastern Asia | indsubz : Indian Subcontinent | namz : North America | sasiaz : Southern Asia | souafrz : Southern Africa

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