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Maximizing Trade Value for Africa Through In-Continent Value Addition

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Abstract

This paper examined the persistent pattern of raw material exportation in Africa and the strategic transition toward exporting semi-finished or processed commodities as a means of promoting industrial development and economic sustainability across the continent. Despite being richly endowed with vast natural and mineral resources, African countries continue to occupy the lowest rung of the global value chain by exporting unprocessed raw materials to industrialized nations in the Global North. The key objectives of this paper are to analyze the underlying factors responsible for Africa's over-reliance on the exportation of raw materials and to propose actionable pathways toward structural economic transformation. Anchored on the world systems theory, the study situates Africa within an historically entrenched global economic structure where peripheral regions supply raw materials to core industrial economies, reinforcing dependency and underdevelopment. The paper explored several key concepts, including raw materials, exporting raw materials, exporting semi-finished goods, and processed commodities. Through a qualitative methodology based on secondary data, including scholarly publications, institutional reports, and trade statistics, the study offers a comprehensive analysis of current trends and structural constraints. One key finding reveals that the absence of technical know-how to produce capital goods such as machinery and advanced processing technologies significantly hampers Africa's capacity to process its own raw materials, leaving it vulnerable to global price fluctuations and economic shocks. Hence, the study underscores the urgent need for Africa to reconfigure its economic model by embracing industrialization and reducing its dependency on external markets for value addition. Based on the findings, the paper recommends, among others, the development of local processing industries through targeted investment, capacity building, and technology transfer initiatives. Such a shift is critical for enhancing domestic value chains, creating employment, and achieving long-term sustainable development.

Keywords: Raw materials, processed commodities, semi-finished goods, export dependence and industrialization.

1. Introduction

Africa is abundantly endowed with a diverse array of raw materials that play an indispensable role in both its national economies and the global supply chain. Numerous African nations distinguish themselves due to their extensive deposits of minerals, energy resources, and agricultural commodities, which significantly bolster their national revenues. The Democratic Republic of the Congo (DRC) emerges as a global leader in mineral resources, possessing approximately 3.6 million metric tons of cobalt reserves, representing over 70% of the world's proven cobalt deposits. Additionally, the DRC harbors vast deposits of copper with production reaching 2.84 million tons in 2023-alongside diamonds, coltan, and lithium, all of which are vital for electronics and renewable energy technologies. In 2023, the DRC garnered approximately \$28.5 billion from mineral exports, underscoring its pivotal role in the global supply of raw materials (IMF, 2024; African Exponent, 2024).

Guinea is a world leader with the largest bauxite reserves, estimated at 7.4 billion metric tons, constituting about one-third of the global reserves. The mining of bauxite and the production of alumina generate roughly 80% of the country's foreign exchange earnings. In 2019, Guinea was recognized as the third-largest bauxite producer globally with significant deposits of iron ore, gold, and diamonds (African Exponent, 2024). Zambia ranks as Africa's

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second-largest copper producer and seventh largest worldwide, with estimated copper reserves of 20 million metric tons, contributing approximately 4% of global production. In 2023, Zambia produced 698,000 metric tons of copper, with mining constituting roughly 13.2% of the nation’s GDP. Copper exports account for about 69% of Zambia’s export revenues, illustrating the metal’s economic significance (African Exponent, 2024).

Namibia is distinguished for its diamond production, yielding 2.2 million carats in 2022, which generated over N\$14 billion in export revenues. Namibia is also the world’s fourth-largest producer of uranium, with 470,000 metric tons of uranium reserves, contributing 11% of global uranium output in 2020. Furthermore, Namibia possesses substantial reserves of gold, copper, and zinc, solidifying its status as a key player in the mining sector (African Exponent, 2024).

Nigeria leads Africa in oil production, with petroleum comprising a substantial portion of its GDP and export revenues. It holds 210 trillion standard cubic feet of natural gas and 37 billion barrels of crude oil reserves, making it the African leader in hydrocarbon resources. In addition to hydrocarbons, Nigeria is a prominent exporter of agricultural raw materials. In the fourth quarter of 2024, exports of premium quality cocoa beans reached ₦836.23 billion, with standard quality cocoa beans and sesame seeds also contributing significantly (AgriFocus Africa, 2025).

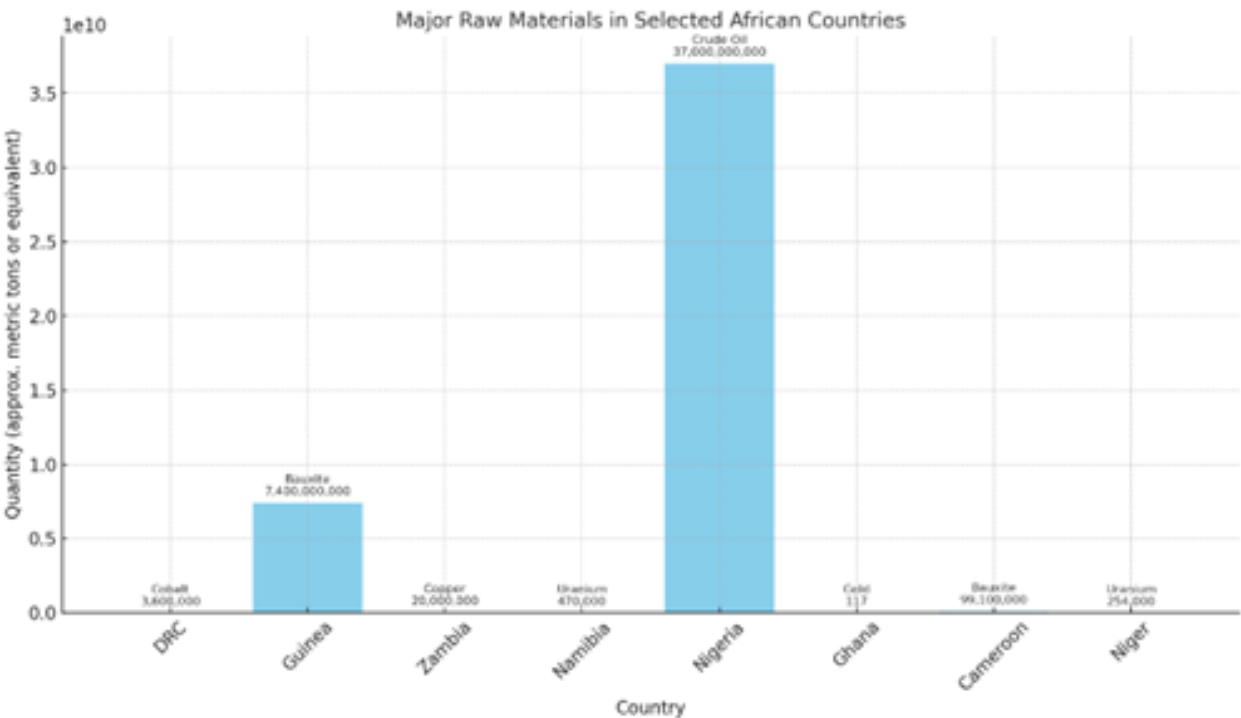
Ghana continues to be one of Africa’s foremost gold producers, with gold mining playing a central role in its economy. The country produced about 117 metric tons of gold in 2021. Ghana also harbors considerable reserves of

bauxite and manganese, augmenting its diverse mineral wealth (Africa Export Digest, 2024). Cameroon recently formalized a \$2 billion agreement with Australia’s Canyon Resources to develop the Minim-Martap bauxite mine. This ambitious project aims to extract 99.1 million metric tons of high-grade bauxite over a span of 20 years, with an anticipated annual production of approximately 5 million metric tons. This initiative is expected to significantly enhance Cameroon’s economy and infrastructure (Reuters, 2024).

Côte d’Ivoire stands as the world’s largest cocoa producer, generating \$18.4 billion from exports in 2024. Cocoa beans, cashew nuts, and petroleum products constitute the country’s primary exports. Côte d’Ivoire is investing in processing facilities to augment local value addition and elevate export revenues (African Exponent, 2024).

Niger ranks among the foremost uranium exporters globally, fulfilling 25.4% of the European Union’s uranium requirements in 2022. Niger Republic also boasts substantial reserves of coal, iron ore, tin, phosphates, gold, and petroleum. Efforts are underway to enhance the management and development of these resources to foster economic growth (African Exponent, 2024).

Benin Republic is endeavoring to transform its economy through the textiles and apparel sector, with an investment of €550 million aimed at cultivating a “farm to fashion” value chain. This initiative aspires to process the nation’s cotton domestically rather than exporting it in its raw form, thereby augmenting GDP and generating employment opportunities (Financial Times, 2024).

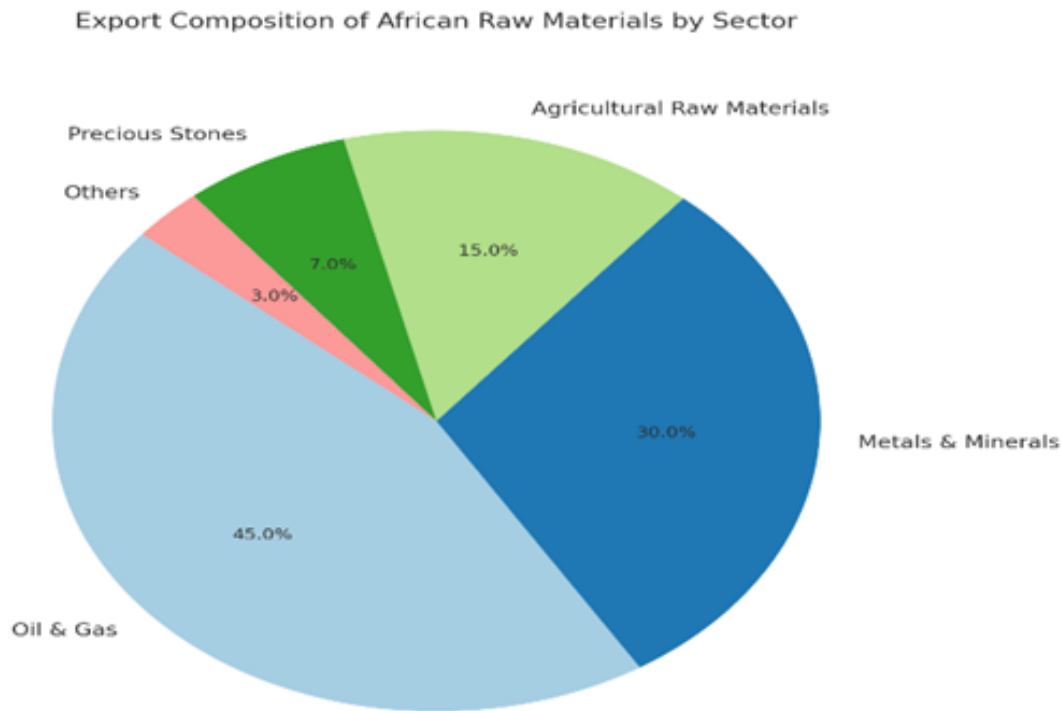


Source: Financial Times (2024).

Here is a chart representing major raw materials in selected African countries, along with their approximate quantities and immense wealth of mineral resources across the continent.

Africa paradoxically remains the most impoverished continent on the planet despite its immense wealth in natural

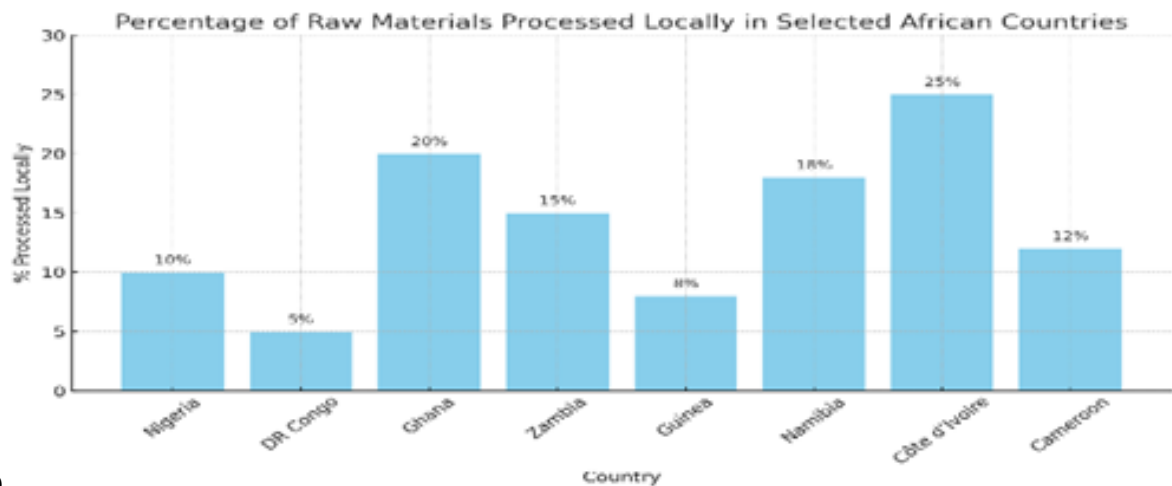
resources. While Africa is estimated to possess approximately 30% of the world’s mineral reserves, including gold, platinum, diamond, and rare earth metals constitute less than 3% of global GDP, with over 70% of its populace subsisting on less than \$5.50 a day (World Bank, 2023; IMF, 2024).



Source: UNCTAD (2022).

A central issue resides in Africa’s place within the global economic framework: it predominantly exports raw materials while importing finished goods. This paradigm mirrors colonial trade patterns, wherein raw resources were extracted from Africa, processed in Western nations, and subsequently sold back at inflated prices. Presently, nations such as the **Democratic Republic of Congo (DRC)** export cobalt utilized in smartphones and electric vehicles, yet local

communities remain entrenched in poverty. **Guinea** exports bauxite, an essential component in aluminum production, but lacks the requisite refineries to process it domestically. **Nigeria**, Africa’s leading oil producer, continues to import refined petroleum products owing to inadequate local refining capabilities (African Leadership Magazine, 2024; DW News, 2022).



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Source: African Exponent (2024).

The table above showcases the percentage of raw materials processed locally in selected African countries, revealing a significant disparity in local industrial capacity across the continent. This model of raw material exportation not only deprives African nations of the economic value-added advantages associated with processing and manufacturing but also renders them susceptible to price volatility in international markets. As noted by **UNCTAD (2022)**, unless

African nations transition from exporting raw materials to cultivating robust manufacturing sectors, they will remain ensnared in a cycle of low development.

2. Literature Review and Theoretical Issues

2.1. Theoretical Issues

This world-systems theory by Immanuel Wallerstein in the 1970s was adopted. It provides a compelling framework for

comprehending Africa's paradoxical condition: a continent endowed with abundant raw materials yet persistently impoverished and underdeveloped. Wallerstein's theory posits that the world is organized into a global economic system comprising three interdependent zones: the core, semi-periphery, and periphery, each fulfilling a distinct role in perpetuating the global capitalist economy.

When applying this theory to the African context, it becomes evident that the continent is predominantly situated within the periphery of the global system. Despite its wealth of natural resources, Africa remains dependent on core nations for processing and industrial application of these materials. They export unprocessed products to core countries, only to re-import them as finished goods at elevated prices. This structural arrangement perpetuates a cycle of economic dependency, a fundamental principle of Wallerstein's theory. In Africa's scenario, this implies that while the continent supplies critical inputs for global industries such as cobalt for smartphones and electric vehicles, oil for energy, it reaps minimal economic rewards. Most profits are appropriated by foreign corporations and industries based in the Global North and Asia.

The structural role ascribed to the periphery is not incidental; it is the byproduct of historical processes like colonialism and inequitable trade relations, which have entrenched extractive economic patterns perpetuated by global institutions, trade agreements, investment flows etc. that frequently favor raw material extraction over local value addition within African economies. The World-Systems theory elucidates that Africa's wealth in raw materials is insufficient to guarantee prosperity, illustrating that the issue is not solely internal but systemic, rooted in the structural organization and maintenance of the global economy.

2.2 Conceptual Review

Shavkatbek and Otabek (2024) delineate raw materials as unrefined natural resources employed in the production of industrial goods, wherein the quality and characteristics of these materials profoundly impact production efficiency and the caliber of the final output while ClearTax (2023) articulates raw materials as substances in their natural or semi-processed state that are predominantly utilized in manufacturing and frequently traded globally as commodities, thereby reinforcing their significance in international commerce and production.

Exporting raw materials pertains to trading internationally unprocessed or minimally processed natural resources like crude oil, cocoa, iron ore, cotton etc. It remains a salient characteristic of numerous African economies, heavily reliant on the extraction and shipment of raw materials with negligible local value addition. Sharara (2023) contends that this export paradigm is entrenched in colonial economic frameworks that relegated African nations to the role of suppliers of raw materials to the global north while receiving finished goods in return. This reliance has significantly contributed to Africa's underdevelopment, as it deprives the continent of the economic advantages streamed with industrialization, job creation, technology advancement and income diversification (BusinessDay, 2024).

At the pinnacle of value addition lies the exportation of processed commodities that are fully manufactured like textiles, packaged foods, or electronics, that confer the most substantial economic benefits to exporting nations. Schluter and Edmondson (1989) stated that countries that transcend the exportation of raw or semi-finished products and

concentrate on processed goods tend to experience heightened industrial development and economic transformation. Although challenges confronting many African nations include inadequate infrastructure, limited access to modern technology, and trade restrictions imposed by wealthier nations. According to the African Union (2018), the AfCFTA aims to boost intra-African trade by:

- a. Eliminating tariffs on 90% of goods exchanged within the continent, with aspirations to diminish tariffs on 97% of goods by 2030 and 93% of goods by 2035.
- b. Augmenting trade volume, with a target to elevate intra-African trade by 15-25% by 2040 and an anticipated 18.85% increase in intra-Africa exports, amounting to \$13.7 billion.
- c. Fostering industrialization by accelerating industrial growth through Value Chain Development, with a focus on products such as ceramic tiles, batteries, tea, and coffee.
- d. Enhancing competitiveness at both industry and enterprise levels.
- e. Elevating at least 30 million Africans out of extreme poverty.
- f. Increasing the continent's income by \$470 billion by 2035.
- g. Establishing a single market to consolidate a demographic of 1.3 billion individuals with a combined GDP of \$3.4 trillion.

2.3 Methodological Review

This study adopts a descriptive research design and relies entirely on secondary data sources to explore the extent of raw material processing and value addition in selected African countries with the aim of evaluating and comparing the levels at which countries such as Nigeria, the Democratic Republic of Congo (DRC), Ghana, Zambia, Guinea, Namibia, Côte d'Ivoire, and Cameroon process their abundant raw materials locally and how this impacts their socio-economic development. Study data were obtained from credible secondary sources like reports from international organizations such as the World Bank, United Nations Conference on Trade and Development (UNCTAD), African Development Bank (AfDB), International Monetary Fund (IMF), and the United Nations Economic Commission for Africa (UNECA). Documents from official statistical bureaus and ministries of the selected countries were adopted. Peer-reviewed academic journals, policy briefs, economic bulletins and reputable development-oriented platforms like African Exponent, Financial Times Africa, and AgriFocus Africa.

The countries selected for this study were chosen purposively on three primary criteria: availability of reliable data, strategic economic significance, and possession of critical raw materials like oil, gold, bauxite, cobalt, uranium, and cocoa. These countries also represent varying levels of industrial development and capacity for local processing, making them suitable for comparative analysis. Secondary data from 2019 to 2024 were systematically reviewed, focusing on indicators like percentage of raw materials processed locally, volume and value of exports (both raw and processed), export earnings, and manufacturing output. Descriptive statistical tools were used to summarize and present data, while visual aids like bar, pie and area charts were generated to illustrate country-level disparities in value addition.

Reliability and validity of the data in this study was ensured by using only verifiable and reputable sources. Cross-checking was done where multiple datasets were available for the same variables to ensure consistency. Reports and publications were selected based on credibility, relevance, and the most recent updates available.

3. Discussion of Findings

Production in Africa is continually confronted by substantial constraints, impeding the continent's capacity to industrialize and fully harness its abundant natural and human resources. A multitude of factors contribute to this suppression of production, like the lack of conversion techniques for capital goods, restricted access to affordable long-term financing, inadequate payment gateway infrastructure, and onerous policy environments.

1. Absence of technical know-how to produce capital goods.

One critical factor hindering production in Africa is the lack of effective conversion technology enabled by the production of capital goods (Machinery, Tools and Equipment used in the production process). According to Munyoro and Okechukwu (2023), many African industries rely heavily on imported capital goods that are often ill-suited to local conditions, and the absence of localized adaptation or conversion techniques leads to inefficiencies and frequent breakdowns. This inability to modify or upgrade machinery to meet specific production needs reduces operational efficiency and increases costs, thus stifling production growth. Okeke and Akinola (2024) stated that limited technical expertise in the production of capital goods for converting raw materials to finished products prevents also African industries from customizing machinery, that would enhance productivity and product quality.

2. Access to Cheap and Long-Term Financing

This constraint is lack of access to affordable and long-term financing. Many African manufacturers face high interest rates and short repayment terms, which impede capital investment in production facilities and technology upgrades. Evidence from Ngugi and Mwangi (2022) reveals that limited financial inclusion and underdeveloped banking sectors restrict the ability of local firms to secure necessary capital to expand operations. Additionally, Chidede and Kamau (2023) argued that scarcity of concessional loans and targeted industrial financing schemes forces producers to depend on costly informal credit or short-term loans thereby hampering sustainable production growth.

3. Underdeveloped Payment Gateway Infrastructure

Efficient payment systems are crucial for the smooth functioning of production and trade. In Africa, weak payment gateway infrastructure constrains production by limiting firms' ability to transact both domestically and internationally. Ademola and Bello (2023), stated that poor digital payment platforms and underdeveloped financial technology ecosystems result in delayed payments, high transaction costs, and reduced market access for producers. These inefficiencies increase working capital requirements and constrain cash flow, directly affecting production capacity and scalability. Furthermore, Mabaso and Dlamini (2024) emphasize that the lack of reliable payment gateways discourages foreign direct investment and cross-border trade, both of which are pivotal for industrial expansion.

4. Stiffened Policies

Restrictive and inconsistent government policies have also been identified as major impediments to production in Africa. Protectionist trade policies, bureaucratic red tape, and unpredictable regulatory environments create an unfavorable business climate. Adeyemi and Osei (2023) showed that cumbersome licensing procedures, multiple taxation, and policy reversals increase production costs and deter private sector investment. Additionally, Eze and Okafor (2024) found that stiffened policies in areas like import tariffs on raw materials and machinery often lead to input shortages and increased production costs. Such policy environments reduce competitiveness and inhibit the growth of domestic manufacturing industries. Hence, the stifling of production in Africa is multifaceted, with technical, financial, infrastructural, and policy-related factors playing critical roles.

6. Way Forward

Africa's heavy reliance on exporting raw materials has limited its economic growth and industrial development. Transitioning toward exporting semi-finished and processed commodities is crucial for value addition, job creation, and sustainable development. To achieve this, Africa must address several structural and policy challenges while leveraging emerging opportunities.

Developing Local Processing Industries

Building local processing capacity is crucial for economic development. Okafor and Adetunji (2023) highlighted that investing in agro-processing and light manufacturing industries can have significant benefits. Processing raw agricultural products locally, value addition is increased, leading to higher profits for businesses. Reliance on unpredictable commodity markets is reduced, providing stability in income generation. Expanding these industries can boost export revenues, contributing generally to economic growth.

Technology transfer and capacity building programs for local workforce in modern technologies plays pivotally in upgrading existing facilities and establishing new ones that are suited to utilizing local resources effectively all to ensure efficient operation and competitive presence in the global market. Hence, the development of agro-processing and light manufacturing industries that require strategic investments, technology upgrades so resource-rich countries can enhance their processing capacity, create sustainable industries, and ultimately drive economic growth.

Improving Infrastructure and Technology

Adequate infrastructure and modern technology play a crucial role in the development of processing industries. According to Mwangi and Kato (2024), having well-established transportation networks is essential for the smooth flow of goods from production sites to markets.

Having access to reliable energy supply and modern machinery is vital for enhancing production efficiency and competitiveness. Countries like China have revolutionized their manufacturing sector by adopting smart manufacturing technologies like robotics and artificial intelligence. Embracing automation and smart manufacturing in Africans production processes, would enhance precision and consistency in their products, thus gaining competitive edge in the global market.

Hence, investing in infrastructure and modern technology is imperative for the growth and competitiveness of processing

industries. Embracing digital technologies like automation and smart manufacturing is key to ensuring sustainable

growth and success in an the ever-evolving industrial landscape.



Regional Value Addition (RVA) Proposition

Access to Finance and Incentives.

Access to affordable and long-term financing remains a major barrier in the realm of investment in processing plants and related infrastructure. Nwosu and Moyo (2023) shed light on the significance of innovative financing mechanisms, such as blended finance and concessional loans, in overcoming this obstacle. Blended finance combines public and private funds to provide better accessible financing options to support value addition processes while concessional loans offer favorable terms, like lower interest rates, to encourage investments in crucial sectors. Government incentives play a pivotal role in stimulating private sector engagement in additional activities. Tax breaks reduce the tax burden on companies involved in processing plants, making it more financially viable for them to expand their operations. Subsidies can also be instrumental in offsetting costs associated with upgrading infrastructure or adopting new technologies. By addressing the financial barriers and providing tangible benefits to businesses, African governments and businessmen can work together to drive economic growth through In-continent value addition.

Strengthening Regional Integration and Trade Policies

The African Continental Free Trade Area (AfCFTA) is a groundbreaking initiative offering distinctive opportunity to enhance markets for semi-finished and processed goods within Africa. According to Mensah and Oladele (2023), the implementation of harmonized trade policies and reduction of tariffs under AfCFTA have the potential to stimulate the growth of intra-African industrial supply chains leading to a significant increase in economies of scale and render processing industries more economically feasible.

AfCFTA success hinges on the implementation of policy reforms that not only facilitate business operations but also safeguard local industries from unjust competition. By enacting regulations that promote fair competition and protect domestic manufacturers, governments can nurture an

environment conducive to domestic value addition while establishing mechanisms to monitor and enforce compliance with trade agreements.

AfCFTA provision on substantial transformation as requirement for benefitting from liberal trade tariffs reflects the commitment of the African Union to promote substantial conversion of raw materials to processed goods that will be eligible for intra-Africa trade. With the policy in place what is needed to leverage financial institutions like AFREXIM and state-owned development finance institutions to support Research and innovation that will lead to development and deployment of Capital Goods that will be used for processing raw materials to finished or processed goods within Africa. By embracing the principles of harmonization, collaboration, and regulatory reform, countries can unlock the full potential of intra-African trade and create a more prosperous future for the continent.

Enhancing Skills and Human Capital

Finally, developing skilled labour is crucial for efficient operation and continuous innovation within processing industries. According to Chukwuemeka and Dlamini (2024), investing in vocational training and education that specifically targets industrial skills is essential. This kind of focused training equips the workforce with necessary tools to not only adapt to technological advancement but also to drive improvements in productivity across sectors dealing with semi-processed and processed goods.

By investing in vocational training programs that emphasize industrial skills, companies can cultivate a workforce that is not only competent in their roles but also adaptable to changes in technology. Ultimately, a skilled workforce can be a driving force behind the success and growth of processing industries.

Promoting Research and Innovation Culture

Africa's continued reliance on the exportation of raw materials presents a significant barrier to economic growth

and industrial advancement. A key strategy to reverse this trend and promote the export of semi-finished and processed commodities lies in cultivating robust research and innovation culture across the continent. By investing in research institutions and innovation hubs, African nations can develop indigenous technologies tailored to local conditions.

Notably, fostering collaboration between universities and industries is vital to bridge the gap between academic research and practical industrial needs. Akpan and Okonkwo (2022) highlighted how university-industry partnerships in countries like Nigeria and Kenya have led to the development of agro-processing machines that are more efficient and better suited to local materials, thereby increasing the value of exports. The African Development Bank (2023), stated that innovation hubs in Rwanda and South Africa have successfully supported small businesses in cocoa and textile processing, resulting in increased exports of semi-finished and processed products.

Governments must offer incentives for research and innovation through grants, tax relief, and national strategies that prioritize industrial R&D. Investment in technical and vocational education is therefore indispensable as a thriving innovative ecosystem depends on a skilled workforce of engineers, scientists, and technicians.

7. Conclusion

This paper elucidates that Africa's continued dependence on exporting raw materials significantly hampers its economic growth. The continent's persistent reliance on the exportation of unprocessed commodities fundamentally constrains economic advancement and limits the capture of value from its rich resource base. This study posits that a critical transformation towards the export of semi-finished and processed goods is essential for augmenting value addition, generating employment opportunities, and fostering sustainable development throughout the continent. Regional policy initiatives such as the African Continental Free Trade Area (AfCFTA) provide essential support to broaden markets and fortify intra-African value chains through the substantial transformation of raw materials into finished products. By investing in research-driven technological development, human capital, and fostering a conducive trade environment, Africa possesses the potential to surmount existing production constraints and emerge as a formidable player in global value markets, propelling inclusive economic transformation.

More than merely an economic adjustment, the philosophy of "transitioning from the export of raw materials to export of semi-finished or processed commodities in Africa" symbolizes a profound paradigm shift for the continent a declaration of economic sovereignty and a deliberate departure from colonial legacies that have historically relegated Africa to perpetual periphery. This journey necessitates deep integration of value chains, advancing beyond mere extraction towards sophisticated manufacturing, strategic branding, and robust penetration into global markets. Envision African-branded smartphones powered by cobalt from the Democratic Republic of Congo, or Nigerian refined petroleum derivatives meeting the energy demands and petrochemical needs that fuel industrial development across West African nations. Consider Ghanaian cocoa beans metamorphosed into premium chocolates within Ghana, subsequently traded in London, New York, Paris, etc. Ultimately, Africa's long-term

prosperity hinges on leveraging its demographic dividend and natural wealth to evolve into a self-sustaining industrial engine, genuinely claiming its rightful stature as a global powerhouse. This is the African century of industrialization, a bold leap towards unlocking unprecedented wealth and shared prosperity across the continent. In conclusion, with these recommendations, the authors are optimistic that the aspirational targets underpinning the AfCFTA protocol and the African Union Agenda 2063 most notably, the ambition to elevate the continent's income by \$470 billion by 2035 are indeed attainable.

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