REPUBLIC OF GHANA

MINISTRY OF TRADE, AGRIBUSINESS AND INDUSTRY

GHANA PHARMACEUTICAL MANUFACTURING POLICY



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FOREWORD

The COVID-19 pandemic taught the world a lesson. Africa cannot afford to forget health security is national security, and no nation can outsource the production of the medicines its people depend upon. With the continent importing the overwhelming majority of its medicines and vaccines, the case for building robust domestic pharmaceutical manufacturing capacity has never been more compelling or more urgent.

Ghana is well placed to answer this call. We possess one of the most developed pharmaceutical manufacturing bases in West Africa, the Food and Drugs Authority (a national regulator) which has attained the international Maturity Level 3 (ML3) recognition, a growing pool of pharmaceutical scientists and technologists, and a Government unequivocally committed to industrial transformation. Ghana's selection as host of the African Medicines Agency headquarters further affirms our standing as a continental centre for pharmaceutical excellence.

The Ghana Pharmaceutical Manufacturing Policy consolidates these advantages into a deliberate national strategy. It sets out measures to expand domestic production of essential medicines, catalyse local manufacture of vaccines and biologics, develop capacity in active pharmaceutical ingredients, and strengthen the entire ecosystem from regulation and quality assurance to financing, skills development, and market access. It leverages public procurement as a demand-side instrument for local industry, while ensuring that quality, safety, and affordability remain non-negotiable.

The Policy is fully aligned with the African Continental Free Trade Area and the continental ambition, championed by the Africa CDC, that Africa should manufacture the majority of the vaccines it uses. It positions Ghanaian manufacturers not merely to serve the domestic market, but to supply the sub-region and the continent. In doing so, it advances the Government's agenda of an export-led, 24-Hour industrial economy while safeguarding the health of our people.

This Policy is the product of extensive collaboration with the Ministry of Health, the Food and Drugs Authority, the Pharmaceutical Manufacturers Association of Ghana, academia, research and our development partners, whose contributions I acknowledge with deep appreciation.

Medicines made in Ghana, by Ghanaians, to world-class standards; this is the vision to which this Policy commits us. I invite all stakeholders and investors to join us in realising it.

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ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used throughout this Policy document.

Acronym / Abbreviation	Full Meaning
AfCFTA	African Continental Free Trade Area
AI	Artificial Intelligence
API(s)	Active Pharmaceutical Ingredient(s)
AU	African Union
CAGR	Compound Annual Growth Rate
cGMP	current Good Manufacturing Practices
COVID-19	Coronavirus Disease 2019
CPMR	Centre for Plant Medicine Research
DDI	Domestic Direct Investment
ECG	Electricity Company of Ghana
ECOWAS	Economic Community of West African States
EPA	Environmental Protection Agency
FDA	Food and Drugs Authority
FDI	Foreign Direct Investment
GDP	Good Distribution Practices
GHAFTRAM	Ghana Federation of Traditional Medicine Practitioners Associations
GIPC	Ghana Investment Promotion Centre
GMP	Good Manufacturing Practice
GPPQCL	WHO Good Practices for Pharmaceutical Quality Control Laboratories
GRA	Ghana Revenue Authority
GSA	Ghana Standards Authority
GWP	Good Warehousing Practices
HIV	Human Immunodeficiency Virus
HS (Code)	Harmonized System (Code)
ICT	Information and Communication Technology
IPR	Intellectual Property Rights
IV	Intravenous
ML3	Maturity Level 3
MMDAs	Metropolitan, Municipal and District Assemblies
MOH	Ministry of Health
MOTAI	Ministry of Trade, Agribusiness and Industry
mRNA	messenger Ribonucleic Acid

MSMEs	Micro, Small and Medium Enterprises
NHIS	National Health Insurance Scheme
NIA	National Identification Authority
NMIMR	Noguchi Memorial Institute for Medical Research
ORC	Office of the Registrar of Companies
PMIDC	Pharmaceutical Manufacturing Industry Development Council
PQ	Prequalification
RoO	Rules of Origin
SDGs	Sustainable Development Goals
SME	Small and Medium Enterprise
SSNIT	Social Security and National Insurance Trust
TRIPS	Trade Related Intellectual Property Rights
UNIDO	United Nations Industrial Development Organisation
USD	United States Dollar
VAT	Value Added Tax
VDM	Vaccine Development and Manufacturing
WHO	World Health Organisation
WTO	World Trade Organisation

BACKGROUND

Ghana, a country with an estimated population of 34.4 million in 2024, is located in West Africa, bordered by the Gulf of Guinea to the south, Burkina Faso to the north, Togo to the east, Ivory Coast to the west. The country has a diversified economy, with agriculture, mining, and services as the major sectors. It is one of the world's leading producers of cocoa, and has significant reserves of gold, oil and natural gas.

Ghana is a member of the United Nations, the African Union, the Commonwealth of Nations, and the African, Caribbean and Pacific Group. In respect of trade and industry development, it is a member state of the World Trade Organisation (WTO), the World Health Organisation (WHO), the United Nations Industrial Development Organisation (UNIDO), the African Continental Free Trade Area (AfCFTA) and the Economic Community of West African States (ECOWAS).

Industrial development has been a key priority for the country since Independence. In recent years, however, Ghana has focused on the development of selected strategic sectors to accelerate industrialisation, and economic diversification and growth. One of the key pillars of this effort is the Pharmaceutical Sector, where further investment by the private sector in manufacturing, with Government facilitation, can potentially transform the sector and its value chain actors, whilst creating a sustainable ecosystem to boost exports and imports substitution.

Ghana’s pharmaceutical sector is the second largest in the West Africa sub-region after Nigeria. Pharmaceutical products manufactured in Ghana have strong potential for growth in both the domestic and export markets. The vision for the sector is for Ghana to become the pharmaceutical manufacturing hub in the West Africa subregion for high-end pharmaceutical products and active ingredients. The growth drivers include high disposable income, improvement in healthcare infrastructure and improved healthcare financing.

It is within this context that Government intends to implement a clear and consistent policy framework for pharmaceutical manufacturing with a view to produce a sustainable supply of affordable, quality medicines, biological products (including vaccines) and other healthcare products.

The prescriptions in the Policy have been formulated after extensive consultations with key stakeholders, from the private sector regulatory institutions, research institutions and industry associations.

THE GHANA PHARMACEUTICAL MANUFACTURING POLICY

1. INTRODUCTION

The Government of Ghana, as part of its agenda to achieve industrial transformation, has identified pharmaceutical manufacturing as a strategic anchor industry, in terms of its potential to generate export revenue and create jobs on a large scale. Providing targeted support to selected manufacturers through existing incentive framework have achieved some level of modest improvements in production capacity and efficiency

However, the lack of clarity on Ghana's offer to Pharmaceutical has been repeatedly highlighted as a challenge for investors whether foreign or domestic. There is therefore an urgent need for Ghana to put in place a comprehensive Pharmaceutical Manufacturing Policy as a catalyst for investment decision making.

2. STRUCTURE OF THE POLICY

The fundamental principle underlying the Policy is that the private sector, foreign and domestic will invest to drive growth in the sector whilst the government provides policy support and facilitation to create a conducive environment for the pharmaceutical industry to become competitive. This will be achieved through the implementation of specific policy prescriptions across the following eleven (12) thematic areas.

1. Raw Materials Development
2. Innovation, Research and Development
3. Manufacturing Technology
4. Training and Manpower Development for Manufacturing
5. Standards and Regulatory Framework
6. Incentive Framework
7. Industrial Infrastructure
8. Investment Financing
9. Market Expansion and Trade Facilitation
10. Enhancing Production Capacity
11. Cross-Cutting Issues
12. Implementation and Coordination

The Pharmaceutical Manufacturing value chain is highly integrated with backward and forward linkages. Therefore, the policy measures also take

a holistic view of the policy instruments required to catalyse the industry for significant growth to occur.

3. POLICY CONTEXT

Ghana's pharmaceutical manufacturing sector is relatively advanced within the ECOWAS region, second only to Nigeria. As of July 2025, the Food and Drugs Authority (FDA) of Ghana has licensed 32 local pharmaceutical manufacturing facilities, employing over 10,000 people directly and supporting approximately 100,000 livelihoods through supply chains. The market size was valued at $600 million in 2023, with projections estimating a market volume of $293.5 million by 2029, driven by a compound annual growth rate (CAGR) of 1.63% from 2024 to 2029. This growth is fuelled by a population of 34.4 million in 2024, rising healthcare awareness, and government initiatives like the National Health Insurance Scheme (NHIS). Despite a robust local industry, Ghana relies on imported drugs and medical supplies for about 65% of its pharmaceutical market, with imports valued at $273.2 million in 2023 from countries like India, China, the Netherlands, Belgium, and the United States. Local production, which meets 35% of demand, focuses on generics such as analgesics, antimalarials, and antibiotics, available in forms like tablets, capsules, syrups, suspensions, injections and intravenous infusions. However, critical inputs like pharmaceutical APIs, excipients, packaging materials, and specialty medicines, including oncology and nutraceuticals, are predominantly imported, highlighting opportunities for local manufacturers to expand with support from ECOWAS protocols and government incentives like tax exemptions.

The Ghana FDA enforces stringent standards for drug safety and quality, achieving WHO Maturity Level 3 (ML3) for regulatory oversight and a Level 4 rating in pharmacovigilance, reflecting a robust regulatory framework. The Drug Physiochemical Laboratory of the FDA is additionally prequalified by WHO to WHO-GPPQCL requirements. Seven state-of-the-art manufacturing facilities comply with Good Manufacturing Practice (GMP) standards, with three additional plants under construction. The FDA’s initiatives, such as serialization technologies and tamper-evident packaging, combat counterfeit drugs. Government policies, including fiscal incentives and plans for a pharmaceutical industrial park, aim to position Ghana as a Sub-Saharan pharmaceutical hub, enhancing export potential to countries like Côte d'Ivoire and Burkina Faso.

The pharmaceutical market in Ghana serves public health institutions, private medical facilities, domestic consumers, and export markets. Local manufacturers do not produce WHO pre-qualified drugs for diseases like HIV, malaria, or tuberculosis, though several are pursuing pre-qualification for global procurement. Establishing a new manufacturing plant can cost $50–70 million, while upgrading existing facilities to GMP standards requires around $30 million. High borrowing costs, currency depreciation, and inflation pose significant financial challenges, reducing the purchasing power of loans and complicating investment plans for manufacturers.

To support large-scale pharmaceutical investments, Ghana relies on concessionary loans, foreign direct investment, and investment partnerships due to the high cost and short-term nature of domestic commercial loans. The government offers targeted incentives to lead firms to drive sector transformation. Addressing the impact of depreciation and inflation on borrowed funds remains critical, as these factors erode the value of loans, undermining investment feasibility. By leveraging these financing mechanisms and government support, Ghana aims to enhance local production capacity and reduce import dependency, fostering sustainable growth in the pharmaceutical sector.

ALIGNMENT WITH GOVERNMENT PRIORITY PROGRAMMES

The pharmaceutical manufacturing policy aligns closely with the Government's Rapid Industrialization for Jobs initiative by fostering the growth of local pharmaceutical production. With 32 licensed manufacturing facilities employing over 10,000 people directly and supporting 100,000 livelihoods indirectly, the sector is a significant job creator. The policy's emphasis on expanding local production capacity through incentives like tax exemptions and the establishment of a pharmaceutical industrial park supports job creation and industrial growth. Through addressing the 65% import dependency, the policy can further stimulate employment through increased capacity utilization and the development of new facilities.

The "Feed the Industry" programme, which focuses on supplying raw materials and inputs to industries, aligns with the policy's goal of reducing reliance on imported active pharmaceutical ingredients (APIs), excipients, and packaging materials. By promoting local sourcing and production of these inputs, the policy can strengthen supply chains and support ancillary industries, such as packaging and logistics, thereby enhancing the industrial ecosystem in Ghana.

The policy supports the Accelerated Export Development Programme by leveraging Ghana's strategic position within ECOWAS and the African Continental Free Trade Area (AfCFTA). The focus on achieving WHO pre-qualification for drugs and expanding exports to neighbouring countries like Côte d'Ivoire and Burkina Faso aligns with the goal of increasing Ghana's export market share. The establishment of a pharmaceutical hub in Sub-Saharan Africa further positions Ghana to capitalize on regional demand, boosting export revenues.

The policy's emphasis on increasing local production of generics (e.g., analgesics, antimalarials, antibiotics) and promoting locally produced medicines through VAT-free sales and fiscal incentives directly supports the Made-in-Ghana initiative. By prioritizing local manufacturing and reducing import dependency from 70% to a lower share, the policy promotes national pride in Ghanaian products and strengthens domestic industries.

AfCFTA and Preferential Trade Agreements

The African Continental Free Trade Area (AfCFTA) and its Rules of Origin (RoO) provide significant opportunities for Ghana's pharmaceutical industry. The policy aligns with AfCFTA by promoting local production that meets regional standards, enabling Ghanaian manufacturers to access a market of 1.3 billion people across Africa. Compliance with RoO ensures that locally produced pharmaceuticals qualify for preferential tariffs, enhancing competitiveness against imports from non-African countries like India and China. ECOWAS protocols further support this alignment by facilitating duty-free trade within the sub-region, with Ghana poised to export to neighbouring markets. The policy's focus on achieving WHO pre-qualification for priority drugs (e.g., for HIV, malaria, and tuberculosis) will enhance Ghana's eligibility for global and regional procurement, further integrating the country into preferential trade frameworks.

Sustainable Development Goals (SDGs)

The pharmaceutical manufacturing policy aligns with several SDGs, particularly:

SDG 3: Good Health and Well-Being: By increasing local production of essential medicines and improving access through the National Health Insurance Scheme (NHIS), the policy enhances healthcare delivery. The FDA's stringent regulatory framework, achieving WHO Maturity Level 3

and Level 4 pharmacovigilance, ensures drug safety and quality, reducing risks from counterfeit drugs and supporting public health.

SDG 8: Decent Work and Economic Growth: The policy promotes job creation and economic growth through direct employment in manufacturing (over 10,000 jobs) and indirect support for 100,000 livelihoods. Investments in new facilities and upgrades to GMP standards further drive economic activity.

SDG 9: Industry, Innovation, and Infrastructure: The establishment of a pharmaceutical industrial park and the adoption of advanced technologies (e.g., serialization and tamper-evident packaging) foster innovation and infrastructure development. The policy's focus on concessionary loans, foreign direct investment, and investment partnerships supports sustainable industrialization.
SDG 17: Partnerships for the Goals: Collaboration with international organizations like WHO for pre-qualification and regional bodies like ECOWAS and AfCFTA reflects a commitment to global and regional partnerships for sustainable development.

24-Hour+ Economic Policy Programme

The 24-Hour+ Economic Policy Programme, which aims to create a vibrant, round-the-clock economy, aligns with the pharmaceutical policy's focus on transforming Ghana into a pharmaceutical hub. The policy's support for state-of-the-art manufacturing facilities operating at high capacity can contribute to a 24-hour production cycle, particularly for essential medicines. Incentives like tax exemptions and VAT-free sales reduce operational costs, enabling manufacturers to sustain continuous operations. Another enabler will be the demand created by implementation of the Executive Instrument 2023, which restricts some 142 medicines from importation and reserves them for local manufacturing only. Additionally, addressing financing challenges through concessionary loans and foreign direct investment mitigates the impact of currency depreciation and inflation, ensuring economic stability for round-the-clock industrial activities.

4. VISION

The vision for the sector is for Ghana to become the pharmaceutical manufacturing hub in the West Africa subregion for high-end pharmaceutical products and active ingredients. The growth drivers

include high disposable income, improvement in healthcare infrastructure and improved healthcare financing.

5. STRATEGIC OBJECTIVES

The strategic objectives of the Policy are as follows:

1. To produce a sustainable supply of affordable, quality essential medicines and biological products (including vaccines);
2. To diversify the pharmaceutical sector by promoting high-end pharmaceutical products manufacturing and enhance the production of plant medicines, herbal preparations and nutraceuticals
3. To promote investment in industries that manufacture critical inputs for pharmaceutical manufacturing such as Active Pharmaceutical Ingredients (APIs), excipients, raw materials, packaging materials, as well as Surgical items like Infusion Sets, Blood Transfusion Sets, Urine Collection Bags, etc.
4. To support existing local manufacturers to upgrade standards and diversify production;
5. To attract foreign investment into the pharmaceutical value chain;
6. To improve access to long-term financing for pharmaceutical manufacturers through financial instruments such as concessionary lending and equity investment.
7. To compete favorably and increase presence in the West African pharmaceuticals' exports market;
8. To generate highly skilled jobs and industry expertise for the local and regional markets.
9. To enhance (time and scope) the teaching of Good Manufacturing Practices for pharmaceutical training in tertiary institutions
10. To promote local manufacturing of veterinary medicines

6. Policy Thematic Areas

6.1 Raw Materials Development

Context

Almost all raw materials for pharmaceutical manufacturing, such as APIs and Excipients (starch, cocoa butter, alcohol, sugar, dyes, flavourants (essential oils derived from cinnamon, cocoa and orange, among others), biologics, chemical and natural preservatives, anti-oxidants, emulsifying agents, humectants (glycerin), ointments, saline, stiffening agents (waxes) as well as suspending, binding and coating agents, talcum (clay), charcoal, etc. are currently being imported.

The chemical excipients underlie the strategic importance of the development of the chemical industry based on industrial salt and petrochemicals, as envisioned under the industrial transformation agenda of the Government. The development of the petrochemicals and natural gas industry in particular, is essential for precursors to API manufacturing.

Policy Objectives

1. To ensure adequate local production and timely supply of selected essential raw materials and excipients required for pharmaceutical manufacturing to be competitive.
2. To develop linkages which enable support industries such as agricultural, chemical and hydrocarbon industries to significantly improve and expand production to supply pharmaceutical manufacturers.

Policy Prescriptions

Government will:

1. Incentivize selected support industries that target and supply pharmaceutical manufacturing industries with essential raw materials and excipients.
2. Establish a supplier development programme in collaboration with the private sector to attract SME suppliers into the pharmaceutical manufacturing value chain.
3. Provide support to upgrade key actors in the domestic supply chain.

4. Support domestic firms in the local pharmaceutical manufacturing supply chain to access concessionary financing, grants, technical assistance, product development research and access to technology and innovation.

6.2 Innovation, Research and Development

Context

In Ghana, innovation, basic research and development for pharmaceutical manufacturing has not been prioritized even though basic research and clinical research in plant medicine has undergone significant improvement. The Centre for Plant Medicine Research (CPMR) and the Noguchi Memorial Institute for Medical Research (NMIMR) are currently the two leading research facilities.

Ghana's ambition to become the leading pharmaceutical manufacturing hub in West Africa requires a new approach to innovation and technology adoption, in addition to intellectual property development and acquisition. This should address the gap in the manufacture of various essential products such as vaccines, potent drug manufacturing, prefilled syringes and API, among others. Enhancing access to IP and acquisition of new technologies and the related expertise for reverse engineering must be prioritized to bridge this gap.

Access to cutting-edge research facilities and expertise could make Ghanaian pharmaceutical manufacturers more competitive on the global stage. Therefore, establishing a world-class National Pharmaceutical Research Center in Ghana would be a significant step towards transforming the pharmaceutical industry.

Policy Objectives

1. To establish world-class National Pharmaceutical Research and Development Centre in Ghana to assist manufacturers to develop new molecules to bring new and innovative treatments to the market.

2. To enhance collaboration between Ghanaian pharmaceutical manufacturers and domestic/local and international research institutions or companies.
3. To attract increased private sector investment into innovation, research and development

Policy Prescriptions

Government will:

1. Establish a world-class National Pharmaceutical Research and Development Centre in Ghana through a special fund that will be created for that purpose and in collaboration with development finance institutions to develop new molecules that enable manufacturers create new and innovative products.
2. Strengthen existing research and development centres with adequate resource and equipment to assist with pharmaceutical research and innovation
3. Ensure that national policies and regulations promote innovation and protect intellectual property rights in the pharmaceutical industry
4. Promote collaboration between Ghanaian pharmaceutical manufacturers and international and domestic research institutions or companies for the development of new molecules, drug delivery systems and improved technologies.
5. Facilitate private sector investment into innovation, research and development of pharmaceutical products.
6. Provide incentives by allowing tax deductibility of investments into Innovation, Research, and Development for manufacturing companies as provided for in the Income Tax Act.
7. Strengthen intellectual property protection laws and enforcement mechanisms.
8. Ensure that patents, trademarks, and copyrights are effectively safeguarded, promoting innovation and attracting pharmaceutical companies with valuable intellectual assets.
9. Establish and equip training centres for the manufacture of pharmaceuticals and
10. Sensitise the industry on IP related issues.

11. Incentivize investment in AI-enabled systems for predictive modelling, process optimisation, real-time monitoring, and automated quality control.

6.3 Manufacturing Technology

Context

Plant and equipment for pharmaceutical manufacturing are imported into Ghana and the cost could be as high as USD 30-120 million for a state-of-the-art pharmaceutical manufacturing plant depending on the formulations. Alternatively, the upgrading of an existing plant to GMP standards may cost about USD 30 million. The combined effects of the high cost of borrowing coupled with currency depreciation and inflation can make reliance on domestic borrowing highly risky for both greenfield and brownfield investments. In respect of technology upgradation, there is the need to recognize that there may be significant trade-offs between Government's interests in increased job opportunities for Ghanaians and the acquisition of technology for high-end products to ensure high-quality pharmaceuticals.

Going forward, green manufacturing is also becoming increasingly desirable across all sectors and may impact the pharmaceutical manufacturing as well. Green manufacturing refers to the adoption of environmentally sustainable practices in the production, distribution, and disposal of products. This approach aims to reduce carbon emissions, minimize waste generation, conserve energy and resources, and protect the environment. By adopting green manufacturing practices, Ghanaian pharmaceutical companies will improve their environmental performance, enhance their reputation, comply with regulatory requirements, and contribute to a just transition and sustainable future.

The pharmaceutical industry in Ghana could also benefit immensely from technology transfer between entities involving the necessary knowledge, skills, and technology. This will enhance the efficiency and effectiveness of pharmaceutical production processes, resulting in higher quality products and increased competitiveness in the global market.

Policy Objectives

1. To ensure domestic manufacturers adopt best practices, improve their production processes and expand their product lines with the support of knowledge transfer, technology transfer, and capacity building assistance
2. To boost contract manufacturing operations in the country
3. To improve cost effectiveness through the adoption of cleaner production technologies.
4. To increase resource-use efficiency and introduce the usage of energy-efficient, water-saving technologies and waste management strategies by pharmaceutical manufacturing companies
5. To encourage the evaluation of the environmental impact of pharmaceutical products during their entire life cycle.
6. To encourage research in the use of new technologies including artificial intelligence (AI) and machine learning or any other futuristic advanced technologies to improve production efficiency and minimize cost of production.

Policy Prescriptions

Government will:

1. Facilitate partnerships between domestic manufacturers and foreign companies to ensure knowledge transfer, technology transfer, and capacity building to assist local manufacturers adopt best practices, improve their production processes and expand their product lines.
2. Facilitate the establishment of contract manufacturing operations in the country by the leading multinational corporations in the global pharmaceutical industry.
3. Incentivize pharmaceutical companies that establish contract manufacturing operations in Ghana.
4. Incentivize investment in the utilization of renewable sources of energy, such as solar power or wind energy, to power pharmaceutical manufacturing facilities, reducing reliance on fossil fuels and decreasing carbon emissions.

5. Facilitate the introduction of energy-efficient technologies and processes to minimize energy consumption during the manufacturing process. This includes using energy-efficient machinery, optimizing heating and cooling systems, and adopting low-energy lighting solutions.
6. Support the adoption of waste management strategies by pharmaceutical manufacturing companies to minimize waste generation and maximize recycling efforts, including the recycling of packaging materials, reuse/repurposing of waste products, and implementing waste-to-energy techniques.
7. Use regulation to ensure that companies conduct life cycle assessments to evaluate the environmental impact of pharmaceutical products from their production to disposal.
8. Incentivize pharmaceutical manufacturing companies to conduct research in the use of new technologies including artificial intelligence (AI) and machine learning or any other futuristic advanced technologies to improve production efficiency, minimize cost of production and ultimately improve public health outcomes by providing quality, affordable medicines.

6.4 Training and Manpower Development for Manufacturing

Context

Ghana has a solid foundation of pharmacy education and large turnout of graduates (averaging 1,000 graduates per annum), however these graduates are predominantly oriented towards clinical practice, not pharmaceutical manufacturing or its allied advanced research sciences.

This gap needs to be addressed to enable Ghana develop into a pharmaceutical manufacturing hub producing high-end products such as APIs and large molecule products such as cancer products, immunological products and vaccines, etc.

At present, Ghana relies on importing human resources from other countries to complement its existing workforce. In order to move to the next level of advanced manufacturing, a conscious effort has to be made to attract and retain highly skilled professionals into Ghana whilst building Ghana's own cadre of skilled manufacturing manpower through advanced training and human resource development.

By investing in education and training, addressing skills gaps, and promoting the retention of skilled workers, the industry can attract the necessary talent to support its growth.

Policy Objectives

1. To identify and recruit highly skilled professionals with experience in advanced pharmaceutical manufacturing.
2. To collaborate with academia to introduce relevant programmes to support advanced pharmaceutical manufacturing.
3. To support participating pharmaceutical companies to achieve comprehensive cGMP compliance including technical assistance and mobilization of funding for novel research projects.
4. To support the establishment of scholarships and grants specifically for Ghanaians pursuing a career in pharmaceutical technology and support the creation of structured internship programmes.

Policy Prescriptions

Government will:

1. Support/Collaborate with the industry to identify and recruit highly skilled professionals with experience in advanced pharmaceutical manufacturing to help improve skills development in the industry
2. Collaborate with academia and other research institutions to introduce relevant programmes to support advanced pharmaceutical manufacturing.
3. Require participating pharmaceutical companies to achieve comprehensive GMP compliance.
4. Facilitate the provision of scholarships and grants specifically for Ghanaians pursuing a career in pharmaceutical manufacturing technology.
5. Encourage pharmaceutical companies to create structured internship programs for students.
6. Offer technical assistance programmes to manufacturers to enhance their knowledge and skills in pharmaceutical production.
7. Mobilize funding for novel research projects within the pharmaceutical manufacturing field.
8. Encourage investors and development partners to invest in advanced pharmaceutical manufacturing training to support the Pharmaceutical Industry.
9. Collaborate with academia to run mentorship and incubation programmes for young pharmacists, positioning small-scale manufacturing as a viable career pathway

6.5 Standards and Regulatory Framework

Context

The Trade Related Intellectual Property Rights (TRIPS) Agreement gives a mandate to developing countries to adopt adequate IP regimes to foster innovation and boost economic growth. This has further encouraged pharmaceutical companies to invest in developing countries while protecting their inventions from infringement.

Protection of intellectual property rights in Ghana under the National IPR Policy and supported by the National IP Office assures investors of the legal protection of their patents. On the other hand, Ghanaian pharmaceutical manufacturers have not taken advantage of opportunities provided by expired patents and other Intellectual Property Rights (IPR) benefits available under TRIPS to expand their product range. It is noteworthy that Ghana is taking advantage of a patent waiver for domestic pharmaceutical manufacturers to produce COVID-19 vaccines.

The regulatory framework for the pharmaceutical sector in Ghana consists of several key entities and regulations. The primary regulatory authority responsible for overseeing the sector is the Food and Drugs Authority (FDA). The FDA has a well-equipped testing laboratory, which is being upgraded to include vaccine testing.

The FDA is responsible for the regulation, control, and supervision of the importation, exportation, manufacture, distribution, sale, and use of pharmaceuticals in Ghana. It ensures compliance with standards, safety, and efficacy of pharmaceutical products. The FDA Regulations, 2012 (L.I.2182) provides specific guidelines and requirements for various aspects of the pharmaceutical industry, including licensing of facilities, registration of products, labeling and packaging, advertising and promotion, and post-market surveillance.

As part of its regulatory functions, the FDA conducts inspections, issues licenses and permits, conducts product registrations, and enforces compliance with regulatory requirements.

Concerted action is required to address enforcement capability to limit counterfeiting, sub-standard product manufacturing and the sale and

distribution of unregistered pharmaceutical products. Some progress has been made in respect of authentication systems leveraging ICT in an attempt to address counterfeiting. However, this is not widely used due to costs associated with subscribing to the application.

Ghana intends to mobilize investment to establish a bioequivalence laboratory. The laboratory serves as a specialized facility that conducts comprehensive studies to determine the equivalence of generic drugs to their branded counterparts. By evaluating the pharmaceutical properties, absorption rates, and therapeutic effects of generic drugs, the lab ensures their safety, efficacy, and bioequivalence with the branded versions.

The benefits of setting up a bioequivalence laboratory in Ghana are manifold. Firstly, it fosters local capacity building by providing the necessary infrastructure, expertise, and resources for conducting advanced research and development in the field of pharmaceutical sciences. It also helps nurture a pool of skilled professionals and scientists within the country, leading to enhanced indigenous knowledge and expertise in drug development.

Secondly, a bioequivalence laboratory promotes quality assurance within the pharmaceutical sector. By conducting rigorous testing and analysis, it ensures that generic drugs meet internationally recognized standards and regulations. This not only guarantees the safety and efficacy of the drugs consumed by the Ghanaian population but also enhances the country's reputation in the global pharmaceutical market.

Also, not all manufacturers comply with Good Manufacturing Practices (GMP), which results in lower overhead and production expenses for non-GMP compliant units. Consequently, their products can be cheaper than those produced by GMP-compliant manufacturers. However, government tendering bodies often overlook this cost advantage and choose non-GMP compliant manufacturers, leading to GMP-compliant manufacturers losing out on tenders. It is essential to address this issue and provide support to GMP-compliant manufacturers in the tendering process.

It also appears that a significant majority, approximately 75-80% of the businesses in the medical sector, are government hospitals. This means that only a small percentage, around 10-15%, consists of open-market

businesses. The problem lies in the lack of a mechanism to differentiate between government hospitals and private businesses when it comes to government tendering. To address this issue, it would be beneficial for the FDA (Food and Drug Authority) to take a proactive approach and approve a system that allows government hospitals and approved units to participate in government tenders. By doing so, the process would become more efficient and transparent, fostering fair competition while also ensuring the availability of quality medical services and products.

Policy Objectives

1. To support the development of capacity to make use of expired patents in pharmaceutical manufacturing industry.
2. To support the promotion of and compliance with environmental protection regulations
3. Streamline permitting processes to reduce the barriers related to regulatory compliance.
4. To support the establishment of a pharmaceutical product testing facility and bioequivalence center.
5. To support the ability of pharmaceutical manufacturers to gain WHO prequalification for pharmaceutical products.
6. To support regulatory harmonization within the West African region to bolster export trade.
7. To educate and support consumers and institutions on pharmacovigilance and drug authentication issues.
8. To review government tendering process

Policy Prescriptions

Government will:

1. Ensure that the National IP Office develops capacity to provide information and advise on expired patents to the pharmaceutical manufacturing industry.
2. Enforce environmental regulations on pharmaceutical waste disposal to prevent contamination and reduce harmful environmental impact.
3. Simplify licensing requirements, reduce bureaucracy, and promote compliance.

4. Establish state-of-the-art pharmaceutical product testing facility for FDA offering comprehensive testing solutions to cater for the needs of pharmaceutical and herbal product manufacturers.
5. Through FDA, offer comprehensive guidance and support to pharmaceutical manufacturers in their pursuit of WHO prequalification, with a specific focus on enhancing drug standards.
6. Streamline and simplify the registration process for pharmaceutical products to expedite market entry.
7. Promote standards and regulatory harmonization within ECOWAS/AfCFTA to enhance export trade.
8. Intensify public education on the need to report adverse drug reactions to the FDA.
9. Promote the use of authentication software applications to identify and report counterfeit/fake drugs on sale, directly to the FDA with relevant details.
10. Enhance pre-and post-market surveillance by FDA to detect substandard and unregistered drugs.
11. Ensure the implementation of an effective risk management system for imported and locally manufactured pharmaceutical products.
12. Ensure the publication of pharmacovigilance reports in line with the Public Health Act.
13. Promote circular economy principles, such as green manufacturing practices and waste management protocols
14. Ensure a mandatory environmental impact assessment for new pharmaceutical facilities

6.6 Incentive Framework

Context

The government should carefully consider the implementation of incentives to facilitate affordable land availability for manufacturers and investors. Currently, there is a lack of reasonably priced land provided by the government in Ghana, which poses challenges for interested parties. Purchasing land often becomes a burdensome process, with multiple transactions required. The cost of land is high, and individuals may have to navigate through different pricing options, ranging from expensive to cheaper alternatives. Streamlining the land acquisition process and offering subsidized rates would serve as a significant incentive for manufacturers and investors.

Currently, the cost of these resources in our local area is exceedingly high. To illustrate, some companies resort to importing infusions that consist of nearly 99% water. Surprisingly, the imported infusions turn out to be more affordable compared to locally manufactured infusions. This demonstrates that even after undergoing various purification processes and incurring expenses such as importation fees and transportation costs, Infusions sourced from abroad, including India, remains cheaper than locally manufactured because sourced water used in infusion production becomes expensive locally.

The government of Ghana has implemented various tax incentives to encourage investment in the manufacturing sector. These incentives may include tax holidays, exemptions or reductions on corporate income tax, import duties, and Value Added Tax (VAT) on specific pharmaceutical products or machinery.

Despite the efforts of the Ghanaian government to support the manufacturing industries by providing incentives, numerous challenges persist for pharma companies operating in the country. These challenges hinder their ability to thrive and fully contribute to the healthcare system.

Also, products not manufactured locally may be allowed to be imported for a period of up to five years, after which importation should cease, mandating local manufacturing instead. This approach encourages the

development of domestic industries by providing a temporary window for importing goods that are currently unavailable locally. However, after the initial period, the focus shifts to promoting domestic production, fostering economic growth, and reducing reliance on imports. By implementing this strategy, the country can nurture its manufacturing capabilities and potentially achieve self-sufficiency in producing the previously imported products.

The Government of Ghana is firmly committed to providing investors in the Pharmaceutical sector with a predictable, transparent and competitive package of fiscal and non-fiscal incentives. This commitment recognizes the strategic importance of the sector to industrial transformation, employment generation, value addition and export earnings. The incentive framework is designed to provide a single package of fiscal incentives that enhance existing incentives policies and provide a competitive offer within the context of Ghana's peers.

Policy Objectives

1. Develop sector-specific regulations for the incentives for the pharmaceutical industry.
2. Provide comprehensive guidance on available incentives for manufacturers and investors to maximize benefits.
3. Review and revise the exemption list (L.I. 2255) of products, considering the current Essential Medicine List. The goal is to ensure that the list aligns with the latest requirements and standards, facilitating the collection of detailed product information from local manufacturers.

Policy Prescriptions

The Government will, through

1. Section 14 (1 and 2) of the Exemptions Act, 2022 (Act 1083) make regulations to grant industry-specific or programme-specific tax concessions for the pharmaceutical sector with recommendations from the Minister responsible for Trade and Industry; and

2. The principal incentive-granting regimes, namely the Ghana Investment Promotion Authority Act, the Ghana Free Zones Authority Act, 1995 (Act 504), the Income Tax Act, 2015 (Act 896) and its Regulations, the 24-Hour Economy Authority Act and other relevant enactments, under which industry-specific fiscal and non-fiscal incentives are conferred, grant incentives to the pharmaceutical sector.

6.7 Industrial Infrastructure

Context

An effective approach to attract substantial investment is for the Government to collaborate with the private sector to develop appropriate industrial infrastructure for co-locating pharmaceutical manufacturing with allied industries and their input suppliers. A top priority of the Government under its Industrial Transformation Programme is the establishment of Industrial Parks and Special Economic Zones including a purpose-built pharmaceutical park/hub with adequate safety and security protocols. It is expected that the pharma park will comprise of factory shells for pharmaceutical manufacturing, common user facilities, such as testing facilities, waste treatment plant, water treatment plant, dedicated utility services, dedicated space for raw material producers and suppliers, including an API plant, bioequivalence center, regulatory authorities, and other value chain actors.

For existing pharmaceutical manufacturers, access to adequate industrial infrastructure could significantly enhance their investments by acquiring new purpose-built facilities that enable them to work towards WHO compliance and subsequently prequalification as global suppliers.

Policy Objectives

1. To attract and facilitate investment by the private sector to develop industrial parks.
2. To establish within the pharmaceutical park ancillary facilities necessary for effective and efficient production.
3. To effectively coordinate government support to the pharmaceutical manufacturing industry.

4. To encourage pharmaceutical companies in the industrial parks to include required infrastructure to support innovation and development in their facilities.

Policy Prescriptions

Government will:

1. Facilitate investment by the private sector to develop industrial parks which provide adequate and affordable industrial lands for pharmaceutical manufacturing, allowing for expansion and growth in the sector.
2. Establish within the pharmaceutical park warehousing and logistics facilities where companies can store and distribute their products.
3. Establish within the pharmaceutical park shared facilities, such as common user facilities for research and development and testing laboratories.
4. Support pharmaceutical companies in the industrial parks to include pilot plants for innovation and development in their facilities (small-scale production and experimentation).
5. Facilitate land access for logistics hubs and bonded warehouses

6.8 Investment Financing

Context

The pharmaceutical industry in Ghana operates in three (3) main markets, namely, Public health institutions (via government procurement), private medical institutions and domestic consumers, and the export market.

The cost of fully establishing a state-of-the-art GMP pharmaceutical manufacturing plant in Ghana could be as high as USD 50-70 million or about USD 30 million for upgrading an existing plant to GMP standards. In view of the high cost and short-term tenure of commercial loans in Ghana, long-term concessionary financing is required to provide adequate investment capital for pharmaceutical manufacturing, whether brownfield or greenfield. An offer of targeted incentives and fiscal reliefs is necessary to crowd in new investments into the pharmaceutical sector.

Going forward, the main sources of capital financing for significant transformation and growth to take place in the pharmaceutical sector are likely to be (i) concessionary loans (ii) foreign direct investment, (iii) investment partnerships, and (iv) trade financing.

Policy Objectives

1. To facilitate access to concessionary loans and loan guarantees to recapitalize and upgrade existing pharmaceutical manufacturers.
2. To attract equity financing for pharmaceutical manufacturers.
3. To attract FDI and DDI into the pharmaceutical manufacturing value chain.
4. To attract joint venture partnerships and contract manufacturing.
5. To ensure that competitive trade financing is available especially for exports.

Policy Prescriptions

Government will:

1. Facilitate access to concessionary loans, loan guarantees, and/or grants to boost pharmaceutical manufacturing, research and development.
2. Facilitate the establishment of joint venture partnerships and contract manufacturing between domestic firms and foreign partners.
3. Explore opportunities for Public-Private Partnerships to finance projects in the pharmaceutical manufacturing sector.

6.9 Market Expansion and Trade Facilitation

Context

Africa relies heavily on imported pharmaceutical goods to meet over 70% of the region's healthcare needs. Africa sources more than 75% of its pharmaceutical imports from the European Union, India, and China.

Africa's pharmaceutical market stood at USD 30.5 billion as of 2024, West Africa's pharmaceutical market at USD 3.2 billion in 2024 and Ghana's pharmaceutical market stands at USD 0.28 billion as of 2024.

Pharmaceutical exports from Africa in 2024 to the rest of the world totaled approximately USD 2.0 billion, led by South Africa's USD 538 million, Egypt's USD 447 million, and Kenya's USD 165 million exports. Ghana contributed only USD 1.3 million to Africa's exports, mainly to the West African sub-region.

Africa represents nearly 25% of global demand for vaccines but produces less than 1%. Leading vaccine manufacturers such as Moderna and BioNTech have signed deals to build facilities in Africa that will produce the drug substance for mRNA vaccines for COVID-19 and other diseases, in addition to vial filling.

Key to sustainable manufacturing on the continent is the degree to which manufacturers can compete with imports. As pointed out in the AU's Pharmaceutical Manufacturing Plan for Africa, remedying the policy incoherence will go a long way to improving competitiveness and achieving efficient production by using modern production management techniques as the potential to increase capacity utilization of plants.

Evidence suggests that African companies can compete with imports by embracing international cGMP standards, taking advantage of TRIPS flexibilities, building capacity in the production of essential raw materials and excipients, and further developing plant medicines.

The combined impact of different actors in the pharmaceutical manufacturing value chain will determine whether companies are able to manufacture products to international standards and the degree to which such manufacturing can be sustainable. In this respect, regulators such as the Food and Drugs Authority have a key role to play in ensuring that products are manufactured according to current Good Manufacturing Practices (cGMP). They should also ensure that the distribution of products adhere to Good Distribution Practices (GDP) and Good

Warehousing Practices (GWP), as well as oversee the marketplace through pharmaco-vigilance and post marketing surveillance. Various government ministries also must apply the policy tools at their disposal to support the transformation and sustainability of the industry.

Ghana intends to pursue aggressive market expansion and trade facilitation to support growth in the production and distribution of pharmaceutical products, especially high-end products.
Based on the input from local manufacturers and the goal of providing duty exemption for certain excipients and materials used in pharmaceutical manufacturing, the recommended approach would be to create a new subheading under the specific Harmonized System (HS) code that exclusively applies to pharma use. This subheading should clearly mention the material names that are eligible for duty exemption. This will allow for easier monitoring and control by the enforcement agency (customs) and will facilitate smooth import processes for pharmaceutical manufacturers.

The proposed options for monitoring and control by customs are as follows:

- Deposit equivalent duty amount with customs at the time of clearance: Under this option, importers of the eligible materials will deposit an amount equivalent to the duty that would be payable on the materials. This deposit will be held by customs till verification and audit will be completed by the enforcement authorities and duty amount will be credited back to the importer. This approach ensures that Customs have an assurance that the duty amount will be paid if the exemption criteria are not met, and it simplifies the process for importers.
- Execute a Bank Guarantee or Bond for the duty amount + 10%: Alternatively, importers can opt to execute a Bank Guarantee or Bond in favor of the customs or revenue department. The amount of the guarantee or bond should be equivalent to the duty amount payable for one year of import. This means the importer provides a financial guarantee that they will pay the duty amount if the exemption criteria are not met. The bond or guarantee can be released or extended for the next year after due verification of the materials being used in manufacturing by enforcement authorities. This approach adds an extra layer of financial security for customs and encourages compliance with the duty exemption regulations as well as the pharmaceutical manufacturers exporters. This will also

help pharmaceutical manufacturers financially as they will not have to pay duty amount.

Policy Objectives

1. To facilitate growth in the production and distribution capacity for pharmaceutical products.
2. To support pharmaceutical manufacturers in market expansion and with trade facilitation for high-end pharmaceutical products.
3. To implement pharmaceuticals export development programmes targeted at the ECOWAS and AfCFTA markets.
4. To streamline processes to ensure prompt payment for products supplied by manufacturers.

Policy Prescriptions

Government will:

1. Establish a direct port delivery system to ensure an uninterrupted and reliable supply pipeline of equipment and raw materials to the production line "just-in-time" in order to prevent stoppages.
2. Streamline the process for obtaining clearances and licenses to ensure efficiency.
3. Facilitate the promotion of pharmaceutical products export from Ghana to the sub-region and other African countries.
4. Foster collaboration with ECOWAS member states and parties to the AfCFTA to eliminate substandard and counterfeit pharmaceutical products.
5. Ensure that the negotiation and implementation of Trade Agreements take into account the strategic importance of pharmaceutical manufacturing to Ghana's industrial transformation and the need to expand market access.
6. Collaborate with key stakeholders in the pharmaceutical industry to improve market information available to the industry, e.g., demand trends and export distribution channels.
7. Collaborate with key stakeholders in the pharmaceutical industry to strengthen Ghana's brand image and to market the pharmaceutical manufacturing industry (orthodox and herbal) globally.
8. Collaborate with key stakeholders in the pharmaceutical industry to develop a software solution that connects customs to manufacturers and allow online verification of stocks, including imported raw materials (e.g., sugar and ethanol) and other compliance verification information arising from periodic physical audits.

9. Streamline processes to ensure that payments for goods supplied to government institutions are effected in a timely manner, in accordance with established terms of payment.
10. Provide measures to address unfair trade practices

6.10 Enhancing Production Capacity

6.10.1 Upgrade of Manufacturing Facilities

Context

Upgrading Ghana's pharmaceutical manufacturing facilities is a pivotal step toward enhancing efficiency, boosting productivity, and strengthening the industry's global competitiveness. By modernizing infrastructure and adopting innovative practices, Ghana can position itself as a regional leader in pharmaceutical production, ensuring high-quality products and sustainable growth.

A cornerstone of this transformation lies in embracing cutting-edge technology. By investing in state-of-the-art equipment, automation, and digital systems, manufacturers can streamline operations, increase production capacity, and maintain consistent product quality. These advancements minimize human error and optimize processes, enabling companies to meet both domestic and international demand with greater precision.

Equally critical is the development of a skilled workforce. Comprehensive training programs and continuous professional development initiatives will equip employees with the expertise needed to navigate evolving industry standards and technologies. By fostering a culture of learning, manufacturers can ensure their teams remain agile and informed about global best practices.

Sustainability is another key pillar. Adopting energy-efficient practices and integrating renewable energy sources can significantly reduce operational costs while aligning with global environmental goals. Such measures not only enhance cost-effectiveness but also bolster the industry's reputation as a responsible and forward-thinking sector.

Collaboration plays a vital role in driving innovation. By forging partnerships with research institutions, universities, and other

pharmaceutical companies, Ghanaian manufacturers can access new knowledge, share resources, and develop groundbreaking solutions. These alliances foster a dynamic ecosystem where innovation thrives, benefiting both the industry and the broader economy.

Effective marketing and branding strategies are essential for expanding market reach. A strong brand presence, built through targeted campaigns, can attract customers in both local and international markets, driving sales and enhancing industry visibility. A well-crafted brand identity also builds trust, positioning Ghanaian pharmaceuticals as reliable and high-quality.

To sustain long-term growth, manufacturers must cultivate a culture of continuous improvement. Encouraging employees to propose innovative ideas for process enhancements fosters ownership and drives operational excellence. This mindset ensures that facilities remain adaptable and responsive to industry trends.

Finally, embracing green supply chains is crucial for sustainability. By partnering with suppliers who prioritize environmentally friendly practices and adopting low-carbon transportation methods, manufacturers can reduce their environmental footprint. This holistic approach strengthens the industry's commitment to sustainability while maintaining efficiency across the supply chain.

Through these strategic efforts—modern technology, skilled workforce development, sustainability, collaboration, branding, continuous improvement, and green supply chains—Ghana's pharmaceutical manufacturing sector can achieve transformative growth, delivering high-quality products and contributing to the nation's economic and health priorities.

Policy Objectives

1. Modernize manufacturing processes through the adoption of advanced technology, automation, and digital systems to increase production capacity and minimize errors.
2. Develop a skilled and adaptable workforce through comprehensive training programs and continuous professional development to align with global industry standards.

3. Implement energy-efficient practices and integrate renewable energy sources to reduce operational costs and establish the industry as environmentally responsible.
4. Build partnerships with research institutions, universities, and other pharmaceutical companies to drive innovation, share resources, and develop cutting-edge solutions.
5. Invest in effective marketing and branding strategies to enhance domestic and international market presence, attract customers, and boost sales.
6. Cultivate Continuous Improvement: Encourage a culture of continuous improvement within organizations to enhance processes, productivity, and adaptability to industry trends.
7. Promote sustainable practices across the supply chain by collaborating with eco-conscious suppliers and adopting low-carbon transportation methods to reduce environmental impact.

Policy Prescriptions

Government will:

1. Provide financial incentives and support for modernizing manufacturing facilities.
2. Establish public-private partnerships to introduce advanced technologies and expertise in vaccine production.
3. Streamline regulatory processes to expedite investments in vaccine manufacturing infrastructure.
4. Prioritize Government procurement of domestically manufactured products to bolster self-reliance and local production.

6.10.2 Novel Investment Projects (e.g., Vaccine Manufacturing)

Ghana, like many other developing countries, faces numerous challenges in its healthcare system. One of the critical issues is the lack of access to essential vaccines and medicines, especially during pandemics and disease outbreaks. The COVID-19 pandemic highlighted the urgency for Ghana to build resilience and self-sufficiency in vaccine manufacturing to respond swiftly to future health crises. This has given rise to the need for novel investment projects, such as vaccine manufacturing, within the country.

The implementation of the National Vaccines Policy in Ghana marks a significant step towards achieving vaccine self-reliance and fostering a healthier future for its citizens. By strategically coordinating efforts,

involving the private sector, and developing a skilled workforce, Ghana can successfully establish a vibrant vaccine development and manufacturing industry. This will not only address immediate health concerns but also elevate the nation's status on the global stage as a proactive player in public health and innovation. Collaborative action by all stakeholders is vital in realizing this vision of a self-reliant Ghana that leads the way in vaccine development and manufacturing.
After conducting an evaluation of the current pharmaceutical manufacturers in Ghana, potential areas for growth, expansion, and enhancement were identified. Some opportunities for existing pharmaceutical manufacturers in Ghana, based on the assessment, are as follows:

Promoting the manufacturing of veterinary products in various dosage forms and product ranges like Anthelmintic, Anti-bloat, Antibiotics, Antiprotozoal, Endectocide, Bovine feed supplements, Ointments and sprays, Hormones, Tonics, Poultry antimicrobial powders, Poultry feed supplements, Poultry parasiticides, Sheep and goat Pet anesthetics, Pet dermatology products, Pet nutrition products, Pet vaccines are highly recommended in order to address the diverse needs of animal healthcare. By offering a wide range of veterinary products, manufacturers can effectively cater to different requirements and conditions in animals.

It is highly recommended to initiate local production of below listed products. This step will not only support the local economy but also ensure a steady supply of essential products and exports.
The Scope of expanding product range for pharmaceutical manufacturing facilities in Ghana include:

- Intravenous infusions
- Injectables including Ampoule, Vial, Respules, Prefilled Syringes
- Eye/Ear/Nasal Drops
- Potent Drugs
- Nutraceuticals
- Biological products
- Vaccines
- Biosimilars (such as Hormones)
- Hemodialysis and Peritoneal Dialysis Fluids
- Herbal Medicines Manufacturing

Scope of Medical Devices Manufacturing Facilities in Ghana

- IV Infusion Set
- Blood Transfusion Set

- Urine Collection Bag
- Blood Collection Bag
- Syringes with needle
- IV Cannula
- Condoms

Scope of materials for manufacturing

- APIs
- Excipients
- Raw Materials
- Primary & Secondary Packaging Materials
- Tertiary packaging materials (shippers/cartons)

Policy Objectives

1. To enhance Leadership and Institutional Arrangements
2. To foster Collaborative Partnerships and Private Sector Engagement
3. To ensure Financial Viability and Sustainability in Vaccine Development and Manufacturing
4. To build and nurture Skilled Workforce for Vaccine Research, Development, and Production.
5. To ensure that vaccine and serum manufacturing facilities achieve WHO PQ certification, indicating compliance with global quality and safety standards for vaccine production.
6. To ensure all bulk vaccines and serum must be sourced exclusively from manufacturers holding WHO PQ certification, guaranteeing the procurement of high-quality and effective products.
7. To provide necessary support and incentives to local vaccine manufacturers to encourage their growth and development.

Policy Prescriptions

Government will:

1. Facilitate the establishment of domestic vaccine manufacturing plants to enhance local production capabilities.
2. Enhance the capacity of the FDA to enforce rigorous standards for vaccine Research & Development (R&D) and manufacturing.
3. Establish appropriate legislation to support and regulate vaccine development and manufacturing endeavors.

4. Enhance the institutional capacity of the National Vaccine Institute to provide effective coordination of vaccine research, development, and manufacturing activities, and to facilitate investment and sustainable growth within the national vaccine manufacturing ecosystem.
5. Establish Public-Private Partnership arrangements to stimulate collaboration in Vaccine Development and Manufacturing (VDM).
6. Foster collaborations with domestic and international organizations to leverage their expertise in vaccine development and manufacturing.
7. Support research institutions with capacity to conduct vaccine potency and chronic toxicity testing with equipment and resources.

6.10.3 Plant Medicine

The herbal medicines market in Ghana has tremendous potential due to the abundance of local resources, which can be harnessed to create a thriving industry and contribute significantly to the country's economy through global exports. The Ghanaian government recognizes the importance of traditional medicine and has established regulatory bodies and research institutions such as the Food and Drugs Authority (FDA) and the Centre for Plant Medicine Research to support and regulate the research, production, distribution, and sale of herbal medicines. The FDA ensures that herbal medicines meet safety, quality, and efficacy standards before they can be marketed in Ghana. In Ghana, the registration of herbal medicines follows the guidelines set by the World Health Organization (WHO) and the Food and Drug Authority, ensuring that Finished Herbal products adhere to the same standards.

However, one significant challenge currently faced by the herbal medicine sector in Ghana is the limited capacity of research institutions to conduct the necessary analyses for herbal products. The research institutions lack the necessary equipment to perform comprehensive analysis on herbal medicines. As a result, these products are being registered as immune boosters and food supplements etc.

Furthermore, the cost of utilizing research institutions for the analysis and testing process poses a significant obstacle. Although the charges for

analysis are subsidised for the minimum test, some of the practitioners still cannot afford. Consequently, some herbal products that could potentially have significant value in the international market cannot be adequately promoted and registered with regulatory bodies like the FDA (Food and Drug Administration).

For instance, products targeting conditions such as diabetes and hypertension, which are prevalent worldwide, face challenges in gaining proper registration and recognition due to the absence of chronic toxicity tests conducted by local research institutions. This lack of availability of these essential tests in the country hampers the registration and export potential of such herbal medicines. As a result, practitioners often resort to marketing immune boosters and other food supplements as alternatives.

Lastly, in Ghana, there exists a challenge pertaining to the promotion of Herbal Products. The primary responsibility for promoting these products rests with individual manufacturers. The Ghana Federation of Traditional Medicine Practitioners Associations (GHAFTRAM) assumes the lead role in organizing and coordinating these promotional endeavors, whereas the government's involvement in promotion remains relatively limited.

As described earlier, Ghana has a rich tradition of herbal medicine and natural remedies. Ghana has tremendous potential in harnessing the power of plant medicine, which can not only drive the growth of the industry but also lead to the development of innovative products for international export. Embracing this opportunity would not only boost Ghana's economy but also contribute to the nation's sense of pride and progress.

There is a growing global trend towards natural and holistic health and wellness. Herbal products are perceived as being more natural and potentially having fewer side effects compared to synthetic alternatives. This trend presents an opportunity to tap into the growing demand for herbal products both domestically and globally.

Promoting herbal products can also lead to economic growth and job creation within Ghana. It can stimulate the cultivation of medicinal plants, support local farmers, and encourage small-scale herbal product manufacturing enterprises. This can contribute to poverty reduction and improved livelihoods.

The government's involvement in promoting herbal products is currently limited. It is important for the government to take the initiative and actively promote these products. To overcome these obstacles, it is crucial to pursue several strategies. efforts should be made to establish research as a centre of excellence institutions in Ghana that are well-equipped to conduct comprehensive analysis, including chronic toxicity testing for herbal products at affordable cost. This would enable practitioners to obtain the necessary analysis reports required for proper registration with regulatory authorities such as the FDA. Meanwhile, it is recommended that existing Research Institutions is resourced to conduct these tests on Ghana-manufactured products. This approach can facilitate the registration process with the FDA.

Secondly, the herbal medicine industry would benefit from acquiring high-quality manufacturing machines tailored to their specific needs. Although herbal practitioners possess the requisite knowledge and requirements, the lack of appropriate machinery hinders their production capabilities. By investing in advanced manufacturing equipment, Ghana can enhance the quality and scale of herbal medicine production, thereby expanding its potential in both local and international markets.

Thirdly, the establishment of proper factories and manufacturing premises would also contribute to the growth and development of the herbal medicine sector. Having well-designed and adequately equipped facilities would ensure standardized herbal sector, improved quality control, and enhanced efficiency.

Furthermore, it is recommended that Ghanaian manufacturers of herbal medicines explore opportunities for collaboration with manufacturers from other countries whose products have been registered with their respective FDA. By forming partnerships and sharing expertise, the Ghana FDA can

consider granting approval and registration for these collaborative products. This approach promotes knowledge sharing, quality assurance, and regulatory compliance, ultimately benefiting the local herbal medicine industry in Ghana.

Additionally, it is highly recommended that Herbal industries explore the possibility of having some of their products eligible for reimbursement under the National Health Insurance Scheme (NHIS), one of the largest government-sponsored health support programs. We aim to establish a collaborative partnership with the NHIS, enabling us to effectively package and distribute their products.

In India, herbal manufacturing is well-organized and approved by the Indian FDA. Specific codes are given to different herbal products, enabling manufacturers to market and export these products to avail duty exemption and incentives. The Ghanaian government should consider adopting similar guidelines and seek assistance from the Indian herbal regulatory authority to streamline herbal manufacturing and distribution in Ghana and for exports to other African countries.

Policy Objectives

1. Enhance research capacity and access to comprehensive analysis for herbal products to meet international standards and facilitate registration.
2. To establish well-equipped facilities to improve production capabilities and product quality.
3. Foster collaborations with reputable domestic, and international manufacturers and, regulatory bodies to gain expertise, assurance, and regulatory compliance.
4. Explore possibilities for reimbursement of herbal products under the National Health Insurance Scheme (NHIS) to expand market reach and accessibility.
5. Develop standardized guidelines and policies in collaboration with the Ministry of Health (MOH), Traditional Medicine Practise Council and the FDA to ensure ethical marketing and regulatory compliance and appropriate prescribing practices for herbal medicine manufacturers.

Policy Prescriptions

Government will:

1. Support the provision of adequate equipment and resources for the Centre for Plant Medicine Research and other Research Institutions to conduct cutting-edge research for herbal products.
2. Facilitate investment in advanced manufacturing equipment tailored to the herbal medicine industry to improve production capabilities and product quality.
3. Liaise with relevant institutions to facilitate skill development and continuous training for herbal medicine practitioners
4. Develop and implement standardized manufacturing facilities and premises to maintain consistent quality control and enhance production efficiency.
5. Support the establishment of at least one centre of excellence herbal facility to be used for training and contract manufacturing
6. Facilitate partnerships between Ghanaian herbal medicine manufacturers and foreign counterparts with registered products to exchange expertise and ensure adherence to regulatory standards.
7. Explore opportunities for selected herbal products to be eligible for reimbursement under the National Health Insurance Scheme, promoting partnerships and effective distribution.
8. Collaborate with the Ministry of Health and the Ghana Food and Drugs Authority to formulate policies and standardized guidelines for herbal medicine manufacturers, ensuring compliance and ethical marketing practices.
9. Support the measures for the development of herbal plants as raw materials for plant medicines
10. Map and protect medicinal plant zones through community-based conservation programmes
11. Facilitate land access for herbal medicine cultivation and processing facilities
12. Collaborate with the Centre for Plant Medicine Research and Traditional Herbal Medicine Practitioners to promote sustainable harvesting and cultivation practices

6.10.4 Support Industries (API, Excipients & Packaging Materials)

Ghana is currently dealing with a shortage of supporting industries that manufacture crucial components such as APIs, excipients, raw materials, and packaging materials for the pharmaceutical sector.

The scarcity of certain APIs, excipients, and raw materials poses significant challenges to the production process in Ghana. In order to tackle this challenge head-on, Ghana needs to establish a just-in-time supply chain and prioritize the local production of these critical components. By manufacturing these products within the country, Ghana can not only overcome the existing challenges but also facilitate the growth and development of its pharmaceutical industry.

The enhancement of support systems in Ghana's pharmaceutical industry can be achieved through the establishment of key industries such as Active Pharmaceutical Ingredients (APIs), excipients, raw materials (RMs), and packaging materials (PMs). These industries will contribute to the creation of a robust value chain in the country's pharmaceutical manufacturing sector.

By setting up API manufacturing facilities, Ghana can reduce its reliance on imported APIs, which are crucial components in the production of pharmaceutical drugs. This will

Similarly, the establishment of excipient manufacturing plants will provide the necessary ingredients and additives used in pharmaceutical formulations. Producing these components domestically will enhance the quality control of pharmaceutical products and reduce costs associated with importing them.

Furthermore, the development of raw material industries will enable Ghana to source locally available materials required for pharmaceutical manufacturing, such as herbs, minerals, and other natural resources.

Additionally, the creation of packaging material industries will support the manufacturing sector by providing locally produced packaging materials like bottles, blister packs, labels, and cartons. This will not only ensure the availability of suitable packaging options but also contribute to the overall aesthetics and branding of Ghanaian pharmaceutical products.

By establishing these industries, Ghana can achieve a self-sufficient and robust pharmaceutical manufacturing sector. This will result in increased access to affordable medicines, job creation, technology transfer, and the overall growth of the country's economy.
Starting new industries is indeed a challenging and resource-intensive endeavor. However, governments can play a crucial role in facilitating the establishment of support industries by prioritizing their development and providing necessary assistance and guidance.

One effective approach is for investors to consider collaborating with established industries in other countries, which can streamline the process and enhance efficiency.
For making cost effective, viability of the manufacturing units of supporting materials and making the products available to the local pharmaceutical manufacturers, all the input raw materials must be made 100% duty free and free from any local taxes.

Policy Objectives

1. Adoption of eco-friendly packaging materials, such as recyclable or biodegradable materials, to minimize waste and reduce environmental impact.
2. Enhance the local production capabilities and ensure a stable supply of essential medicines.
3. Enhance the forward and backward linkages within the pharmaceutical industry
4. Promote sustainable sourcing practices and reduce dependency on foreign suppliers.

Policy Prescriptions

Government will:

1. Provide incentives and support for the establishment of key industries for Active Pharmaceutical Ingredients (APIs), Excipients, Raw Materials (RMs), and Packaging Materials (PMs) locally.

2. Facilitate the establishment of API manufacturing facilities to reduce reliance on imports and ensure a stable supply of essential medicines.
3. Support the establishment of excipient manufacturing plants to improve quality control and reduce costs of pharmaceutical formulations.
4. Support the development of raw material industries to promote sustainable sourcing and reduce dependency on foreign suppliers.
5. Support the packaging material industries to ensure adequate availability and affordability of locally produced packaging materials and enhance branding.
6. Through GSA develop and enforce National Standards for the packaging materials

6.11 Cross-cutting Issues

- Gender, Youth, Equity and Social Inclusion (Persons with Disability)
- Business Environment
- Legal Framework – Labour, Occupational Health, Safety and Environment
- Advocacy and Communication (Industrial Stakeholders)

6.11.1 Gender, Youth, Equity and Social Inclusion (Persons with Disability)

Government will:

1. Encourage the policies and business environment that consider gender, youth, and social inclusion
2. Facilitate the provision of incentives to manufacturing companies in line with the Affirmative Action Act and other Relevant Laws
3. Ensure that the pharmaceutical manufacturing policy explicitly addresses the needs of women and youth, including recognizing gender-specific and age-specific barriers and opportunities.
4. Identify and engage women and youth organizations, as well as other relevant stakeholders, in the policy implementation process to ensure their perspectives are incorporated.
5. identify disparities in pharmaceutical manufacturing employment and entrepreneurship disaggregated by gender and age to inform targeted interventions.

6. Conduct research on the specific barriers faced by women and youth in the pharmaceutical sector, and use the findings to guide policy decisions.
7. Develop and implement training programs tailored to women and youth to build their skills in pharmaceutical manufacturing, business management, and leadership.
8. Establish mentorship and coaching programs that connect women and youth with experienced professionals in the pharmaceutical industry.
9. Provide training and capacity-building programs focused on technical, entrepreneurial, and practical life skills to enhance the employability of women and youth in the pharmaceutical sector.
10. Create financial support mechanisms, such as grants, loans, and subsidies, to facilitate the entry of women and youth into the pharmaceutical manufacturing sector.
11. Ensure equitable allocation of resources, including access to raw materials, technology, and infrastructure, to support women and youth-led enterprises.
12. Support initiatives that promote business start-ups for young people and women, providing access to start-up capital, mentorship, and production assets.
13. Create additional employment opportunities in MSMEs within the pharmaceutical value chain, ensuring a significant proportion of these opportunities are available to young people and women.

6.11.2 Streamline Bureaucratic Processes

Government will:

1. Simplify and streamline bureaucratic procedures related to investment in the pharmaceutical sector.
2. Establish a one-stop-shop for issuing permits for manufacturing (ORC, FDA, EPA, GSA, SSNIT Pharmacy Council, Customs, Fire Service, GRA (Domestic), Immigration, Ghana Police Service, MMDAs, NIA, Factory Inspectorate, GIPC, Lands Commission, ECG, Ghana Water.

6.11.3 Stable Legal Framework

Government will:

1. Establish a stable legal framework that provides security and predictability for investors.

2. Enhance legal safeguards to protect investments, including robust measures to safeguard intellectual property rights.

6.12 IMPLEMENTATION AND COORDINATION

Objectives:

i. To establish coordination unit for both existing and potential investors for ease of doing business
ii. To take into account the holistic development of the sector consistent with the policy objectives
iii. To monitor the progress of policy implementation
iv. Promote pharmaceutical manufacturing activities
v. To register enterprises that wish to participate in the Pharmaceutical Manufacturing Programme and ensure adequate monitoring and regulatory compliance.

Policy Prescriptions

MOTAI will:

i. Establish a Pharmaceutical Sector Development Unit to coordinate all Pharmaceutical Manufacturing related activities and serve as a point of contact within Government for investors and other stakeholders

ii. Work with the Tax Revenue Division of the Ministry of Finance and the Ghana Revenue Authority to sensitise strategic industries on other existing incentives provided by Law.

iii. Undertake capacity building for staff of the Pharmaceutical Sector Development Unit to appreciate the technical, policy and programme requirements of administering the policy.

iv. Encourage inter-agency collaboration in pharmaceutical manufacturing processes
v. Develop and effectively administer a Two-Tier Registration System to register Manufacturers into the Pharmaceutical Manufacturing Programme

Investment Promotion

i. Prepare pharmaceutical industry profile to provide a summary of the opportunities for international investors;
ii. Embark on visits to select countries for FDI promotion;

iii. Promote activities to attract domestic investment into pharmaceutical industry
iv. Arranging reciprocal visits from potential investors to Ghana.

Pharmaceutical Manufacturing Industry Development Council (PMIDC)

Context:

The comprehensive nature of the programme will require a high degree of consultation and coordination with existing stakeholders in the sector. Government will establish an umbrella Pharmaceutical Manufacturing Industry Development Council (PMIDC), to provide strategic direction for the Pharmaceutical Manufacturing Programme and its stakeholders.

The objective is to ensure that the considerable opportunities offered by the programme can be realized.

Through regular interactions and information sharing, the Development Council will fulfil a very important role in implementing the Pharmaceutical Manufacturing Programme.

Objectives:

- To develop an effective economic consultation structure to effectively address any issues related to Pharmaceutical Manufacturing activities and provide inputs into any policy review activities.

Prescription:

i. The Minister shall establish the Council, ensuring that its members possess the requisite expertise and include representatives from relevant public and private institutions.
ii. The Minister shall designate the Pharmaceutical Industry Development Council as a consultative body to facilitate dialogue between the Government, pharmaceutical manufacturers, herbal product producers, research institutions, and healthcare providers.

DURATION OF THE POLICY

- The implementation of the Ghana Pharmaceutical Manufacturing Policy will have an initial duration of 10 years, with interim reviews envisaged after every 5 years to inject dynamism and adaptation to new developments.

A GLOBAL OUTLOOK: PROMISING TRENDS AND OPPORTUNITIES IN GHANA'S PHARMACEUTICAL SECTOR

The pharmaceutical sector is a critical component of the global healthcare industry, and its growth and development have significant implications for countries around the world. Ghana, a country in West Africa, has been making strides in the pharmaceutical sector and has been presented with several international trends and opportunities that can potentially benefit its healthcare system and economy.

One prominent international trend in the pharmaceutical sector is the increasing demand for affordable and accessible healthcare products and services. As populations continue to grow and age worldwide, there is a greater need for medicines, vaccines, and other healthcare solutions. Ghana, with its growing population and healthcare challenges, has the opportunity to capitalize on this trend by expanding its pharmaceutical sector to meet the rising demand.

Another trend that presents an opportunity for Ghana is the focus on research and development (R&D) in the pharmaceutical industry. Many countries are investing heavily in R&D to develop innovative drugs, therapies, and medical technologies. Ghana can tap into this trend by fostering collaborations with international pharmaceutical companies and research institutions, promoting local R&D initiatives, and encouraging investment in scientific infrastructure. By doing so, Ghana can enhance its capacity to develop and produce cutting-edge pharmaceutical products.

Additionally, there is a global push for increased access to essential medicines, especially in low- and middle-income countries. This presents an opportunity for Ghana to position itself as a reliable supplier of quality generic medicines. By establishing robust regulatory frameworks, ensuring compliance with international quality standards, and promoting local pharmaceutical manufacturing, Ghana can become a hub for generic drug production, not only meeting domestic demand but also exporting to other African countries and beyond.

Furthermore, the COVID-19 pandemic has underscored the importance of local pharmaceutical production and supply chain resilience. Many

countries have realized the risks associated with relying heavily on imported medicines and medical supplies. This has led to a renewed focus on domestic manufacturing capabilities. Ghana can leverage this trend by strengthening its pharmaceutical manufacturing infrastructure, improving local production capacities, and reducing dependence on imports. This would enhance Ghana's self-sufficiency in healthcare and contribute to the overall resilience of its healthcare system.

In terms of opportunities, Ghana can also benefit from increased foreign direct investment (FDI) in the pharmaceutical sector. As the country improves its business environment, enhances regulatory frameworks, and demonstrates commitment to intellectual property rights protection, it becomes an attractive destination for international pharmaceutical companies seeking to expand their operations in Africa. FDI can bring advanced technologies, knowledge transfer, job creation, and overall economic growth.

Furthermore, partnerships and collaborations with international organizations, such as the World Health Organization (WHO), the United Nations, and other bilateral and multilateral agencies, can provide Ghana with access to technical expertise, funding, and capacity-building support. These partnerships can strengthen Ghana's healthcare infrastructure, improve regulatory systems, and facilitate knowledge exchange, ultimately contributing to the growth of the pharmaceutical sector.

One opportunity for Ghana lies in the production of generic drugs. Generic medicines are cost-effective alternatives to brand-name drugs and are in high demand globally. Ghana can leverage its manufacturing capabilities to produce affordable generic drugs for both domestic and international markets.

Another opportunity is in the production of traditional herbal medicines. Ghana has a rich tradition of herbal medicine, and there is growing global interest in natural and alternative remedies. By investing in research, development, and quality control, Ghana can develop standardized herbal medicines that meet international standards and tap into the growing market for natural healthcare products.

Furthermore, Ghana can also explore partnerships and collaborations with international pharmaceutical companies. These partnerships can involve

technology transfer, knowledge sharing, and joint research and development efforts. By collaborating with established players in the industry, Ghana can gain access to advanced technologies, expertise, and global distribution networks.
To fully capitalize on these opportunities, it is essential for Ghana to continue strengthening its regulatory framework, ensuring compliance with international quality standards, and investing in research and development. Additionally, efforts to improve intellectual property protection and attract foreign direct investment will further enhance the growth of the pharmaceutical sector in Ghana.

Overall, the international trend of increasing demand for affordable and high-quality healthcare products presents a favorable opportunity for Ghana to expand its presence in the global pharmaceutical sector. By leveraging its strengths and addressing key challenges, Ghana can become a significant player in the industry and contribute to improving healthcare access and affordability both domestically and internationally.

Lastly, the increase in veterinary products manufacturing in Ghana has the potential to strengthen the country's pharmaceutical sector and contribute to its overall value globally. Expanding veterinary product manufacturing helps diversify Ghana's pharmaceutical sector. While human medicines dominate the industry, incorporating veterinary products adds a new dimension, enabling the country to cater to the growing demand for animal health products. This diversification enhances the sector's resilience and provides additional revenue streams.

By boosting veterinary product manufacturing, Ghana can build local competence and expertise in the pharmaceutical sector. As Ghana's veterinary product manufacturing capabilities grow, the country can capitalize on export opportunities. Animal health products are in high demand globally, particularly in regions with thriving livestock and aquaculture industries. By adhering to international quality standards and regulations, Ghana can establish itself as a reliable exporter of veterinary products, contributing to its foreign exchange earnings and overall trade balance.



REPUBLIC OF GHANA

MINISTRY OF TRADE, AGRIBUSINESS AND INDUSTRY

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