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INDIA AFRICA

LEVERAGING NEW DIMENSIONS IN ECONOMIC ENGAGEMENT

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CONTENTS

FOREWORD

Looking to the future, partnering in digital revolution and emerging areas such as start-ups, digital economy and innovation will place India-Africa economic partnership on a higher trajectory and link it with the aspirations of the new generation.

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A rising India and a resilient Africa are coming closer to seize new opportunities to deepen and expand this mutually empowering partnership. The emerging synergies and complementarities are notable as both India and Africa enjoy a demographic dividend in the form of overwhelmingly young population. Both India and Africa are powered by a growing middle class, and a burgeoning services sector.

The bilateral economic partnership is increasingly focusing on areas that are making a tangible difference to our interconnected economic future and the lives of over 2.5 billion people living in India and Africa. These core focus areas include trade and investment, infrastructure, sustainable development, green energy, education and skilling, health and digital acceleration.

The operationalisation of the landmark African Continental Free Trade Area (AfCFTA) is a game-changer, and will drive both sides to surpass their past performance in both trade and investment. Trade at US$ 90 billion in 2021-22 surpassed previous peaks, indicating a fast pace ahead.

Indian investments in Africa are growing steadily, with India emerging as the 5th largest investor in Africa. Indian companies need to diversify their FDI flows to Africa, which are currently focused in the services sector, accounting for almost 75 percent of the total. Indian companies can scale up investment in new manufacturing facilities and upgrade the existing infrastructure for manufacturing, which can transform Africa's economic fortunes.

Looking to the future, partnering in digital revolution and emerging areas such as start-ups, digital economy and innovation will place India-Africa economic partnership on a higher trajectory and link it with the aspirations of the new generation. India has consistently supported digital platforms and e-governance efforts which will help unleash prosperity and inclusion in the continent.

CII has, over the years, steered India-Africa economic and business partnership in a focused manner. CII began its Africa initiatives more than 27 years ago, and is now networked with more than 95 counterpart organisations in 44 African countries to facilitate exchanges between Indian and African industry. CII has also forged deep ties with leading investment promotion agencies in Africa. CII works closely with Government of India to promote India and its 'Triple A' (Affordable, Adaptable, Appropriate) technologies in Africa.

CII also organises Regional Conclaves in African nations. So far, 15 regional conclaves have been hosted in African countries, including in Zambia, Ethiopia, Ghana, Mozambique, South Africa, Cote d' Ivoire, Uganda, Senegal, Tanzania, Namibia, Nigeria and Egypt.

The annual CII-EXIM Bank Conclave on India Africa Project Partnership has emerged as the centrepiece of CII's accelerated economic engagement with Africa. Sixteen editions of the Conclave have been organised in New Delhi since its inception in 2005. Given the expanding relations, the 17th edition has been rechristened as the CII-EXIM Bank Conclave on India-Africa Growth Partnership and is being held on 19-20 July 2022 as an in-person meeting in New Delhi.

CII's long-term goals, among others, include scaling up India-Africa bilateral trade volume to US$ 200 billion, encouraging Indian exporters to access the African countries, enable geographical and product diversification of Indian exports to Africa and enhance Indian investments in African countries. CII is also working to enhance Africa's exports, specially manufactured goods, to India by optimal utilisation of Duty Free Tariff Preference scheme.

The road ahead for the India-Africa partnership is exciting, but also challenging. demanding that extra commitment, innovation and creativity to take it to the next level. Outlining 10 principles of engagement with Africa in his address to the Ugandan parliament, Hon'ble Prime Minister Narendra Modi said memorably that India's partnership will aim at liberating African potential.

With this in mind, CII has prepared the present report 'India-Africa: Leveraging New Dimensions in Economic Engagement'. The publication outlines the potential of trade and investment between India and Africa and suggests some measures for redefining this partnership to achieve stretch targets.

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EXECUTIVE SUMMARY

Africa has been one of the world's fastest-growing regions over the past decade, and by 2030 will be home to nearly 1.7 billion people and an estimated US$ 6.7 trillion worth of consumer and business spending.

Given Africa's resurgence, Indian industry must engage closely with the continent across many domains. The rapid evolution of the continent and its economy is accelerated by multiple shifts that are taking place across the world, and find huge gains in Africa on account of the low base.

This paper looks at the shifts and outlines the potential for India as below:

1. Trade and the African Continental Free Trade Agreement (AfCFTA) – This is a continent-wide free trade agreement that will connect 1.3 billion people in 55 countries with a combined GDP of US$ 2.4 trillion.

   The paper uses an innovative tool to identify the specific products at the 6-digit HS code level that have the highest potential for exports and imports between India and 4 selected large economies in Africa.

2. Investments – Regions and countries in Africa have taken steps recently for attracting investments and undertake reforms. In addition, the AfCFTA proposes an investment facilitation agreement, which countries are currently working on. India's investment areas in Africa are delineated, along with the ways that Indian companies can reach out to African sectors.

3. Services – Africa is a services-led economy and sectors such as education, healthcare, telecom and financial services are opening up new opportunities.

4. Digital technology and entrepreneurship – Africa's future economy will see a growing digital footprint with innovation and digital connectivity expanding.

5. Green economy – Sustainability is an imperative for the world and Africa will need to centralize this in its growth path.

India can be a strong partner across all these areas, benefiting both from its historical links and its large diaspora as well as from its own development experiences that are relevant for Africa's development as well.

India and Africa can set a target of bilateral trade in goods at US$ 200 billion for 2030.

For leveraging AfCFTA opportunities in trade, the strategy for India could be:

i. Expand exports to top African economies, based on their GDP size and population

ii. Expand imports from these top African economies

iii. Source more goods from other economies

iv. Invest in Africa with a view to exporting to India

India's potential exports to the top African economies (in terms of GDP), namely, South Africa, Egypt, Ethiopia and Algeria are determined using the Export Specialization Index which maps one country's export potential against the partner country's imports. Similarly, the top potential exports from these African economies to India are also identified using the index.

Since April 1996, India has invested about US$ 74 billion in Africa across sectors. These investments are by public sector companies and private sector companies, significantly focussing on extractive industries of energy and raw materials.

Agriculture and food processing, manufacturing and construction and infrastructure are key sectors where India can make much further inroads. In all, India should set a target of building up its investment in Africa to US$ 150 billion by 2030.

There are 230 special economic zones in Africa where the investment climate is more facilitative. India may urge for India-specific SEZs where Indian companies can locate manufacturing facilities to export to India as well as other markets.

India can set up joint mechanisms for entering into regional production networks and local supply chains.

In the services ecosystem, the key segments for investment in Africa include banking and financial services, transportation, information and communication technology (ICT), healthcare services, professional and technical consultancy services, education and skill development.

India, with its rich experience and strong policy ecosystem, is suitably placed to partner with African governments, companies and institutes in developing and offering services across the spectrum in ICT and financial services.

Fintech is a major area of potential cooperation as it is growing and expanding business sector with huge social positives in both India and Africa.

Africa has an almost unlimited potential of solar capacity (10 TW), abundant hydro (350 GW), wind (110 GW) and geothermal energy sources (15 GW).

The scale of LOCs can be expanded for green projects and a green dimension be included while validating the projects.

Indian renewable energy companies which have wide experience in India should explore opportunities in wind, solar, and hybrid energy in Africa. The Indian government can ensure the increased participation of Indian companies in building Africa's green ecosystem by facilitating access to key projects' information.

The Indian Government and Indian industry need to partner for scaling up Indian participation in the African economy.

India should set a target of building up its investment in Africa to US$ 150 billion by 2030.

I. INTRODUCTION

From the Dark Continent in the 19th century to the Mother Continent in the 21st century, the sobriquets used for the African continent perhaps reflect the changing perceptions and acknowledgement of Africa as the most diverse, uncharted and yet, the evolutionary fountainhead of the world, with a unique place in human history.

In the 20th century, targeted interventions by local governments, multilateral agencies and third countries have sought to temper the tides and turns of history, based on acknowledgement of the continent's resource base and potentially huge and untapped markets. For instance, Africa is home to one of the world's fastest-growing and youngest populations: one-in-three people born today is an African. Three of the top 10 economies with the fastest rates of economic growth are in Africa, with the continent's overall economy growing on average by 3% between 2010 and 2019, until the Covid-19 pandemic plunged it into its first recession since the global financial crisis in 2009.[1]

In terms of its resource base, the continent is endowed with natural resources ranging from arable land, water, oil, natural gas, and minerals, to forests and wildlife. It holds a significant proportion of the world's natural resources, both renewable and non-renewable. Africa is home to some 30% of the world's mineral reserves, 8% of the world's natural gas and 12% of the world's oil reserves. The largest reserves of gold, cobalt, diamonds, platinum and uranium in the world are in Africa — the continent is home to 40% of the world's gold and up to 90% of its chromium and platinum.[2]

In the new African economy, based on its large and growing markets, land and resources, discerning businesses understand that the continent is a union of diverse nations and that each country has to be studied separately. An interpretation and recognition of the continent's history, economic potential and heterogeneity, with country- and economic bloc-specific strategies, is necessary for structuring substantial interactions and transactions in the realm of trade and investment.

Africa has been one of the world's fastest-growing regions over the past decade, and by 2030 will be home to nearly 1.7 billion people and an estimated US$ 6.7 trillion worth of consumer and business spending. Increased political stability in recent years and improving regional integration are making market access easier, and business expansion will generate jobs for women and youth, who represent the vast majority of the population. Current economic growth and poverty-alleviation efforts mean that more than 43% of the continent's people will reach middle- or upper-class status by 2030.[3]

According to UNCTAD's World Investment Report 2022, investment flows to Africa reached a record US$ 83 billion in 2021, rebounding strongly after the fall in 2020 caused by the COVID-19 pandemic. The report highlights a broadening of investment sectors in Africa, beyond the traditional extractive and commodity sectors; the most prominent are investments in the sectors of clean energy, data centres, and in the construction of power plants and industrial complexes.[4]

An analysis by the World Bank expects the sub-Saharan African economy to expand by 3.6% in 2022, down from 4% in 2021, as it loses momentum amid a slowdown in global economic activity. Although the direct trade and financial linkages with Russia and Ukraine are small, the Ukraine war

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[1]Africa Energy Outlook 2022, International Energy Agency (IEA)
[2]https://www.unep.org/regions/africa/our-work-africa#
[3]Unlocking Africa's Business Potential: Trends, Opportunities, Risks, and Strategies, by Landry Signé
[4]UNCTAD, World Investment Report 2022

will likely impact Africa's economies through higher commodity prices, higher food, fuel and headline inflation, tightening of global financial conditions and reduced foreign financing flows into the region.[5]

India's relationship with Africa is ancient, one that spans epochs of the past and one with historical trade partnerships and socio-cultural aspects in the present, along with development assistance, execution of projects, peacekeeping contributions and technological cooperation. There is, of late, a recalibration towards promotion of trade and direct investments in Africa. The motivating factors for this are an aspiration to be part of Africa's development path and to strengthen the historical friendship for mutual growth objectives.

The socio-economic imperatives of the continent offer Indian industry new horizons for mutual growth, with ample opportunities in sectors such as services, agriculture and agri-processing, information and communication technology, construction and infrastructure, textiles and chemicals, besides projects in the green economy.

Led by both Indian public sector enterprises under the government's partnership strategy and the private sector which seeks new business opportunities, Indian industry's participation in Africa is multi-dimensional.

Given Africa's resurgence, Indian industry must engage closely with the continent across many domains. The rapid evolution of the continent and its economy is accelerated by multiple shifts that are taking place across the world, and find huge gains in Africa on account of the low base.

This paper looks at the shifts and outlines the potential for India as below:

1. Trade and the African Continental Free Trade Agreement (AfCFTA) – This is a continent-wide free trade agreement that will connect 1.3 billion people in 55 countries with a combined GDP of US$ 2.4 trillion.

   The paper uses an innovative tool to identify the specific products at the 6-digit HS code level that have the highest potential for exports and imports between India and 4 selected large economies in Africa.

2. Investments – Regions and countries in Africa have taken steps recently for attracting investments and undertake reforms. In addition, the AfCFTA proposes an investment facilitation agreement, which countries are currently working on. India's investment areas in Africa are delineated, along with the ways that Indian companies can reach out to African sectors.

3. Services – Africa is a services-led economy and sectors such as education, healthcare, telecom and financial services are opening up new opportunities.

4. Technology and digital adoption – Africa's future economy will see a growing digital footprint with innovation and digital connectivity expanding.

5. Green economy – Sustainability is an imperative for the world and Africa will need to centralize this in its growth path.

India can be a strong partner across all these areas, benefiting both from its historical links and its large diaspora as well as from its own development experiences that are relevant for Africa's development as well.

This paper expands on the new dimensions that these evolving trends offer for India-Africa economic engagement. It suggests key areas that Indian policymakers can take up to fast-track Indian industry's initiatives in Africa.

[5]World Bank

II. INDIA-AFRICA ECONOMIC RELATIONS OVERVIEW

India relations with Africa are based on the principles of equality, mutual respect and benefit and in line with Africa-led and Africa-owned development. It is defined by four pillars of development partnerships, trade and investment, defence and maritime security and robust people-to-people contacts.

India has had long-standing historical ties with Africa. A deep connection was established between the two sides over the centuries, as both shared many commonalities in terms of experiences, communities, and habits. India's engagement with Africa intensified during the 2000s, through deeper linkages and greater people-to-people contacts and growing trade and commerce.

In the post-pandemic world, the narratives of a rising India and a resilient Africa present abundant prospects for a shared future and interconnected aspirations. Both countries are characterized by common factors including a growing demographic dividend, a rising middle class, urbanisation and digitalisation, and a fast-growing service sector.

The operationalization of the landmark African Continental Free Trade Area (AfCFTA), which came into effect on January 1, 2021, is set to give a further boost to the already existing partnership between India and Africa. It is expected to benefit both partners in the future by laying the ground for deeper integration between the two sides.

Trade between India and Africa grew from US$ 68.6 billion in 2011-12 to US$ 89.6 billion in 2021-22, the highest ever level recorded by both regions. With the onset of the Covid-19 pandemic and in line with global trends, trade between the two regions moderated in 2020-21 and rebounded in 2021-22, growing by 60%. India's exports to Africa recorded a year-on-year (y-o-y) growth rate of 45% and was valued at US$ 40.3 billion in 2021-22, as compared to US$ 27.8 billion in 2020-21. Indian imports also registered a y-o-y growth rate of 74.8% and increased from US$ 28.2 billion in 2020-21 to US$ 49.3 billion in 2021-22.

India's exports to Africa accounted for 9.5% share in India's total exports while India's imports from Africa accounted for 8.1% of India's total imports.

India's 5 leading export destinations in Africa are South Africa, Nigeria, Egypt, Togo, and Kenya. On the other hand, South Africa, Nigeria, Guinea, Egypt and Angola are India's top 5 import partners from Africa.

Petroleum products are the largest export item from India to Africa, accounting for more than 21% of India's total exports to Africa. Other key Indian exports to Africa include vehicles other than railway or tramway, pharmaceutical products, cereals, machinery and mechanical appliances, among others.

India's 5 leading export destinations in Africa are South Africa, Nigeria, Egypt, Togo, and Kenya. On the other hand, South Africa, Nigeria, Guinea, Egypt and Angola are India's top 5 import partners from Africa.

On the other hand, mineral fuels and mineral oils (mainly crude) is the largest import item for India from Africa and accounted for almost half of India's total imports from Africa during 2021-22. Other imports include gems and jewellery, copper and its articles, fertilisers, inorganic chemicals, among others.

Indian investments to Africa have also been increasing in recent times, with India making both greenfield and brownfield investments in sectors such as pharmaceuticals and healthcare, energy, power, ICT, automobiles etc. Cumulative Indian investments in Africa between April 1996 and March 2022 stood at US$ 73.9 billion as per data from Ministry of Commerce and RBI, with Mauritius, Mozambique and Sudan as some of India's leading investments destinations in Africa.

On the other hand, Mauritius remains a leading investor in India, which accounts for more than 26% of India's overall FDI inflows. South Africa, Seychelles and Morocco are some of the other African countries with significant investments in India.

With growing trade and investments prospects between the two, India has put forth many policy measures and frameworks to enhance India's economic partnership with Africa. Some of the notable initiatives include the Focus Africa Programme, India's Duty-Free Tariff Preference Scheme for Least Developed Counties (DFTP-LDC), India and Pan-African Countries Initiative, and India-Africa Forum Summit, among many others.

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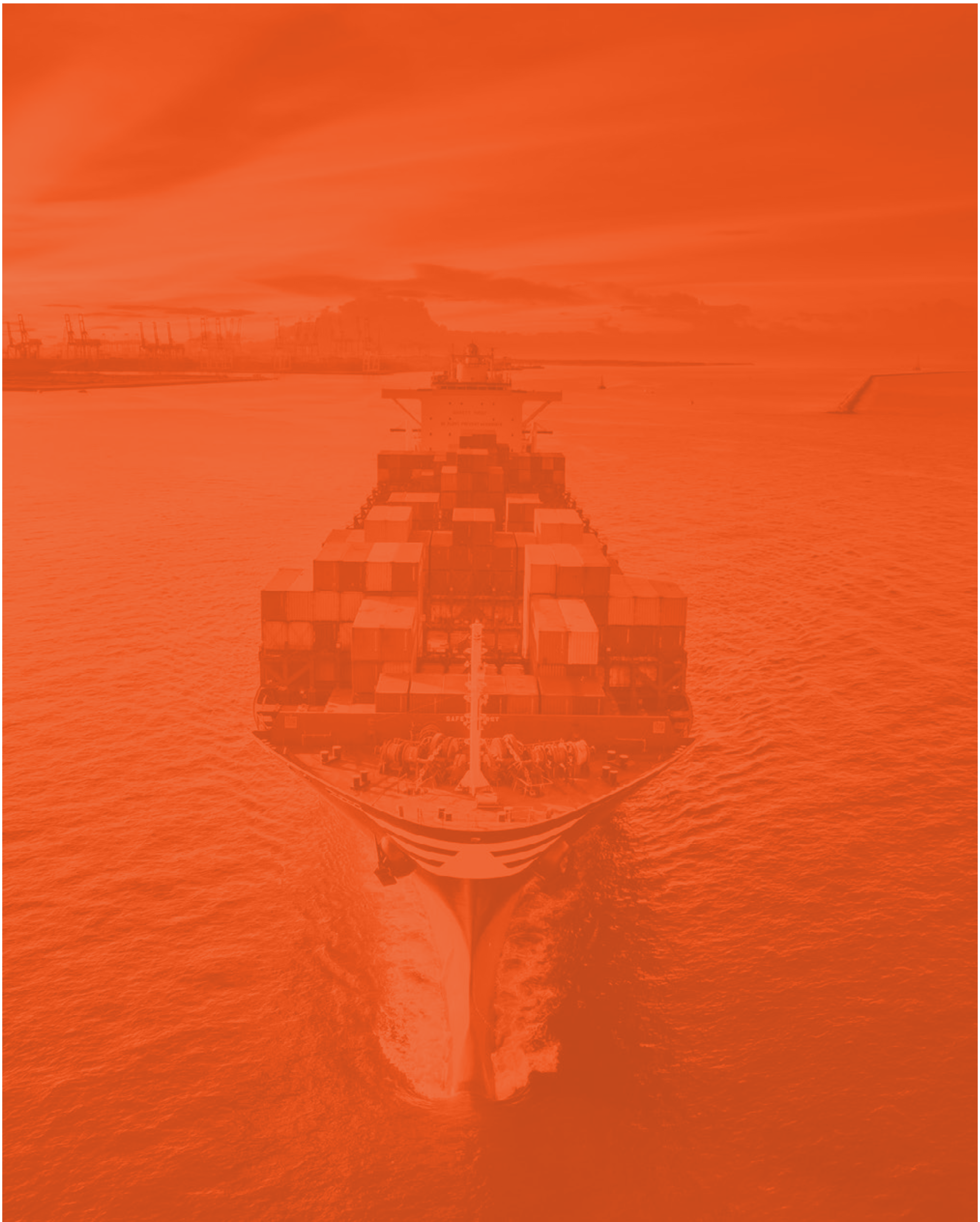
III. TRADE AND AFCFTA



With a view to offering one consolidated market and investment destination, the African Union (AU) agreed on the landmark strategy of establishing the African Continental Free Trade Area (AfCFTA) in March 2018. The AfCFTA is expected to have transformational impact on the African economy, unlocking the continent's manufacturing potential and facilitating industrialization, and driving sustainable growth and jobs. It will also integrate the many existing regional economic cooperation arrangements under a single umbrella.

The long-term objectives include creating a single, liberalised market; reducing barriers to capital and labour to facilitate investments; developing regional infrastructure; and establishing a continental customs union. It is expected to be one of the world's largest free-trade areas in terms of the number of countries, covering more than 1.3 billion people and over US$ 4 trillion in combined consumer and business spending.

Under the agreement, member countries have decided to phase out 90% of tariff lines over 5-10 years following the operationalisation. The remaining tariff lines will have more time for 7% of goods and 3% are permitted to be excluded.

A trade target of US$ 200 billion can be set for 2030 at a modest compound annual growth rate of 12.08%.

41 member states had provided tariff reduction schedules when the agreement was implemented from 1 January 2021. While its full implementation will take time, the AfCFTA offers an unprecedented opportunity to expand trade between India and Africa.

Currently, Africa's exports to India are dominated by 5 African countries which account for over two-thirds of the total exports. There is need for India to explore other sources of imports from Africa.

At the same time, India's exports to Africa are heavily concentrated in a few large economies with the 5 top destinations of South Africa, Nigeria, Egypt, Togo and Kenya accounting for almost half the total exports to Africa.

A trade target of US$ 200 billion can be set for 2030 at a modest compound annual growth rate of 12.08%.

The strategy for India would be:

i. **Expand exports to top African economies, based on their GDP size and population**
ii. **Expand imports from these top African economies**
iii. **Source more goods from other economies**
iv. **Invest in Africa with a view to exporting to India**

i. Expand exports to top African economies

Based on GDP size and population, CII has identified 5 countries for targeted trade promotion.

Table 1: Top African countries identified as per population and GDP

Country	Population, mn	GDP US$ bn, 2021	India's Exports, US$ mn, 2021-22	India's Imports, US$ mn, 2021-22
Nigeria	211.4	441.5	4663.17	10,291.48
Egypt	102.6	402.8	3743.92	3,520.83
Ethiopia	99.7	99.3	681.28	62.44
South Africa	60.1	418	6085.29	10,965.81
Algeria	45	164.6	703.25	1,004.24

Source: CII Background Paper for 17th India-Africa Conclave; Department of Commerce, India

CII has conducted an analysis for expanding exports to these identified countries. As data for Nigeria is not accessible, the analysis could not be conducted for exports and imports with India.

Using data from the International Trade Centre (ITC), this paper uses the Export Specialization Index (ES Index) to determine potential export products from India to Africa and vice versa, at the HS 6-digit level, that have the ability to bolster bilateral trade between India and Africa. India's potential exports to the top African economies (in terms of GDP), namely, South Africa, Egypt, Ethiopia and Algeria are determined using the ES Index. Similarly, the top potential exports from these African economies to India are also identified using the index.

In this paper, the ES index, which is a slightly modified version of the more conventionally used Revealed Comparative Advantage Index (RCA Index), is used to determine potential exports between India and Africa. While the RCA index uses world shares to assess export potential, the ES index considers market specific characteristics of the partner country. As the ES index throws light on specific market characteristics, it is particularly useful in identifying products relevant to specific markets.

The tables with the findings and the methodology in detail are included in the Annex.

a. Findings: India's Top Potential Exports to Select African Countries

1. India-South Africa

Using the ES index, a total of 18 top Indian products to South Africa are identified (Table 1, Annex). Some of India's top performing products with high potential are in the broad HS 2-digit level categories of pharmaceutical products (HS 30), cereals (HS 10), vehicles other than railway or tramway (HS 87), ships, boats and floating structures (HS 89), articles of apparel and clothing accessories, knitted or crocheted (HS 61), and miscellaneous chemical products (HS 38).

These exports are determined on their assessed competitiveness as determined by the ES index. At the HS 6-digit level, medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes (HS300490) is

India's top potential export to South Africa, as per the methodology employed in the paper, where the ES index as well as South Africa's imports are considered as an indicator of the demand for the product in the partner country. India's world exports of this product stood at US$ 14.72 billion, while South Africa's imported value stood at US$ 1.64 billion in 2021.

2. India-Egypt

Around 14 Indian exports of high potential have been identified for Egypt (Table 2, Annex). The top products featuring in the broad HS 2-digit level categories are pharmaceutical products (HS 30), gems and jewellery (HS 71), cotton (HS 52), iron and steel (HS 72), and vehicles other than railway or tramway (HS 87) as per the ES methodology.

Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes (HS300490) at the HS 6-digit level is India's top potential export to Egypt, with India's world exported value at US$ 14.72 billion and Egypt's world imported value at US$ 2.26 billion, during 2021.

3. India-Ethiopia

17 Indian exports with high potential for export to Ethiopia are identified in the paper (Table 3, Annex). The top products belong to the broad HS 2-digit categories of mineral fuels and mineral oils (HS 27), pharmaceutical products (HS 30), sugars and sugar confectionary (HS 17), electrical machinery and equipment (HS 85), miscellaneous chemical products (HS 38), and iron and steel (HS 72).

Medium oils and preparations of petroleum or bituminous minerals (HS 271019) at the HS 6-digit level was identified as the Indian product with highest potential for export to Ethiopia. India's world exports for the product stood at US$ 34.87 billion and Ethiopia's world imports were recorded at US$ 0.95 billion during 2021.

4. India-Algeria

A total of 11 products were determined as India's high potential exports to Algeria through the ES methodology (Table 4, Annex). Some of these top Indian exports were in the broad HS 2-digit categories of pharmaceutical products (HS 30), vehicles other than railway or tramway (HS 87), mineral fuels and mineral oils (HS 27), machinery and mechanical appliances (HS 84), iron and steel (HS 72), among others.

Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes (HS300490) at the HS 6-digit level was identified as India's export with highest potential to Algeria, with India's world exports and Algeria's world imports of the product valued at US$ 14.72 billion and US$ 0.42 billion respectively.

ii. Expand imports from top African economies

The above identified countries can also be tapped for higher imports, given their economic size.

CII has conducted an analysis for identifying products that can be sourced from these countries.

b. Findings: Top Potential Exports from Select African Countries to India

In this section, the findings for Africa's top potential exports to India have been presented. Here, the different African economies are considered as the exporting nations while India is the partner importing country. Detailed methodology can be found in the Annex.

1. South Africa-India

A total of 15 South African products with high export potential to India are identified in the paper (Table 5, Annex). Some of the top products at the broad HS 2-digit level categories are gems and jewellery (HS 71), mineral fuels and mineral oils (HS 27), ores, slag and ash (HS 26), machinery and mechanical appliances (HS 84), miscellaneous chemical products (HS 38), and pharmaceutical products (HS 30).

At the HS 6-digit level, gold in semi manufactured forms (HS 710813) is the top potential South African export to India. South African world exports of the product were valued at US$ 7.44 billion, while Indian world imports of the product were valued US$ 0.55 billion during 2021.

2. Egypt-India

Around 10 products at the HS 6-digit level from Egypt to India are identified as exports with high potential (Table 6, Annex). These feature in the broad HS 2-digit level categories of mineral fuels and mineral oils (HS 27), fertilisers (HS 31), pharmaceutical products (HS 30), inorganic chemicals (HS 28) and organic chemicals (HS 29).

Natural, liquified gas (HS271111) is identified as Egypt's top export to India with the highest potential, at the HS 6-digit level. Egypt's world exports for natural gas stood at US$ 3.92 billion while India's world imports for the product stood at US$ 12.08 billion during 2021.

3. Ethiopia-India

With the help of the ES index, around 20 high potential exports are identified from Ethiopia to India, at the HS 6-digit level (Table 7, Annex). Some of the top products in the broad HS 2-digit level categories include electrical machinery and equipment (HS 85), edible vegetables and certain roots and tubers (HS 07), oil seeds, miscellaneous grains and seeds and fruits etc. (HS 12), residues and waste from food industries; prepared animal fodder (HS 23), and gems and jewellery (HS 71).

Telephones for cellular networks (HS 851712) is identified as the Ethiopian export with the highest competitive advantage to India, at the HS 6-digit level. Ethiopia's world exported value of the product stood at US$ 11.57 million, while India's world imported value stood at US$ 1532.45 million in 2021.

4. Algeria-India

Around 8 products of high export potential are identified in the paper between Algeria and India (Table 8, Annex). The top Algerian exports mostly feature in the categories of mineral fuels and mineral oils (HS 27), fertilisers (HS 31) and inorganic chemicals (HS 28).

The Algerian product with highest export potential to India is identified as petroleum oils and oils obtained from bituminous minerals (HS 270900), at the HS 6-digit level, with Algerian world exports and Indian world imports of the product valued at US$ 11.90 billion and US$ 106.41 billion respectively.

iii. Source more goods from other African economies

India's imports from African countries expanded greatly over 2021-22. Total imports touched US$ 49.3 billion as compared to US$ 28.2 billion in 2020-21, registering an increase of 75%. Much of this is due to the Covid-related reduction in trade in the previous year.

Compared to 2011-12, over the last ten years, India's imports have displayed a fluctuating trend, with the latest year being just 12% higher than the initial year. Part of this may be due to the prices of its top import, that is, fuels trending up and down over the decade. However, part of this is also due to lower procurement from the continent.

India must make concerted efforts to source goods from other parts of the continent. The Duty Free Tariff Preference (DFTP) Scheme can be best leveraged for the 38 least developed countries (LDCs) in Africa.

While the DFTP scheme is expansive, India should consider including all goods where African LDCs have export capacity such as fruits and vegetables, wood products, base metals, coffee, copper products, etc.

According to a UNECA and CII report, such excluded products are major exports for certain nations such as Burundi, Ethiopia, Rwanda, Uganda, Malawi and Zambia. India is importing products exported by these countries from other sources outside Africa and can expand these from African LDCs.

India should target at least 5% annual increase in imports from each of the LDCs in Africa.

iv. Invest in Africa

Indian companies have been investing in mining and manufacturing facilities in Africa with a view to addressing the Indian markets.

Oil is a key area of Indian investments and imports. African countries contribute about 15% to Indian oil imports as of 2020-21. India has been expanding its sources for oil imports beyond the traditional countries of Nigeria, Angola, Algeria, Egypt and Equatorial Guinea. Its purchases in recent years have also come from countries such as Cameroon, Chad, Ghana, and Cote d-Ivoire. Indian oil PSEs have invested US$ 8 billion in oil and gas assets in Africa and this can be expanded.

Other options for investing in manufacturing facilities could be in agriculture and food processing, coal, copper, chemicals, and so on. Some of the products identified with export potential as per the CII analysis in the previous section are agricultural products and Indian companies could consider investing in land in the producing nations to export to India.

Other options for investing in manufacturing facilities could be in agriculture and food processing, coal, copper, chemicals, and so on.

IV. INVESTMENTS

The two primary reasons for investing in Africa are its rapidly-growing markets and a growing and urbanizing population — these are markers of the immense scope and opportunity offered by the continent over the mid- to long-term. However, businesses need to appreciate that innovation for Africa and investment in Africa are essential to tap the latent and unfulfilled demand for goods and services, for plugging the infrastructure gaps and for ensuring equitable, sustainable and profitable growth across the continent.[6]

A slightly more nuanced view of the continent's investment potential and promise can be gauged from an analysis of two World Bank indicators — of the 10 fastest-growing economies in the world in 2018, six were in Africa with Ghana at the top of the world ranking, and, in the 2019 Doing Business index, five of the 10 most improved countries were in Africa, and one-third of all reforms recorded globally were in sub-Saharan Africa.[7]

In the offing, therefore, are substantial opportunities for growth across sectors that will enable holistic growth across the continent, catering to its needs and requirements that stem from a growing and urbanising population, lacunae in infrastructure and connectivity, and an acknowledgement of the growing importance of innovative and sustainable offerings.

Since April 1996, India has invested about US$ 74 billion in Africa across sectors. These investments are by public sector companies and private sector companies, significantly focussing on extractive industries of energy and raw materials.

Though the majority of India's OFDI into Africa has been garnered by Mauritius on account of the bilateral Double Taxation Avoidance Convention, a scholarly and deeper-level analysis of India's OFDI into Africa highlights tangible investments in Mozambique, Sudan, Egypt and South Africa. Indian businesses could explore investment opportunities in other countries on the continent, that have attracted FDI from other parts of the world, such as Ethiopia, Nigeria, Congo, Ghana, Senegal, Morocco, etc. India may consider expanding its investments in these countries.

It is necessary for Indian companies to take up higher value added investments for which the AfCFTA sets a base to address regional as well as overseas markets.

India may target cumulative investments in Africa at US$ 150 billion up to 2030.

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This translates to about US$ 10-12 billion each year for the next 7 years.

Africa's critical need for investments is well established and requires an impetus to achieve the transformative agenda that the African Union (AU) is hoping to achieve through the initiation of the AfCFTA and ***Agenda 2063: The Africa We Want,*** which is Africa's blueprint and master plan for transforming the continent into the global powerhouse of the future. It is the continent's strategic framework that aims to deliver on its goal for inclusive and sustainable development and seeks to prioritise continental and regional integration, democratic governance, and peace and security to reposition Africa as a dominant player in the global arena.[8]

Since April 1996, India has invested about US$ 74 billion in Africa across sectors. These investments are by public sector companies and private sector companies, significantly focussing on extractive industries of energy and raw materials.

[6] Spotlighting Opportunities for Business in Africa and Strategies to Succeed in the World's Next Big Growth Market, Brookings Institute, 2019
[7] Spotlighting Opportunities for Business in Africa and Strategies to Succeed in the World's Next Big Growth Market, Brookings Institute, 2019
[8] https://au.int/en/agenda2063/overview

i. Agri and agri-processing

Africa has 60% of the world's arable land but produces only 10% of the global output of agri product, primarily on account of limited farm-level productivity. With improved inputs, technical know-how, adequate training and skill-sets, Africa could produce two to three times more cereals and grains than it currently produces, adding nearly 20% more cereals and grains to the current worldwide 2.6 billion tonnes of output.[9]

As per estimates, agriculture in Africa will grow to be a US$ 1 trillion industry by 2030. Usage of tractors, equipment and implements, coupled with innovative irrigation solutions, will accelerate farm production, reduce human intervention and facilitate the sharing of adaptable, affordable and appropriate solutions suitable for African farming. Therefore, agriculture holds immense potential for businesses, specifically in mechanisation.[10]

In agri-processing, the continent's US$ 313 billion food and beverage market is projected to reach US$ 1 trillion by 2030 to meet growing demand; the agri-processing sector is expected to generate investment demand in the areas of strengthening of market linkages and upgradation of technologies in the food processing industry.

Issues such as fragmented land holdings, inadequate knowledge of farming technology, deficient infrastructure, meagre sources of financial solutions, limited market linkages, low level of mechanisation and poor economic support need to be considered while investing in the African agriculture sector.

Opportunities for Indian companies can be explored across the continent in the below areas:

- **Agriculture R&D**
- **Mechanisation**
- **Water management**
- **Irrigation systems**
- **Technical know-how**
- **Food processing technologies**
- **Packaging and logistics solutions**
- **Setting up of cold chains**
- **Agronomy**
- **Procurement systems**
- **Post-harvest management**

Recommendations

A CII conference on agriculture and food processing highlighted the below recommendations.

- Promote agri business in Africa and invest in food processing to raise productivity
- India and African countries should work on regulatory and policy barriers to help Indian industry
- Trade in agri products and agri machinery can be greatly expanded
- With 39% of Exim Bank of India lines of credit for the agriculture sector, the public private partnership model is a key way to expand Indian investments in Africa's agri sector
- Water management can be an area of opportunity for Indian companies
- Indian companies can look at exporting from African farms to third countries

[9] CII India-Africa Agriculture and Food Processing Summit
[10] CII India-Africa Agriculture and Food Processing Summit

Usage of tractors, equipment and implements, coupled with innovative irrigation solutions, will accelerate farm production, reduce human intervention and facilitate the sharing of adaptable, affordable and appropriate solutions suitable for African farming.

ii. Construction and infrastructure

The importance of the construction and infrastructure sector for a rapidly-urbanizing continent with developing economies cannot be overstated. The success of the AfCFTA depends on the rapid development of quality infrastructure, building of sustainable, economical and sufficient energy sources, and ensuring last-mile digital connectivity to all corners of Africa.

Africa has a massive infrastructure deficit and low infrastructure access is one of the key impediments to investment and growth. For example, nearly 600 million Africans lack access to the electricity grid.

But while Africa's infrastructure lags that of other developing regions, significant progress has been made: Africa's annual investment in infrastructure has doubled to around US$ 80 billion a year since the beginning of this century. That represents a big opportunity for investors and entrepreneurs with the imagination to help solve Africa's infrastructure challenges.[11] Most of the investments are needed in sub-sectors such as power, telecommunications, irrigation, cold storage, energy and transportation, among others.

Recommendations

There are three routes under which investments in Africa from India stand to be enhanced.

- First, there exists an enormous potential for improving India-Africa trade and investment partnerships under AfCFTA. AfCFTA is likely to bring in enhanced infrastructure facilities to enable cross-border movement of goods and many new transport and logistics projects will be on the anvil.
- Second are the Lines of Credit offered by India. India has provided US$ 12.26 billion under its Lines of Credit for Africa, the second highest destination for it. These have resulted in 193 projects being completed with 66 under process and 88 in the pre-execution stage[12]. These are mainly in infrastructure sectors including power plants, transmission lines, railway infrastructure, and others. Agriculture and social development projects such as drinking water and capacity building are also covered.
- Third, Indian companies can take the opportunity to explore investments in the infrastructure space under the Programme for Infrastructure Development in Africa (PIDA), which supports the AfCFTA agenda and stresses on the need for Africa to attract investments in quality and sustainable infrastructure with an aim to facilitate the smooth operationalisation of AfCFTA. The development of infrastructure at the continental level is supported through PIDA, which focuses on the promotion of transboundary and transnational infrastructure. It aims to aid the attainment of AfCFTA goals through facilitating the movement of goods, services, people and capital across the continent, as well as support the development of regional value chains in Africa.

[11] Spotlighting Opportunities for Business in Africa and Strategies to Succeed in the World's Next Big Growth Market, Brookings Institute, 2019
[12] https://www.mea.gov.in/Speeches-Statements.htm?dtl/35365/Keynote_Address_by_Minister_of_State_for_External_Affairs_Dr_Rajkumar_Ranjan_Singh_at_the_Africa_Day_Celebrations

Africa has a massive infrastructure deficit and low infrastructure access is one of the key impediments to investment and growth.

iii. Manufacturing

The manufacturing sector is a key component for economic development and the AU has given the sector the due prominence in its Agenda 2063. African governments are, therefore, seeking to attract investments and nurture industry, implementing strategies that involve targeted investment in infrastructure, improved regional integration and the establishment of special economic zones (SEZs) for priority sub-sectors.[13]

A review of Africa's near-term trends shows that manufacturing in the continent grew 3.5% annually from 2005 to 2014 — faster than it did in the rest of the world. Also, along with upstream and downstream sectors like construction and extraction, manufacturing is among the top sectors for investment flows into Africa, accounting for 22% of total foreign direct investment (FDI) in 2015. Industrial GDP expanded by 17% in 2019 with value added of manufacturing going up by 39%[14]. However, the pandemic disrupted the resurgence in manufacturing in Africa.

Going forward, the AfCFTA will be key to the further growth of the manufacturing sector in Africa. Africa's manufacturing sector is predicted to double in size, with annual output increasing from US$ 500 billion in 2015 to US$ 1 trillion in 2025 and creating an additional 14 million stable, well-paid jobs.[15]

Given the continent's growing and urbanising demographics and substantial infrastructure requirements, it can be surmised that the manufacturing sub-sectors with the most potential are those that are consumer-facing and infrastructure-related, and these are likely to be the most valuable in terms of annual revenue by 2025. By 2030, business-to-business spending in manufacturing in Africa is projected to reach US$ 666.3 billion, US$ 201.28 billion more than in 2015.[16]

The manufacturing segments with the most potential include textiles and apparels, pharmaceuticals and chemicals, cement production, auto and auto components, and footwear.

Indian companies have invested in the African manufacturing sector to the tune of 36% of their total FDI in Africa. These are in new projects as well as mergers and acquisitions route. The major sectors of engagement have been pharmaceuticals, automobiles, FMCG, etc. The top countries, apart from Mauritius, included Tunisia, South Africa, Morocco and Ethiopia.

As per the EY Africa Attractiveness Report 2021, industry attracted 277 projects between 2016-20. In 2020, a year in which FDI fell drastically, FDI investment was US$ 2.3 billion in advanced manufacturing and US$ 2.3 billion in automotive sector, with construction accounting for US$ 402 million[17].

[13] The Potential of Manufacturing and Industrialization in Africa: Trends, Opportunities, and Strategies by Brookings Institution, 2018
[14] https://www.africanews.com/2022/06/30/is-time-running-out-for-africa-to-industrialize-business-africa/
[15] The Potential of Manufacturing and Industrialization in Africa: Trends, Opportunities, and Strategies by Brookings Institution, 2018
[16] The Potential of Manufacturing and Industrialization in Africa: Trends, Opportunities, and Strategies by Brookings Institution, 2018
[17] https://www.ey.com/en_za/attractiveness/21/africa-attractiveness-report-

Recommendations

- Issues such as access to finance, ease of doing business at both the setting up and operational stages, availability of skilled work forces, development of regional value chains, availing of benefits and incentives of plug-and-play industrial parks, transparent and efficient border infrastructure are pivotal for businesses and will need to be addressed proactively and holistically.
- There are 230 special economic zones in Africa where the investment climate is more facilitative. India may urge for India-specific SEZs where Indian companies can locate manufacturing facilities to export to India as well as other markets.
- India can set up joint mechanisms for entering into regional production networks and local supply chains. Large Indian companies should work with smaller Indian companies for setting up ancillaries which in turn would connect with African SMEs for local inputs.

India can set up joint mechanisms for entering into regional production networks and local supply chains.

V. SERVICES

The service sector accounts for a huge proportion of global employment and is the biggest driver of gross domestic product (GDP) in both developed and developing economies. This holds true for the services sector in Africa also, with about 55% of Africa's GDP generated by services in 2016[18] and services accounting for nearly 75% of greenfield FDI to the continent. However, a need for greater access to services still exists; for instance, in 2017, Africa accounted for only 3% of the world's total services imports and 2% of the world's total exports of services.[19] There is, therefore, still immense scope and potential vis-à-vis investments in the services sector in Africa.

According to the African Development Bank (AfBD), the continent's post-pandemic growth will be driven largely by private consumption and investment on the demand side, and by continued expansion in the services sector on the supply side. The services sector, especially tourism, has shown strong post-pandemic recovery and is likely to remain buoyant in the medium term.[20] As of 2020, 41.6% of total employment in Africa was in the services sector. According to estimates, the share of people employed in services has been slowly increasing in the continent. In comparison, in 2010, 36.7% of total employment in Africa was in the tertiary sector.[21]

As per the EY Africa Attractiveness Report 2021, FDI is moving from extractive industries towards services, which received 45% of capital investment and accounted for 69% of Africa's FDI projects.

In the services ecosystem, the key segments for investment in Africa include banking and financial services, transportation, information and communication technology (ICT), healthcare services, professional and technical consultancy services, education and skill development.

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i. Banking and financial services

Of critical importance are banking and financial services as Africa is likely to require a colossal US$ 750 billion of capital spending over the next 10 years. With a growing population and a significant amount of infrastructure, power and connectivity needs, a robust financing ecosystem that is spread across the continent, along with a stable political and economic environment, will be the key enablers to attract more foreign players to the continent.

Also, the need of the hour is for financial services companies to increase the pace of formalizing of different types of financing solutions that can be used for project financing across the continent.[22] According to the World Bank, the use of formal financial services is currently concentrated only among the richest 20% of Africa's population, thereby indicating the urgency for broad-basing financial services in the continent.

[18] https://unctad.org/news/mission-unlock-africas-services-sector
[19] https://unctad.org/news/mission-unlock-africas-services-sector
[20] African Economic Outlook 2022, African Development Bank
[21] https://www.statista.com/statistics/1230875/employment-in-services-as-share-of-total-in-africa/
[22] 2nd CII Summit on Innovative Financing Partnership with Africa

Recommendations

- The presence of Indian banks is low in Africa. Kenya has 5 branches of Bank of India, Mauritius 8 branches and Seychelles 1 branch of Bank of Baroda and South Africa has 4 branches of various banks as of 31 October 2021. India must look at setting up more banking branches in Africa.
- Exim Bank of India is the chief financier of trade and investment through Lines of Credit under Government of India's Focus Africa program. It also provides LOCs to financial institutions in Africa for import of equipment and services for projects. Under the Buyer's Credit under National Export Insurance Account, the Bank extends credit to overseas governments for imports.

  The Focus Africa scheme may be expanded to include export finance provided by other banks. In a way similar to the Emergency Credit Linked Guarantee Scheme offered by the Indian Government to MSME sector during the pandemic, a guarantee facility may be considered for Indian banks lending to exporters to Africa with adequate due diligence.
- New instruments should be considered including equity and quasi equity related bankable project financing, structured Indian LoCs, etc.
- Export insurance is a key measure to be expanded to provide comfort and risk mitigation to traders. Lower cost of insurance will help exporters.
- Indian companies should be part of African Development Bank's PPP project development. They may look at availing risk mitigation instruments offered by AfDB.
- India should look at special purpose vehicles which can work on extraction industries for selling in overseas markets. The proceeds of these can be used to support new projects.
- India's new development finance institution NaBFID may consider projects in Africa.
- Co-financing between private investors and development finance institutions may be expanded.

ii. Healthcare

India's humanitarian assistance to Africa during the Covid period opened up new collaboration potential for healthcare delivery. India already exports a significant value of drugs to Africa and has been instrumental in fighting its AIDS battle through its low-cost therapies. It is the third largest investor in the healthcare sector in Africa. With the large requirement for healthcare, Indian companies can build on this to emerge as the largest investors in the continent, given the right regulatory environment in member countries.

India's pan-African e-network project e-Arogya Bharti commenced in 2019 to provide tele-medicine facilities and free medical education. Large Indian hospital chains have built hospitals in the continent which should be expanded. According to Exim Bank of India, the health and wellness sector of Africa would expand to US$ 259 billion by 2030.

Recommendations

- The India-Africa Health Fund can be used to set up hospitals in a hub and spoke model and it can be expanded in terms of available funds as seed money for further investments from the private sector.
- India should engage in medical education on the ground through concessional fees.
- Medical tourism from Africa to India has taken off well and can be further expanded.
- India should also target Africa as a market for medical equipment and supplies at competitive rates. Manufacturing facilities can be set up within Africa for meeting local requirements.

iii. Education and skill development

By 2050, Africa will have a billion children under the age of 18. This can be a formidable resource for the world with the requisite education and skill development. In 2019, over 100 million children of primary and secondary ages were out of schools. Only 23% complete the full secondary education and 3% are enrolled in technical and vocational education, according to UNICEF.[23]

India has helped in developing institutions that provide education. It has trained thousands of people in India and has offered programs such as Study in India, ITEC scholarships, and ICCR scholarships. The e-Vidya Bharti network is expected to provide free online education to 4,000 students.

According to a CII seminar held on higher education and skill development partnerships between India and Africa, India can participate through CSR activities, curriculum reforms, and industry based skill set programs for Africa.

Recommendations

- It is suggested that online cooperation in higher education and skill development will be a big factor in India's participation in Africa.
- Faculty training and teacher exchange programs should be expanded.
- Scholarship programs can be scaled up, particularly for technical education and research programs.
- Indian and African bodies can jointly seek funding from international finance institutions for building skill development facilities and teacher training.
- Skill development programs for specific sectors like agriculture and energy should be expanded.
- Women must be given high priority in skill development. Special programs can be set up by India.
- India can undertake skill gap studies and set up accreditation and assessment centres based on its sector skill councils with private sector participation.

[23] https://www.unicef.org/media/106691/file/Transforming%20Education%20in%20Africa.pdf

VI. DIGITAL TECHNOLOGY AND ENTREPRENEURSHIP

Sub-Saharan Africa saw the world's fastest rate of new broadband connections between 2008 and 2015, and mobile data traffic across Africa is expected to increase sevenfold between 2017 and 2022. There are 600 tech hubs in the continent that include startups, incubators, and innovation centres and are helping young Africans turn entrepreneurs[24]. E-commerce and fintech are driving the digital economy and the mobile industry size is about US$ 132 billion with 500 million subscribers across the continent.[25]

However, only 28% of Africans use the internet. In Africa, ICT players face considerable challenges in the form of high operating costs, lack of skilled manpower, underdeveloped fixed networks and weak data protection regulations, all of which are pervasive across the African continent. However, the challenge is also an opportunity as governments across the continent are taking steps to ensure the spread of ICT infrastructure to rural areas and to provide Internet services, video conferencing, GOIP, e-governance, etc. The lack of quality ICT and the challenges therein are, therefore, the opportunity.

Africa has more than 120 million active mobile money accounts, this has leapfrogged many people over traditional banking products. This trend will allow companies to improve productivity, speed up transactions, and access wider markets, and could add US$ 300 billion to the continent's GDP by 2025.[26]

It is widely acknowledged that financial services, transport and ICT services are the backbone to structural economic transformation and are essential for the delivery of healthcare, education and other social services to promote inclusive and sustainable development.

India, with its rich experience and strong policy ecosystem, is suitably placed to partner with African governments, companies and institutes in developing and offering services across the spectrum in ICT and financial services.

Fintech is a major area of potential cooperation as it is a resurgent area in Africa as well as India. Half of startup investments in Africa are to the fintech sector, crossing US$ 1 billion in 2021[27]. More fintechs are required in Africa and Indian companies can invest in this sector where local regulations permit. The success of Kenya's MPESA shows the way for Indian investments.

Edtech has also been a sector attracting funding in Africa. There are 340 edtech startups in South Africa alone. The Indian edtech sector has taken off with over 9000 startups working across areas such as school education, test preparation, online certification and skill development[28].

E-commerce and fintech are driving the digital economy and the mobile industry size is about US$ 132 billion with 500 million subscribers across the continent.

India, with its rich experience and strong policy ecosystem, is suitably placed to partner with African governments, companies and institutes in developing and offering services across the spectrum in ICT and financial services.

[24] https://www.imf.org/external/pubs/ft/fandd/2021/03/africas-digital-future-after-COVID19-duarte.htm
[25] https://www.weforum.org/agenda/2022/02/3-ways-tech-and-innovation-can-push-africa-to-the-next-level-of-economic-growth/
[26] Spotlighting Opportunities for Business in Africa and Strategies to Succeed in the World's Next Big Growth Market, Brookings Institute, 2019
[27] https://www.forbesafrica.com/brand-voice/2022/06/09/fintech-in-africa-overcrowded-just-enough-or-not-enough/
[28] https://www.india-briefing.com/news/profiling-indian-edtech-industry-us-10-billion-dollar-opportunity-24013.html/#:~:text=India's%20Edtech%20sector%3A%20A%20primer&text=At%20present%2C%20there%20are%209%2C043,(as%20of%20March%202020).

Recommendations

- India should explore digital partnerships in Africa and share its experiences under Digital India. With the support of multilateral development institutions, India can create platforms such as Aadhar for African countries that request for it.

- India must also look at creating broadband infrastructure in the continent with access to remote locations. A trilateral or multilateral partnership can be created to boost this as it will yield a lot of gains for businesses of the world.

- Recognition of courses will be key towards boosting India-Africa edtech partnerships.

- Courses may be devised as per local African conditions and requirements. Indian edtech companies may consider tie-ups with African universities for online modules.

- India can work on setting up startup hubs in Africa based on the Startup India program which has helped register over 70,000 startups in the country.

- African countries are prioritising innovation and technology and can offer startup incentives to promote entrepreneurship.

- It is important for both sides to work on strengthening SME cooperation as this will drive economic engagement, given the large size of the sector in both regions.

- Entrepreneurship development training programs can be delivered online for boosting capacities of SMEs.

- CII's multiple SME competitiveness programs can be scaled up in Africa through a subsidised program. Capacity building of trainers in areas such as quality management, design, and innovation can also be part of the overall assistance provided to Africa as these would help create jobs.

VII. GREEN ENERGY

A perennial issue with developing economies is the access to good quality energy sources that are needed for powering factories and services, as well as for their rapidly-urbanizing landscapes. Africa faces a similar challenge in that it needs to expand power generation substantially in order to achieve universal access to energy. However, at the same time, the spectre of climate change and the imperative for nations, whether developed or developing, to concoct sustainable energy mixes is necessitating a proactive approach on the continent towards the adaptation of green energy initiatives. In short, there is no longer a trade-off between development and climate-appropriate growth — governments and policy makers have to factor in the sustainability of the environment when planning developmental and economic activities.

According to the AfDB, Africa has an almost unlimited potential of solar capacity (10 TW), abundant hydro (350 GW), wind (110 GW) and geothermal energy sources (15 GW). The International Renewable Energy Agency (IRENA) estimates that renewable energy capacity in Africa could reach 310 GW by 2030, which would put the continent at the forefront of renewable energy generation globally. There are likely to be, therefore, substantial and attractive investment opportunities across the continent for building climate-resilient infrastructure, climate-smart agriculture and the sustainable management of natural resources.[29]

A 2020 IRENA report says that Africa could meet nearly a quarter of its energy needs from indigenous and clean renewable energy by 2030. Modern renewables amounting to 310 GW could provide half the continent's total electricity generation capacity. This corresponds to a seven-fold increase from the capacity available in 2017, which amounted to 42 GW. A transformation of this scale in Africa's energy sector would require average annual investment of US$ 70 billion to 2030, resulting in carbon dioxide emissions reductions of up to 310 mega tonnes.[30]

Clean energy is, therefore, the next sunrise industry in Africa and global investors have started paying attention to this opportunity. An analysis on 2021 FDI inflows by UNCTAD shows that the number of international projects in renewables in Africa climbed to 71, nearly double the 36 recorded in 2011. These includes a US$ 20 billion project to provide solar and wind energy from Morocco to the United Kingdom via 3,800 km of sub-sea cables, as well as a US$ 4.6 billion clean energy project finance deal in South Africa, which has been sponsored by a UK-based company.[31] In value terms, greenfield projects in renewable energy depicted a 60% growth in 2021 over 2020, with investments worth US$ 5.4 billion in 2020 and US$ 8.6 billion in 2021. Similarly, international project finance deals increased by a substantial 117% in 2021 (US$ 26.4 billion) over 2020 (US$ 12.1 billion).[32] India has supported African energy transition and African countries have supported the International Solar Alliance led by India. The ISA has partnered with the AfDB for 10,000 MW of solar power systems across the Sahel to provide electricity to 300 million Africans. India has also provided LOCs for many green projects in power, water and agriculture.

Africa has an almost unlimited potential of solar capacity (10 TW), abundant hydro (350 GW), wind (110 GW) and geothermal energy sources (15 GW).

[29] https://www.afdb.org/en/news-and-events/why-africa-is-the-next-renewables-powerhouse
[30] Scaling Up Renewable Energy Deployment in Africa, International Renewable Energy Agency (IRENA), 2020
[31] https://unctad.org/news/investment-flows-africa-reached-record-83-billion-2021
[32] UNCTAD World Investment Report, 2022

Recommendations

- The scale of LOCs can be expanded for green projects and a green dimension be included while validating the projects.
- Indian renewable energy companies which have wide experience in India should explore opportunities in wind, solar, and hybrid energy in Africa. The Indian Government can share such information with the companies.
- The two sides can share knowledge and R&D outputs. India has pledged to share climate change technology and the African Climate Technology Centre of the AfDB is leading research projects on the continent. The India-Africa Science and Technology initiative is working on sharing technology including on renewable energy and climate change.
- It is important for India and Africa to seize the opportunity in renewable energy manufacturing as well.
- The two sides must also work together to ensure that the US$ 100 billion per year funds promised by developed countries at the COP21 are delivered.

VIII. CONCLUSION

The close partnership and the aspiration of both India and Africa to forge new economic engagement across emerging dimensions are evident and characterize the relationship of the two sides. The constraining factor is availability of funds to meet the aspirations.

The private sectors of both sides can be strong participants and partners in the endeavour to promote bilateral linkages and it will be the greatest beneficiary of these initiatives. The interest of the private sector is rising as is seen in the growing trade and investment relations.

With a Government led agenda in place to date, industry in India suffers from lack of knowledge and information about opportunities in Africa. It also remains anxious about risk factors on the continent.

A Government-industry joint effort is required to catalyze interest in Africa and ensure the right information flow. Active support on upcoming opportunities for investment from the embassies of both sides would be welcome for Indian industry to consider options.

The proactive agenda-setting by African governments and leaders signals investment opportunities across sectors and these need to be leveraged by Indian industry. On their part, governments and leaders on the continent will need to go beyond the rhetoric and ensure on-the-ground support and frameworks to attract Indian companies, to reassure investors of transparency, of actionable policy and measurable outcomes. Business will have to see growth in operations in Africa in order for it to domino a sustainable ecosystem that ensures a brighter and developed future for millions of Africans.

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ANNEX

Table 1: India's Potential Exports to South Africa
US$ million, 2021

HS Code	Product label	India's Exported value	South Africa's Imported Value	India's Exports to South Africa	ES Index
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	14718.72	1640.61	573.67	2.13
100630	Semi-milled or wholly milled rice, whether or not polished or glazed	8361.33	481.59	85.82	4.12
870899	Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons, ...	3072.83	357.65	47.49	2.04
380893	Herbicides, anti-sprouting products and plant-growth regulators, put up in forms or packings ...	1627.27	216.00	26.34	1.79
880330	Parts of aeroplanes or helicopters, n.e.s. (excluding those for gliders)	943.95	185.26	1.50	1.21
721049	"Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, hot-rolled or cold-rolled ...	1290.78	180.76	0.00**	1.69
610910	T-shirts, singlets and other vests of cotton, knitted or crocheted	1698.26	170.27	29.45	2.36
380891	Insecticides, put up in forms or packings for retail sale or as preparations or articles (excl. ...	1666.27	168.80	6.00	2.34
740311	Copper, refined, in the form of cathodes and sections of cathodes	850.76	149.46	0.00**	1.35
732690	Articles of iron or steel, n.e.s. (excluding cast articles or articles of iron or steel wire)	956.54	129.60	21.54	1.75
840890	"Compression-ignition internal combustion piston engine ""diesel or semi-diesel engine"" (excluding ...	723.05	129.48	12.00	1.32
840999	"Parts suitable for use solely or principally with compression-ignition internal combustion ...	980.09	127.18	2.97	1.83

HS Code	Product label	India's Exported value	South Africa's Imported Value	India's Exports to South Africa	ES Index
890590	Light-vessels, fire-floats, floating cranes and other vessels, the navigability of which is ...	2894.34	116.83	699.27	5.87
848340	Gears and gearing for machinery (excluding toothed wheels, chain sprockets and other transmission ...	756.10	113.85	1.48	1.57
721070	"Flat products of iron or non-alloy steel, of a width of >= 600 mm, hot-rolled or cold-rolled ...	502.23	111.69	0.51	1.07
293499	"Nucleic acids and their salts, whether or not chemically defined; heterocyclic compounds (excl. ...	623.99	110.47	25.33	1.34
790111	Unwrought zinc, not alloyed, containing by weight >= 99,99% of zinc	805.47	107.07	0.00**	1.78
380892	Fungicides, put up in forms or packings for retail sale or as preparations or articles (excl. ...	848.44	104.08	10.60	1.93

Source: CII Calculations based on ITC data

Note: South Africa Import Filter >= 100 million

India Exports Filter >=500 million

Final Products sorted as per South African imports

* * Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 2: India's Potential Exports to Egypt
US$ million, 2021

HS Code	Product label	India's Exported value	Egypt's Imported Value	India's Exports to Egypt	ES Index
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	14718.72	2260.27	9.49	1.22
711319	Articles of jewellery and parts thereof, of precious metal other than silver, whether or not ...	8430.82	229.27	0.00**	6.87
520100	Cotton, neither carded nor combed	2682.05	196.79	0.00**	2.55
721049	"Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, hot-rolled or cold-rolled ...	1290.78	175.65	1.67	1.37
720839	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, in coils, simply ...	2761.31	148.08	14.82	3.48
30617	Frozen shrimps and prawns, even smoked, whether in shell or not, incl. shrimps and prawns in ...	5148.77	139.19	0.00**	6.91
540233	Textured filament yarn of polyester (excluding that put up for retail sale)	767.30	136.67	56.20	1.05
850440	Static converters	1300.03	132.54	2.41	1.83
392690	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (excluding ...	803.33	121.86	1.21	1.23
851770	Parts of telephone sets, telephones for cellular networks or for other wireless networks and ...	854.10	119.95	0.33	1.33
870899	Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons, ...	3072.83	117.98	20.98	4.87
851762	Machines for the reception, conversion and transmission or regeneration of voice, images or ...	677.54	108.64	0.00**	1.17
870321	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	1430.58	107.61	107.41	2.48
271019	Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel, ...	34867.79	101.12	31.69	64.44

Source: CII calculations based on ITC data
Note: Egypt Imports Filter >= 100 million
India Exports Filter>=650 million
Products sorted as per Egypt imports
** Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 3: India's Potential Exports to Ethiopia

US$ million, 2021

HS Code	Product label	India's Exported value	Ethiopia's Imported Value	India's Exports to Ethiopia	ES Index
271019	Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel, ...	34867.79	946.37	8.97	1.43
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	14718.72	321.77	115.75	1.77
170199	Cane or beet sugar and chemically pure sucrose, in solid form (excluding cane and beet sugar ...	2341.94	79.61	6.11	1.14
851712	"Telephones for cellular networks ""mobile telephones"" or for other wireless networks"	4871.53	64.50	0.00**	2.92
380891	Insecticides, put up in forms or packings for retail sale or as preparations or articles (excl. ...	1666.27	63.65	10.58	1.01
720839	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, in coils, simply ...	2761.31	59.34	0.10	1.80
380893	Herbicides, anti-sprouting products and plant-growth regulators, put up in forms or packings ...	1627.27	57.61	10.23	1.09
841112	Turbojets of a thrust > 25 kN	2288.98	48.69	0.00**	1.82
871120	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder ...	2516.60	42.22	25.13	2.31
870899	Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons, ...	3072.83	33.61	1.88	3.54
392690	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (excluding ...	803.33	30.73	1.11	1.01
720719	Semi-finished products of iron or non-alloy steel containing, by weight, < 0,25% of carbon, ...	1995.42	28.69	0.87	2.69
850440	Static converters	1300.03	26.24	0.31	1.92
390761	"Poly""ethylene terephthalate"", in primary forms, having a viscosity number of >= 78 ml/g"	699.76	25.16	0.00**	1.08
850300	Parts suitable for use solely or principally with electric motors and generators, electric ...	802.05	23.88	0.04	1.30

HS Code	Product label	India's Exported value	Ethiopia's Imported Value	India's Exports to Ethiopia	ES Index
940360	Wooden furniture (excluding for offices, kitchens and bedrooms, and seats)	855.39	22.30	0.05	1.49
790111	Unwrought zinc, not alloyed, containing by weight >= 99,99% of zinc	805.47	21.10	1.58	1.48

Source: CII Calculations based on ITC data
Note: Algeria Import Filter >= 20 million
India Export Filer >=650 million
Final Products sorted as per Ethiopia's imports
** Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 4: India's Potential Exports to Algeria
US$ million, 2021

HS Code	Product label	India's Exported value	Algeria's Imported Value	India's Exports to Algeria	ES Index
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	14718.72	415.66	20.24	3.09
870899	Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons, ...	3072.83	158.09	9.24	1.70
271019	Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel, ...	34867.79	102.99	0.86	29.55
841112	Turbojets of a thrust > 25 kN	2288.98	79.64	0.00**	2.51
840999	"Parts suitable for use solely or principally with compression-ignition internal combustion ...	980.09	64.35	1.16	1.33
720839	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, in coils, simply ...	2761.31	63.35	0.00	3.80
850440	Static converters	1300.03	62.48	0.32	1.82
100630	Semi-milled or wholly milled rice, whether or not polished or glazed	8361.33	61.85	55.90	11.80
732690	Articles of iron or steel, n.e.s. (excluding cast articles or articles of iron or steel wire)	956.54	56.20	0.07	1.49
730890	Structures and parts of structures, of iron or steel, n.e.s. (excluding bridges and bridge-sections, ...	723.46	52.47	1.32	1.20
090111	Coffee (excluding roasted and decaffeinated)	622.91	51.47	10.00	1.06

Source: CII Calculations based on ITC data
Note: Algeria Import Filter >= 50 million
India Export Filter >= 600 million
Final Products sorted as per Algerian imports
** Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 5: South Africa's Potential Exports to India

US$ million, 2021

HS Code	Product label	South Africa's Exported value	India's Imported Value	South Africa's Exports to India	ES Index
271012	"Light oils and preparations, of petroleum or bituminous minerals which >= 90% by volume ""incl. ...	1675.71	1802.28	1.34	4.29
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	410.65	1363.33	0.83	1.39
270112	Bituminous coal, whether or not pulverised, non-agglomerated	5869.69	1309.90	2166.66	20.66
260200	Manganese ores and concentrates, incl. ferruginous manganese ores and concentrates, with a ...	2758.82	1143.07	414.55	11.13
390210	Polypropylene, in primary forms	370.76	1127.06	2.04	1.52
750210	Nickel, not alloyed, unwrought	521.54	694.16	61.28	3.46
470200	Chemical wood pulp, dissolving grades	853.36	597.53	437.20	6.58
710813	Gold, incl. gold plated with platinum, in semi-manufactured forms, for non-monetary purposes	7439.23	554.42	0.00**	61.86
300220	Vaccines for human medicine	316.61	443.93	0.00**	3.29
842139	Machinery and apparatus for filtering or purifying gases (excl. isotope separators and intake ...	2366.31	378.21	40.17	28.84
080810	Fresh apples	484.96	377.43	8.63	5.92
710210	Diamonds, unsorted	332.20	362.63	8.88	4.22
260111	Non-agglomerated iron ores and concentrates (excluding roasted iron pyrites)	3871.37	360.38	45.28	49.52
381512	Supported catalysts with precious metal or a precious-metal compound as the active substance, ...	1177.18	331.64	0.00**	16.36
760612	Plates, sheets and strip, of aluminium alloys, of a thickness of > 0,2 mm, square or rectangular ...	445.95	314.54	0.00**	6.54

Source: CII Calculations based on ITC data

Note: India Import Filter >= 250 million

South Africa's Exports Filter >=300 million

Final Products sorted as per Indian Imports

* * Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 6: Egypt's Potential Exports to India
US$ million, 2021

HS Code	Product label	Egypt's Exported value	India's Imported Value	Egypt's Exports to India	ES Index
271111	Natural gas, liquefied	3917.29	12078.53	343.98	4.55
271019	Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel, ...	3502.25	7920.92	1.94	6.20
310210	Urea, whether or not in aqueous solution (excluding that in pellet or similar forms, or in ...	1078.61	4168.32	97.01	3.63
999999	Commodities not elsewhere specified	2741.38	1387.61	0.07	27.69
300490	"Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes, ...	247.47	1363.33	9.36	2.54
281410	Anhydrous ammonia	259.83	1316.09	75.14	2.77
390210	Polypropylene, in primary forms	525.30	1127.06	0.01	6.53
290511	"Methanol ""methyl alcohol"""	261.33	959.97	0.00	3.82
390120	Polyethylene with a specific gravity of >= 0,94, in primary forms	313.97	880.54	0.06	5.00
520100	Cotton, neither carded nor combed	219.47	519.61	128.99	5.92

Source: CII Calculations based on ITC data
Note: India Import Filter >= 250 million
Egypt Export Filter >=200 million
Final Products sorted as per Indian Imports
* * Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 7: Ethiopia's Potential Exports to India
US$ million, 2021

HS Code	Product label	Ethiopia's Exported value	India's Imported Value	Ethiopia's Exports to India	ES Index
851712	"Telephones for cellular networks ""mobile telephones"" or for other wireless networks"	11.57	1532.45	0.00**	1.41
071331	"Dried, shelled beans of species ""Vigna mungo [L.] Hepper or Vigna radiata [L.] Wilczek"", ...	17.21	675.73	3.50	4.75
120190	Soya beans, whether or not broken (excluding seed for sowing)	41.32	488.08	26.52	15.79
230400	Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting ...	6.62	364.73	5.06	3.39
710310	Precious stones and semi-precious stones, unworked or simply sawn or roughly shaped, whether ...	5.42	337.01	3.38	3.00

HS Code	Product label	Ethiopia's Exported value	India's Imported Value	Ethiopia's Exports to India	ES Index
151590	Fixed vegetable fats and oils and their fractions, whether or not refined, but not chemically ...	1.56	196.12	0.00**	1.48
071320	"Dried, shelled chickpeas ""garbanzos"", whether or not skinned or split"	36.65	164.65	11.29	41.52
130190	Lac; natural gums, resins, gum-resins, balsams and other natural oleoresins (excluding gum ...	2.94	155.82	0.00**	3.51
071333	"Dried, shelled kidney beans ""Phaseolus vulgaris"", whether or not skinned or split"	75.23	144.15	22.61	97.35
300190	Dried glands and other organs for organo-therapeutic uses, whether or not powdered; heparin ...	1.32	140.39	0.00**	1.75
850431	Transformers having a power handling capacity <= 1 kVA (excluding liquid dielectric transformers)	0.79	136.39	0.79	1.08
440729	"Tropical wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded ...	1.02	133.89	0.00**	1.42
330129	Essential oils, whether or not terpeneless, incl. concretes and absolutes (excluding those ...	0.71	122.31	0.50	1.08
090111	Coffee (excluding roasted and decaffeinated)	1185.53	117.10	0.16	1888.65
210690	Food preparations, n.e.s.	1.27	112.26	0.00**	2.11
121190	Plants, parts of plants, incl. seeds and fruits, used primarily in perfumery, in pharmacy or ...	3.54	106.56	0.13	6.19
620342	Men's or boys' trousers, bib and brace overalls, breeches and shorts, of cotton (excluding ...	16.11	105.78	0.00**	28.42
630790	Made-up articles of textile materials, incl. dress patterns, n.e.s.	0.71	102.51	0.00**	1.29
842951	Self-propelled front-end shovel loaders	0.91	101.63	0.00**	1.68
870323	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	1.39	100.44	0.00**	2.58

Source: CII Calculations based on ITC data

Note: India Import Filter >= 100 million

Final Products sorted as per Indian Imports

* * Values reported as 0 in ITC (either not available for 2021/too small to report)

Table 8: Algeria's Potential Exports to India
US$ million, 2021

HS Code	Product label	Algeria's Exported value	India's Imported Value	India's Imports from Algeria**	ES Index
270900	Petroleum oils and oils obtained from bituminous minerals, crude	11895.44	106406.79	444.41	1.71
271111	Natural gas, liquefied	3609.85	12078.53	115.53	4.57
271019	Medium oils and preparations, of petroleum or bituminous minerals, not containing biodiesel, ...	2527.76	7920.92	50.85	4.88
271113	Butanes, liquefied (excluding of a purity of >= 95% of N-butane or isobutane)	754.46	6376.95	NA	1.81
271112	Propane, liquefied	1633.80	5525.70	NA	4.52
310210	Urea, whether or not in aqueous solution (excluding that in pellet or similar forms, or in ...	1321.44	4168.32	149.00	4.85
271012	"Light oils and preparations, of petroleum or bituminous minerals which >= 90% by volume ""incl. ...	4367.27	1802.28	NA	37.03
281410	Anhydrous ammonia	754.14	1316.09	NA	8.76

Source: CII Calculations based on ITC data

Note: India Import Filter >= 200 million

Algeria Exports Filter >=200 million

**Data in India's Imports from Algeria taken from Department of Commerce, India;
the time period of ITC and DoC data is different, which may affect the results to some extent.

Final Products sorted as per Indian Imports

* * Values reported as 0 in ITC (either not available for 2021/too small to report)

METHODOLOGY

Data and methodology for identifying India's top potential exports to Africa

As per WITS, the ES index is calculated as the ratio of the share of a product in a country's total exports to the share of this product in imports to specific markets or partners rather than its share in world exports:

$$ES = (x_{ij}/X_{it}) / (m_{kj}/M_{kt})$$

Where x_{ij} and X_{it} are export values of country i in product j, respectively, and where m_{kj} and M_{kt} are the import values of product j in market k and total imports in market k.

In other words, the numerator is the ratio of a country's total exports of a specific commodity to the country's total exports while the denominator is the ratio of the partner country's imports of the commodity to the partner country's total imports.

The numerator of the index captures the country's share of a specific commodity in its export's basket, similar to the RCA index, while the denominator in the ES index captures the partner country's share of the commodity under consideration in its import basket, unlike the world shares in the RCA index. This throws light on the relevance of a particular commodity in a specific market, which is an important criterion for understanding potential exports to specific markets.

The ES is similar to the RCA in its interpretation. When the value of the index is less than one, it indicates a comparative disadvantage of the product, while a value greater than one represents specialization or comparative advantage of the product under consideration.

This report uses exports and related data from ITC at the HS 6-digit level to identify Indian exports with high potential to identified African countries. Boosting domestic production of the identified products is expected to further enhance India-Africa trade and economic relations.

Data on the variables required for the construction of the ES index have been sourced from ITC at the HS 6-digit level, for the latest available year i.e. 2021.

For example, for constructing the ES index for determining India's potential exports to South Africa, data on the following variables have been collected.

(i) India's exports to world (ii) South Africa's imports from world (iii) India's total exports and (iv) South Africa's total imports.

Similarly, data on imports has been sourced for the other countries including Egypt, Ethiopia and Algeria from the ITC database. Where updated data for 2021 was not available, mirror data from the ITC database has been used for the year.

Depending on the specific African country, various import and export filters have been used as proxies for the partner country's demand and the exporting country's' (India's) productive capacities.

For example, in the case of South Africa, after collecting data on the above-mentioned variables, products for which South Africa's world imports are greater than US$ 100 million are identified, while rest are excluded. Such a criteria is used to ensure that there is substantial demand for the Indian product in the partner country i.e., South Africa. At the same time, to ensure that the exporting country has sufficient production capacity, an export filter is used. In this case, for India, exports greater than US$ 500 million are considered.

The export and import filters have been decided on a case-by-case basis, depending on each of the bilateral pair of countries and their export and import profiles. These are mentioned as footnotes in the annex tables containing the findings.

After excluding all products with an import value less than US$100 million, the ES index is calculated for all the remaining products. All products for which the value of the index is less than 1 are excluded, as an index value less than 1 indicates that the product is not competitive in the target market or the partner country.

The remaining products at the end of the exercise for each of the countries, for which the index value is greater than 1, indicate specialization or comparative advantage of the products in the partner country.
The final products are then sorted as per the partner country's import values.

Data and methodology for identifying Africa's top potential exports to India

The ES index is again employed to identify the top potential exports from the selected African countries to India.

In this case, the ES index is constructed with each of the African countries as the exporting country and India as the partner country. In other words, this time the numerator of the ES index measures the total exports of the specific commodity for the specific African country under consideration to its total exports, while the denominator is the ratio of the partner country's i.e., India's imports of the specific commodity to India's total imports.

For example, for constructing the ES index for determining South Africa's potential exports to India, data on the following variables have been collected.

(i) South Africa's exports to world (ii) India's imports from world (iii) South Africa's total exports and (iv) India's total imports.

Similarly, data on exports have been sourced for the other African countries including Egypt, Ethiopia and Algeria from the ITC database. Where updated data for 2021 was not available, mirror data from the ITC database has been used for the year.
As before, various import and export filters have been used as proxies for the partner country's demand (India) and the exporting country's' (the specific African country) productive capacities.

While complete care has been taken in analyzing the data, it is to be noted that in some respects the data from International Trade Centre may not be complete and may affect the final calculations conducted by CII.

Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India completes 75 years of Independence in 2022, it must position itself for global leadership with a long-term vision for India@100 in 2047. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2022-23 as Beyond India@75: Competitiveness, Growth, Sustainability, Internationalisation has prioritized 7 action points under these 4 sub-themes that will catalyze the journey of the country towards the vision of India@100.

With 62 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

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