



RAW MATERIALS RESEARCH AND DEVELOPMENT COUNCIL STRATEGIC ROADMAP (2025-2034)

**RAW MATERIALS SECTOR DEVELOPMENT PLAN
(STRATEGIC PLAN 2025 - 2034)**

May 2025



PUBLISHER:

Raw Materials Research and Development Council
17, Aguiyi Ironsi Street, Maitama
Abuja, Nigeria.

Tell: +234- (0) 8033148722

Email: dg@rmrdc.gov.ng

Website: www.rmrdc.gov.ng

A Publication of the Raw Materials Research and Development Council (RMRDC) Abuja, an agency under the Federal Ministry of Innovation, Science and Technology.

©RMRDC 2025

All Rights Reserved. No part of this publication may be reproduced, stored in or transmitted in any form or by any means of electronic, mechanical, photocopying, recording or otherwise without the permission in writing from the copyright owner or publisher.

TABLE OF CONTENTS

COVER PAGE	1
COPYRIGHT PAGE	2
ABOUT RMRDC	4
VISION & MISSION	5
PURPOSE OF ROAD MAP	5
LIST OF ACRONYMS	6
FOREWORD	8
PREFACE	11
INTRODUCTION	12
1.1: Situation Analysis of Nigeria’s Raw Materials Development	12
1.2: Rationale for the Roadmap	13
1.3: Objectives of the Roadmap	16
1. THE ROADMAP	18
2. GUIDING PRINCIPLES	24
3. ENABLING FRAMEWORK	24
4. THEMATIC AREA OF FOCUS	25
5. GOVERNANCE STRUCTURE	31
6. DEPLOYING INCENTIVE MECHANISM	32
7. ROAD MAP TRACKER	32
8. STRATEGIC PARTNERSHIPS AND LINKAGES	34
9. FUNDING THE ROADMAP	34

10.	MONITORING AND EVALUATION FRAMEWORK	35
11.	RISK MANAGEMENT	41
12.	FOCUS ON KEY MANUFACTURING SECTOR	41



ABOUT RMRDC

The Raw Materials Research and Development Council (RMRDC) is an agency under the Federal Ministry of Innovation, Science, Technology (FMIST) in Nigeria. Established by Decree No. 39 of 1987. RMRDC's primary mandate is to promote the development and utilisation of Nigeria's abundant raw materials to achieve industrialization and sustainable economic growth.

MANDATES

- Undertake measures to ensure the systematic exploitation, development and utilization of Nigeria's raw materials resources
- Draw up policy guidelines and action programmes on raw materials acquisition, exploitation and
- development.
- Review from time-to-time raw materials resources availability and utilization with a view to advising the Federal Government on the strategic implication of depletion, conservation or stockpiling of such resources.
- Advise on adaptation of machinery and processes for raw materials utilization.
- Encourage publicity of research findings and other information relevant to local sourcing of raw materials for industries.
- Encourage the growth of in-plant research and development capabilities.
- Advise on and devise awards or reward systems for industries that achieve any breakthrough or make innovations and inventions.

- Organize workshops, symposia and seminars designed to enlighten the public on raw materials development and solutions discovered.
- Consider and advise on special research grants for specific objectives
- Undertake research and development on local raw materials for utilization by industries.
- Establish raw materials analysis and certification laboratories for use by industries.
- Liaise with relevant regulatory agencies for the standardization of raw materials to meet industrial specifications.
- Promote Nigeria's Competiveness in raw materials and products development.
- Consider and advise on any issue capable of enhancing the objectives of the Council.





VISION

*To be an indispensable
Catalyst for Nigeria's industrial
Growth and development, leveraging
the nation's vast raw materials*



MISSION

*To promote the development
and optimal utilization of
Nigeria's raw materials for sustainable
industrial growth and economic
development*

PURPOSE OF THE ROADMAP

*To transform Nigeria's raw materials sector
into a globally competitive industry for structural
transformation of the economy.*

LIST OF ACRONYMS

RMRDC:	Raw Materials Research and Development Council	SON:	Standards Organisation of Nigeria
FMIST:	Federal Ministry of Innovation, Science and Technology	NBS:	National Bureau of Statistics
KRAs:	Key Result Areas	NEITI:	Nigeria Extractive Industries Transparency Initiative
SMART:	Specific, Measurable, Achievable, Relevant, and Time-bound	NIPC:	Nigerian Investment Promotion Commission
KPIs:	Key Performance Indicators	NEPC:	Nigerian Export Promotion Council
RMIS:	Raw Materials Information System	SMEDAN:	Small and Medium Enterprises Development Agency of Nigeria
MVA:	Manufacturing Value Added	NABG:	Nigerian Agribusiness Group
KPOs:	Key Performance Objectives	FACAN:	Federation of Agricultural Commodity Associations of Nigeria
ERP:	Enterprise Resource Planning	NASME:	National Association of Small and Medium Enterprises
PMS:	Performance Management System	NESG:	Nigerian Economic Summit Group
R&D:	Research and Development	ALGON:	Association of Local Governments of Nigeria
USD:	United States Dollar	NEPZ:	Nigeria Export Processing Zones
SWOT:	Strengths, Weaknesses, Opportunities, and Threats	ASCON:	Administrative Staff College of Nigeria
MAN:	Manufacturers Association of Nigeria	IMACL:	Investment Managers and Assets Consulting Limited
QMS:	Quality Management System	CMD:	Centre for Management Development
IPCSD:	Investment Promotion and Consultancy Services Department	NIPPS:	National Institute for Policy and Strategic Studies
TDD:	Technology Development Department	PSIN:	Public Service Institute of Nigeria
RDPC:	Research and Demonstration Plant Complex	NACETEM:	National Centre for Technology Management
MMDD:	Materials and Mineral Development Department	WHT:	Withholding Tax
CPD:	Chemical and Pharmaceutical Department	VAT:	Value-Added Tax
AAD:	Agriculture and Agro-Allied Raw Materials Department	ET:	Excise Tax
AHRD:	Admin and Human Resource Department	PPP:	Public-Private Partnership
ISO:	International Organization for Standardization	CGIAR:	Consultative Group on International Agricultural Research
UNIDO:	United Nations Industrial Development Organization	NAERLS:	National Agricultural Extension and Research Liaison Services
AfCFTA:	African Continental Free Trade Area	NBET:	Nigerian Bulk Electricity Trading
SDGs:	Sustainable Development Goals	ARCN:	Agricultural Research Council of Nigeria
NAFDAC:	National Agency for Food and Drug Administration and Control		

FOREWORD

Nigeria is emerging as an industrialised country in the world; Government is determined and committed to seizing the emerging opportunities to foster industrial development as a veritable tool for sustained transformation and diversification of the economy. No nation can attain true development and greatness by exporting its natural resources in their primary form. Nigeria stands at a pivotal moment in its quest for economic diversification and industrial transformation. With abundant natural resources spanning agriculture, minerals, and energy, the nation possesses an unparalleled opportunity to harness its raw materials sector as a cornerstone for sustainable development. However, realising this potential requires more than mere ambition; it demands a clear, strategic, and actionable plan.

The RMRDC 10 Year Roadmap for Raw Materials Sector Development in Nigeria, 2025-2034 is a flagship programme and a key initiative of the Council in the industrialisation and economic development of Nigeria. It has the potential to boost local raw materials development and utilisation, stimulate investment and innovation, foster structural transformation, improve food security, enhance economic growth and export diversification of Nigeria. Fundamentally, the roadmap aims to provide new impetus and dynamism to economic development of Nigeria through industrialisation.

While considerable number of countries in Africa, including Nigeria exports mainly raw commodities to the rest of the world, the emphasis on value addition as enshrined in the roadmap marks a paradigm shift from commodity-based exports to value added-based exports. Therefore, the Roadmap provides a legal and regulatory framework through which this promising trend can be extended to generate win-win gains for Nigeria in international trade.

The roadmap represents precisely a bold blueprint designed to catalyse growth, innovation, and self-reliance over the next decade. At its core, the roadmap embodies Nigeria's resolve to transition from being a supplier of unprocessed raw materials to becoming a global hub for value-added products. By prioritising local processing, enhancing data-driven decision-making, building human capacity, and fostering collaboration, the roadmap charts a course toward reducing dependency on imports, boosting manufacturing competitiveness, and creating millions of jobs. These goals are not only aspirational but deeply rooted in practical interventions that address existing challenges while capitalising on emerging opportunities.

The roadmap underscores the importance of leveraging science, technology, and innovation to modernise production processes and improve efficiency. It emphasises the need for robust policy frameworks, investment incentives, and infrastructure development to attract both domestic and foreign capital. Moreover, it champions environmental sustainability, advocating for circular economy principles that minimise waste and maximise resource utilisation. As we look ahead, the successful implementation of this roadmap hinges on the collective efforts of all stakeholders-government agencies, private enterprises, academia, civil society, and development partners. Each entity has a unique role to play in translating these strategies into tangible outcomes.

Leadership, accountability, and transparency must guide every step of the journey to ensure measurable progress and lasting impact. This document serves as both a call to action and a source of inspiration. It reminds us of the fact that Nigeria's raw materials are not just raw commodities; they are the building blocks for a brighter future through value addition. By investing in their processing and optimal utilisation, we lay the groundwork for an economy that is resilient, competitive, and inclusive; one that empowers citizens, strengthens industries, and positions Nigeria as a leader on the global stage. Let this roadmap be a catalyst for change, igniting a renewed sense of purpose and determination among all who seek to transform Nigeria's raw materials sector. Together, we can achieve unprecedented levels of growth and prosperity, fulfilling the promise of a nation rich in resources and even richer in possibilities.

It has long been realised that a major challenge in Nigeria is not lack of good policies, strategies and actional plans, but lack of their effective implementation. Therefore, I will encourage RMRDC to take appropriate steps to ensure effective implementation of the roadmap; bearing in mind that crucial to implementation, is an in-depth understanding of the political economy underpinning sustainable industrial development in Nigeria.

The insights garnered from this perspective can help frame the strategic choices and institutional collaborative arrangements required for effective implementation of the roadmap. The strategic areas identified by the roadmap cannot be addressed adequately without strategic investments and financing. In this regard, RMRDC should explore opportunities as well as methods of financing the thematic areas as stated in the roadmap, including mobilising domestic resources, development partners financing and technical support as well as financing from Development Finance Institutions (DFIs).

I wish to restate that the minimum 30% value addition to local raw materials before export as enshrined in the proposed amendment to RMRDC Act 2022 its timely and a clarion call for industrial transformation. It testifies to the fact that Nigeria will no longer be a nation that supply raw commodities to global industries without value addition. The “time is now”, if we miss the opportunity, we cannot blame destiny. No country has ever achieved prosperity and decent socio-economic life for its citizenry without the development of a robust industrial sector leveraging its natural resource endowments.

It is hoped that effective implementation of the roadmap will contribute significantly to building a resilient industrial infrastructure, promote inclusive and sustainable industrialisation and foster innovation as stated in UN-Agenda 2030 Sustainable Development Goal 9. These are crucial messages that should guide the implementation of the roadmap. I commend the Management and Staff of RMRDC for the bold step taken to develop the roadmap and recommend it to policy makers, the organised private sector, development partners, partner-government institutions, relevant stakeholders and to the public.

Chief Geoffrey Uche Nnaji

Honourable Minister

Federal Ministry of Innovation, Science and Technology (FMIST)

PREFACE

More than ever before, there is a global, continental, regional, and national level awakening to the fact that the current systems of governance of resources and resource flows have failed to create sufficient, equitable, and timely access to resources needed for inclusive growth and sustainable development at all scales - starting at the highest levels of global, continental, regional, national to state and communities.

Starting at the Continental level, Africa is endowed with abundant natural resources. It accounts for more than 30% of global annual production of several key minerals namely: platinum (80%), cobalt (77%), manganese (51%), diamonds (46%), chromium (39%), gold (22%), and rock deposits of several green minerals. Africa also hosts over 60 percent of the world's remaining arable land, and its forests span about 21% to 23% of the continent's total land mass. In addition, about 75% of Africa's countries have access to the sea, offering huge potential for a blue revolution in Africa. Yet, African economies remain among the least developed in the world with the size of economies amongst the smallest compared to other regions.

At Country level, a recent AfDB publication on the Green Wealth of Nations/Inclusive Growth/AEO shows that Nigeria remained one of the wealthiest nations in Africa in terms of the value of non-renewable resources, with an estimated total value of \$582.4 billion and was seconded by Democratic Republic of Congo, with an estimated value of \$260.1 billion. Continued reliance on commodity exports with little value addition is one of the root causes of inefficiencies in the management of raw materials in Nigeria. This is also true globally because the more a country exports unprocessed commodities, the poorer the country becomes. This is because markets pay for value creation. Technology owners are known to reap the highest rents in markets including in the mining sector, agriculture and fishing, which all show the same results.

However, the times are changing, and some commodities have become so strategic that they are driving the global geopolitics today. Africa continues to trade in low value markets, even in the current green transitions - in the mining sector for instance, we continue focusing mainly on mining crude mineral deposits with very minimal value added. Taking an example of copper, according to the African Development Bank, even though Zambia is a major exporter of raw copper, it received only about \$6.6 billion in 2022 out of the US\$ 17.4 billion in global trade in raw copper. Zambia was not visible in the global trade in copper ore which was valued at up to US\$90.1 billion in the same year. Other countries which buy raw copper from Zambia and process them to copper ore, receive more revenue from Zambia's copper than the primary owners of the resources. In comparison, during the same year, Chile earned US\$22.8 billion from copper ore; Peru (US\$13.5 billion), Indonesia (US\$8.89 billion), Australia (US\$4.89 billion), and Canada (US\$3.52 billion), etc. Further up the value chain, countries who process the copper ore into copper concentrates, copper wires and other technology value products earn multiples of revenue than the primary producers of copper.

It is the same picture in mining and agriculture. In 2022/23, Africa accounted for 73.6% of global cocoa production; the Americas (21.3%), Asia and Oceania (5.0%). The global cocoa beans market size was estimated at US\$ 9.94 billion in 2018. On the other hand, the global chocolate market size was estimated at US\$ 140.4 billion in 2023. Africa's shared US\$1.17 billion in 2023, or 0.83% of global market size; USA in comparison benefited with US\$27.07 billion or 19.28% of global market size.

With the above examples, the Raw Material Research Development Council (RMRDC) has its work cut out if there is going to be a change in trends. The Ten-Year strategy that has been developed is relevant for Nigeria to drive optimization and harness opportunities for the future towards driving a more inclusive and sustainable development in their countries, regions, and continents.

The RMRDC, an agency under the Federal Ministry of Innovation, Science, and Technology (FMIST) in Nigeria has a unique mandate of promoting the development and utilization of Nigeria's abundant raw materials to achieve industrialization and sustainable economic growth has a key role to play. RMRDC's mission and vision of promoting the development and optimal utilization of Nigeria's raw materials through this roadmap will spur sustainable industrial growth and socio- economic development, leveraging the nation's vast raw materials.

This 10-year Strategic roadmap aims at transforming Nigeria's raw materials sector into a globally competitive industry for structural transformation of the economy by taking steps to add value to Nigeria's raw materials by at least 30% in the Short-term, 60% in the medium-term, and 95% by 2034. This can be achieved through carefully selected Key Result Areas (KRAs) that will develop a robust database for the raw materials sector in Nigeria; build capacity of the Council to provide at least 10,000 certifications and standards of raw material processes, procedures and laboratories; increase value addition to raw materials in Nigeria by an average of at least 30-95% by 2034; build strategic partnerships and collaborations to implement the roadmap.

It is going to take innovation to achieve the objectives as envisaged in the strategy. In the first place, there will be need to think of Nigeria from a regional, continental and global perspective if raw materials development is to be beneficial to the country. Nigeria will need to partner with other institutions whose objectives are to see Africa and its member countries develop. The African Development Bank is one such institution that has shown interest in supporting the development and successful implementation of the Ten-Year Strategy. We therefore Implore all stakeholders to collaborate effectively with the RMRDC in the actualisation of the aims and objectives of the roadmap.

Prof. Kevin Chika URAMA

Chief Economists/Vice President for Economic Governance & Knowledge Management,
African Development Bank Group (AfDB)

INTRODUCTION

1.1: SITUATION ANALYSIS OF NIGERIA'S RAW MATERIALS DEVELOPMENT

Nigeria, Africa's largest economy and most populous country, is endowed with vast natural resources, making it one of the most attractive investment destinations on the continent. With abundant reserves of raw materials ranging from agricultural products to minerals, Nigeria still exports most of its raw materials in their natural form, and failed to maximize several economic benefits. The country export jobs and severely slow down the pace of industrial growth. Adding value to raw materials increases export earnings, strengthens local industries, and reduces dependence on volatile commodity markets. Over the past decade, Nigeria has improved its raw material value addition, rising from 15.6% in 2013 to 25.2% in 2023. However, this growth remains modest compared to its peers. Value addition in South Africa grew from 63.2% to 75.6%, Egypt from 51.1% to 64.8%, and Brazil from 83.4% to 97.6% within the same period. On average, Nigeria's value addition over the ten years was 20.43%, far below South Africa's 69.4%, Egypt's 57.8%, and Brazil's 89.9%. Despite Nigeria's upward trend, the significant and persistent gaps such as 50.4 percentage points behind South Africa and 72.4 points behind Brazil in 2023. highlight that the country lags significantly in industrial development.

Nigeria's total imports between April 2023 and June 2024 reveal that manufactured goods are dominant with ₦27.3 trillion, far surpassing imports of raw materials (₦5.4 trillion), oil/energy (₦16.7 trillion), agriculture (₦3.6 trillion), and solid minerals (₦314 billion). This overwhelming dependence on manufactured imports is a significant factor contributing to the instability of the naira, as it exerts pressure on the country's foreign exchange reserves. Much of Nigeria's foreign currency is spent on purchasing finished products that could otherwise be produced domestically if local raw materials were adequately processed and utilized. Consequently, if Nigeria increased the processing of local raw materials, it could reduce the importation of manufactured goods, conserve foreign exchange, and stabilize the naira. Addressing the structural reliance on manufacturing imports through better utilization of raw materials is essential for achieving long-term economic stability and industrial self-sufficiency.

Again, Nigeria's poor performance in secondary raw material utilization shows that the country is missing critical opportunities to advance sustainable development. In 2023, Nigeria's secondary raw material utilization stood at 4.8%, far behind South Africa (26.2%), Egypt (21%), and Brazil (47.6%). This highlights a significant gap in Nigeria's ability to recycle, reuse, and process waste materials into new products – activities that could complement its industrial efforts while promoting environmental sustainability.

1.2: RATIONALE FOR THE ROADMAP

The rationale for this roadmap is built on the need to encourage the Government and key stakeholders to invest in key sectors of the nation's economy. The raw materials sector in Nigeria offers considerable opportunities across various industries, including agriculture, mining, and manufacturing. Each sector has distinct prospects for investors, driven by both local demand and the potential for export.

i. Agricultural Sector

Agriculture is one of the most important sectors of the Nigerian economy, contributing about 24% to the country's GDP and employing around 70% of the population. Nigeria's agricultural output spans food crops such as yams, maize, and rice, alongside cash crops like cocoa, palm oil, and rubber.

Investment Opportunities in Agriculture

Agro-processing: While Nigeria is a major producer of raw agricultural products, its agro-processing industry is still developing. Investors have the opportunity to establish processing plants to add value to agricultural raw materials, such as converting cassava into starch or ethanol, and processing cocoa into chocolate products. This has also been further assisted by RMRDC carrying out researches and promoting investments in primary, secondary and tertiary raw material development.

Agricultural Technology: Nigeria's large-scale farming practices still largely rely on manual labour, presenting considerable opportunities for investment in mechanization, irrigation systems, and modern farming techniques. Such investments would help reduce crop losses and improve overall yields. By embracing agricultural technology, productivity and output can be significantly increased, ensuring more efficient and sustainable farming.

Export-Oriented Farming: Nigeria's agricultural products are highly sought after in international markets. Investors can establish large-scale farms geared towards the production of export crops such as sesame seeds, ginger, and shea butter, capitalizing on growing global demand.

ii. Solid Minerals and Mining

Nigeria's solid minerals sector has been largely underdeveloped, overshadowed by the oil and gas industry. However, with the government's push to diversify the economy, mining is fast becoming a focal point for investment.

Key Minerals for Investment

Lithium: Nigeria is emerging as a key player in the global lithium market, with significant deposits identified in states like Nasarawa, Plateau,

Kwara, Kebbi, Ekiti, Ogun, and government is focusing on sustainable exploration and value addition through local processing. Lithium is crucial for the global energy transition, particularly in the production of lithium-ion batteries for electric vehicles and renewable energy storage. The development of Nigeria's lithium resources is seen as a crucial way to diversify the economy beyond its traditional reliance on oil and gas.

Limestone: Nigeria has substantial deposits of limestone, which is a key ingredient in the production of cement. With the construction industry experiencing rapid growth, there is a rising demand for cement, presenting opportunities for investment in limestone mining and cement production.

Gold: In recent years, gold mining has gained attention as a lucrative investment area, with several local and international mining companies exploring Nigeria's gold reserves. Investment in modern mining techniques and equipment can unlock vast deposits in states like Zamfara, Osun, and Kogi.

Laterite: The economic potential of laterite as a mineral resource in Nigeria is significant. As the country seeks to diversify its economy away from oil dependency, investment in laterite mining and processing can create new revenue streams and job opportunities. Here are some key investment opportunities associated with laterite: The establishment of laterite mining operations can attract both domestic and foreign investments. The relatively low capital requirements and operational costs make it an accessible entry point for investors looking to capitalise on Nigeria's mineral wealth. Investment in processing facilities to refine laterite into value-added products can enhance profitability. This includes the production of laterite-based construction materials, agricultural amendments, and metallurgical inputs, which can be marketed both domestically and internationally.

Bitumen: Nigeria has one of the largest bitumen deposits in the world, primarily found in Ondo State. Bitumen is essential for road construction, and with Nigeria's ambitious infrastructure plans, investing in bitumen extraction and processing offers long-term profitability.

Dolomite: The establishment of dolomite mining operations presents an accessible entry point for both domestic and foreign investors. Given the mineral's relatively low extraction costs and high demand across various sectors, mining dolomite can yield attractive returns on investment. Developing processing facilities to produce value-added dolomite products can enhance profitability in terms of producing dolomite-based construction materials, agricultural amendments, and metallurgical inputs.

Coal: Nigeria holds significant coal reserves, which are underutilized. With increasing interest in cleaner energy alternatives, coal can serve as a transition fuel, especially for industries like cement and steel production. Investors can explore opportunities in coal mining and coal-to-power projects.

iii. Renewable Energy and Bio-based Materials

With global trends moving towards sustainability, Nigeria is also beginning to embrace renewable energy and bio-based industrial inputs. The country's vast agricultural resources provide a foundation for the development of biofuels and bio-based materials.

Investment Opportunities in Renewable Energy

Biomass and Bioenergy: Nigeria generates a significant amount of agricultural waste, which can be harnessed for bioenergy production. Investors can explore opportunities in biomass power plants, biogas, and the production of biofuels from agricultural residues like palm kernel shells and cassava peels.

Solar Energy: Nigeria's geographical location makes it ideal for solar energy investments. The government has introduced incentives for solar energy projects, and there is rising demand for off-grid solar solutions in rural areas.

iv. Manufacturing and Industrial Development

The development of raw materials processing industries presents a significant opportunity for growth in Nigeria's manufacturing sector. By establishing industries that transform raw materials into finished or semi-finished goods, investors cannot only cater to local demand but also access regional and international markets.

Investment Opportunities in Manufacturing

Textile Industry: Nigeria's cotton production can be revitalized through investment in modern textile mills. By establishing textile manufacturing facilities, investors can add value to raw cotton, creating finished fabrics and garments for both local consumption and export.

Food and Beverage Processing: Nigeria's growing population and middle class have increased demand for processed foods. Investors can explore opportunities in food processing, including the production of packaged snacks, beverages, and dairy products, using locally sourced agricultural inputs.

Construction Materials: The construction boom in Nigeria has led to rising demand for building materials such as cement, steel, and glass. Investors can capitalize on this by establishing manufacturing plants that utilize local raw materials for the production of construction materials.

1.3: OBJECTIVES OF THE ROADMAP

Purpose and Objectives of the Map The 10-Year Roadmap for the Development and Utilization of Nigeria's Raw Materials Sector (2024–2034) aims to transform Nigeria's raw materials sector into a globally competitive, sustainable, and innovation-driven industry. The roadmap is designed to enhance value addition, reduce import dependence, promote local sourcing, and drive industrialization through targeted interventions in research, policy, investment, and capacity building.

Key Objectives of the Roadmap:

- I. Enhance Local Sourcing and Value Addition:
 - Increase local processing and value addition to raw materials by 30% by 2034.
 - Reduce the export of unprocessed raw materials while boosting Nigeria's manufacturing value-added (MVA) sector.
- ii. Develop a Robust Raw Materials Information System (RMIS):
 - Establish comprehensive data systems to track raw material availability, utilization, and market demand.
 - Provide real-time industry data to investors, policymakers, and manufacturers.
- iii. Strengthen Policy and Regulatory Frameworks:
 - Implement legislative and policy reforms that encourage raw material beneficiation.
 - Provide incentives for industries that invest in local raw materials processing.
- iv. Reduce Dependence on Imported Raw Materials:
 - Cut raw material imports by 5% every five years, achieving a significant reduction by 2034.
 - Support backward integration programs to strengthen local supply chains.

- viii. Promote Sustainability and Circular Economy Models:
 - Implement waste-to-wealth initiatives and raw material recycling programs.
 - Ensure compliance with environmental sustainability policies in raw materials exploitation and processing.
- ix. Develop a Monitoring and Evaluation (M&E) System:
 - Establish a Roadmap Tracker Framework with clear KPIs for measuring progress.
 - Conduct periodic SWOT analyses to adapt strategies based on industry trends.
- x. Secure Sustainable Funding & Investment:

The responsibility for implementation of the roadmap is distributed among relevant departments, agencies, and private sector stakeholders, ensuring accountability at every stage. The roadmap will enhance decision-making, optimize resource allocation, and drive sustainable growth in Nigeria's raw materials industry.

Prof. Nnanyelugo M. Ike-Muonso

Director General/Chief Executive Officer

Raw Materials Research and Development Council (RMRDC)



Key Aspects of the Strategic Roadmap for Nigeria's Raw Materials Sector

Background

The Raw Materials Research and Development Council (RMRDC) is committed to advancing Nigeria's raw material development to catalyse industrial growth and economic transformation



Vision

Accelerate Nigeria's industrial development using the nation's abundant raw materials



Mission

Optimize raw material utilization for sustainable and inclusive economic growth.

Purpose of the 2025 – 2034 Strategic Plan

To position Nigeria's raw materials sector as a globally competitive force that drives innovation, fosters industrialization, and enhances economic diversification

Key Objectives



1

Create a robust database for raw materials mapping and development

2

Achieve 30 – 95% value addition to raw materials by 2034

3

Strengthen partnerships & collaboration across public, private and international spheres

4

Build capacity by delivering 10,000 certifications and standards to laboratories and processes

11 Key Manufacturing Sectors Prioritized to Unlock Potential, Promote Local Content & Drive Competitiveness

1 Base Metal, Iron and Steel	<ul style="list-style-type: none">• Reduce imports by developing critical inputs such as ferro-alloys and titanium dioxide• Establish foundries and fabrication hubs through PPPs• Strengthen reverse engineering to accelerate indigenous technological innovations	2 Chemical & Pharmaceutical	<ul style="list-style-type: none">• Develop local raw material, including medicinal herbs, for industrial use• Upgrade infrastructure, foster R&D, and collaborate with global stakeholders
3 Plastics, Rubber & Foam	<ul style="list-style-type: none">• Replace imports with locally sourced petrochemical products and expand rubber plantations• Partner with research institutions to advance rubber and plastics processing	4 Food, Beverage & Tobacco	<ul style="list-style-type: none">• Enhance production of food additives, enzymes and agro-processing technologies• Strengthen value chains in fisheries and agriculture to boost local manufacturing inputs
5 Electrical & Electronics	<ul style="list-style-type: none">• Leverage Nigeria's natural resources (e.g. copper, silica) for electronics manufacturing• Promote renewable energy through development of solar power components	6 Motor Vehicle & Miscellaneous	<ul style="list-style-type: none">• Accelerate local production of auto parts and establish partnerships with OEMs• Support skills development in automotive engineering and maintenance

11 Key Manufacturing Sectors Prioritized to Unlock Potential, Promote Local Content & Drive Competitiveness

7 Non-Metallic Minerals	<ul style="list-style-type: none">• Develop beneficiation processes for industrial-grade minerals like feldspar and silica• Support small-scale mineral processing units to boost local value addition	8 Pulp, Paper and Paper Products	<ul style="list-style-type: none">• Develop alternative fiber sources such as bamboo and kenaf to support paper production• Promote afforestation and mini-scale paper production facilities
9 Textile, Weaving, Apparel, Leather & Leather Products	<ul style="list-style-type: none">• Strengthen local production of fiber, hides and synthetic materials• Promote investments in garment manufacturing and textile chemicals	10 Wood and Wood Products	<ul style="list-style-type: none">• Advance agroforestry practices and sustainable wood processing technologies• Support artisanal woodworkers through capacity building and machinery development
11 New and Advanced Materials	<ul style="list-style-type: none">• Develop innovative materials for energy, environmental, and industrial applications• Foster advanced R&D centers to commercialize cutting-edge material technologies		

Strategic Actions



Value Addition: Scale raw material value addition from 30% to 95% by 2034

Data Development: Build a digital Raw Materials Information System and Investment dashboard

Capacity Building: Train over 10,000 stakeholders in key value chains

Collaboration: Foster 20+ international partnerships to promote technology & knowledge transfer

Sustainability: Implement waste-to-wealth recycling innovations and renewable energy projects

Rebranding: Enhance visibility through comprehensive communication campaigns

Funding: Secure \$200million in combined public and private investments

Monitoring & Evaluation: Implement performance metrics to ensure roadmap effectiveness

Guiding Principles and Targets

Guiding Principles

1. Emphasis on Innovation, sustainability and inclusivity
2. Alignment with global best practices to enhance Nigeria's competitiveness
3. Continuous collaboration with academia, industries and policymakers



Key Deliverables and Targets (2025 – 2034)

- Achieve **95% value addition** in raw materials processing
- Establish **world-class foundries**, labs and advanced manufacturing centers
- Develop **sectoral linkages** that integrate small-scale enterprises into the broader economy
- Deliver a **2-7% annual increase in raw material contribution** to Manufacturing Value Added (MVA)
- Promote environmental conservation through **afforestation and green technologies**
- Achieve quality Data **Development and Management**

Key Risks and Mitigation Strategies

	Key Risks	Mitigation Strategies
1	Financial Risks	<ul style="list-style-type: none">• Develop bankable projects• Implement transparent systems• Partner with donors
2	Policy and Regulatory Risks	<ul style="list-style-type: none">• Strengthen legal frameworks• Ensure policy continuity• Adapt to market realities
3.	Environmental Risks	<ul style="list-style-type: none">• Advocate for sustainable practices• Waste recycling• Renewable energy adoption
4.	Stakeholder Risks	<ul style="list-style-type: none">• Implement communication strategies• Integrate local knowledge
5.	Technological Risks	<ul style="list-style-type: none">• Invest in contemporary technologies• Enhance cybersecurity protocols



Raw Material Research Development Council Strategic Road Map 2025-2034

RMRDC unveils an ambitious 10-year Strategic Road map to promote the development and optimal utilization of Nigeria’s Raw Materials

RMRDC’s Primary Mandate

To promote the development and optimal utilization of Nigeria’s abundant raw materials to achieve industrialization and sustainable economic growth

Key Objectives of the Roadmap

- To develop a robust database for the raw materials sector in Nigeria.
- To build capacity of the Council to provide at least 10,000 certifications and standards of raw material processes, procedures and laboratories.
- To increase value addition to raw materials in Nigeria by an average of at least 30-95% by 2034.
- To build strategic partnerships and collaborations to implement the roadmap

Key Performance Indicators (KPIs)

- 50% new investments from Raw Materials Information System (RMIS) in the short-term; 70% in the medium-term; and 95% in the long-term
- 100% valuation of raw materials informed by RMIS
- 2% increase of the contribution of the raw material sector to Manufacturing Value Added (MVA) by 2027; 5% by 2030; and 7% by 2034.

Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) objectives that supports the roadmap



- Establish a competitiveness observatory for Nigeria's raw materials and products to reduce raw materials import by 5% every five years in the next ten years using the results from the observatory.
- Establish at least 12 internationally standard laboratories and carryout 1,000 market driven R&Ds.
- Develop skilled workforce (value chain actors - processors, packaging, fabricators, data collectors, data analysts, data interpreters and software developers, etc.) for raw materials value addition.
- Deepen existing partnership and initiate thirteen (13) new partnerships on international collaboration.
- Strengthen and populate the existing Council's RMIS with robust data.
- Create a culture of competent and disciplined workforce through the deployment of Enterprise Resource Planning (ERP) and Performance Management System (PMS) Tools.
- Lead in the promotion of raw materials process technology development using the RMRDC's Fab-Tech app to aggregate and catalogue raw materials process fabricators and link them to user industries and investors.
- Achieve circularity and environmental sustainability through technology, R&D, infrastructure for recycling, collection and re-use throughout the lifecycle of raw materials.
- Mobilize fund and finance of approximately USD 200,000,000 for implementation of the roadmap.
- Design and implement Monitoring and Evaluation template with measurable KPIs.
- Undertake periodic SWOT analysis to assess the readiness and continuous review of capacity to implement the Roadmap.

Strategic Scope of Work 1

Strategic Objectives	Key Activities	Target	Timeline	Responsible	KPIs
Add 30% value to raw materials before use and export	Increase value addition to raw materials in Nigeria by 30%	30% across board in all raw materials for export	Short-term	AAD, MMDD, CPD, PSPD, RDPC	Value added raw materials
		40% in the short-term	Short-term		
		60% in the medium-term	Mid-term		
		95% in the long-term	Long-term		
Ensure quality standards for raw materials through Standardization and certification	Provide certifications and standards of raw material processes, procedures and laboratories	One laboratory per geopolitical zones	Long-term	QMS Training Unit, RDPC, AAD, MMDD, CPD, PSPD	Certified Laboratories with raw material products
		Twelve (12) International standard laboratories at the Headquarters	Long-term		
		Ten thousand (10,000) certification	Long-term		
Establish a competitiveness observatory	Establish a competitiveness observatory for Nigeria's raw materials and products	One Observatory in Nigeria	Short-term	Office of the DG and Directorate of National Competitiveness	Increased competition in raw materials & Products Development
Reduce import and increase export	Reduce raw materials import by 15% every five years in the next ten years	5% Backward integration programme and raw materials substitution	Medium term	AAD, MMDD, CPD, PSPD, RDPC	Reduced raw materials importation by 30% in 10 years

Strategic Scope of Work 2

Strategic Objectives	Key Activities	Target	Timeline	Responsible	KPIs
Capacity building and training	Develop skilled workforce (value chain actors - processors, packaging, fabricators, data collectors, data analysts, data interpreters and software developers, etc.) for raw materials value addition	Overall- 3,000 trained personnel	Long-term	All Departments & RMRDC Training School	Skilled Staff, and trained stakeholders
		2000 value chain actors	Long-term		
		1000 staff trained in data collection and analytics	Long-term		
Ensure the Development and provision of regulatory framework for value addition	Provide regulatory frameworks and incentives for value addition	One framework in each of the 10 sectors of MAN	All-year round	Planning and other Department	Developed Regulatory framework and incentives
Ensure effective partnership and collaboration	Deepen existing partnership and initiate new international collaboration for implementation	Deepen all old partnerships (donors, researchers and investors)	All-year round	Planning and Technical Department	Effective partnerships and collaborations
		Initiate 13 new partnerships (donors, research and investors)	All-year round		
Establish a robust Raw Materials Information System (RMIS)	Strengthen and populate the existing Council's RMIS with robust data	RMIS at the Headquarters	All-year round	PSPD, IPCSD	Authentic, reliable and robust database, fully operational RMIS
		Mirror RMIS at the 36 State and the FCT	Mid-term		
		Resource centers at the 36 State and the Headquarters	Mid-term		

Strategic Scope of Work 3

Strategic Objectives	Key Activities	Target	Timeline	Responsible	KPIs
Develop competent and virile workforce	Create a culture of competence and disciplined workforce through the deployment of Enterprise Resource Planning (ERP) and Performance Management System (PMS) Tools	Deployment of measuring tools such as ERP and PMS to measure productivity and performance	Short-term	PSPD AND AHRD	Disciplined and competent Workforce
Promote raw materials process equipment development	Promote raw materials process technology development using the RMRDC's Fab-Tech App to aggregate and catalogue raw materials process fabricators and link them to user industries and investors.	Development and deployment of RMRDC Fab-Tech App	Short-term	TDD, RDPC, MMDD, CPD	Developed and deployed application to link fabricators. Catalogue of fabricators
		Four (4) Promotional Materials Per Year	All-year round		
		Compilation of Catalogues of Fabricators in Nigeria	Annually		
Facilitate the availability of ready commercialize R&D on raw materials and products	Initiate and conduct market driven R&Ds on raw materials value chain development through partnerships and research assessment tools	1,000 market driven R&Ds	All-year round	RDPC/IPCD	Emergence of commercialized R&D, startups and businesses
		Deployment of R&D assessment tools.	Short-term		

Strategic Scope of Work 4

Strategic Objectives	Key Activities	Target	Timeline	Responsible	KPIs
Evolve into a Centre of Excellence (COE)	To become a center of excellence in raw materials testing, analysis, characterization and certification through the RMRDC certification scheme	RMRDC as a Centre of Excellence	Mid-term	PSPD AND AHRD	Disciplined and competent Workforce
		Develop a checklist /tools and create awareness for achieving certification	Short-term	PSPD, DG'S OFFICE, Technical Departments, RMRDC/UNIDO ISO training center	RMRDC emergence as Centre of Excellence in testing, analysis and characterization
		1000 Analysis and Characterized RM Certification	All-year round		
Rebrand and enhance visibility	Rebrand and ensure visibility of RMRDC through a holistic communications strategy.	Rebrand RMRDC	Short-term	Office of the DG/Corporate Affairs, PSPD, AHRMD and Technical Departments	Rebranded Council with a robust Communication strategy
		Efficient communication Strategy	All-year round		
Ensure circularity and environmental sustainability	Promote circularity and environmental sustainability through technology, R&D, infrastructure for recycling, collection and re-use throughout the lifecycle of raw materials	Develop two technologies for recycling from waste to wealth	Mid-term	TDD, CPD, MMDD, RDPC	Achieve environmental sustainability and create wealth
		Clean and Sustainable environment	All-year round		
		Generate Renewable energy from wastes, scraps, and green minerals	Long-term		

Strategic Scope of Work 5

Strategic Objectives	Key Activities	Target	Timeline	Responsible	KPIs
Source and mobilize funds	Mobilize finance and investment to fund the implementation of the roadmap	Approximately USD 200,000,000	All-year round	Office of the DG, Planning and Technical Departments.	Effective implementation of the 10-year strategic plan
Ensure proper monitoring and evaluation	Design and implement Monitoring and Evaluation template with measurable key performance indicators.	M&E Assessment Plan/ Template	Short-term	Office of the DG, PSPD, and all Technical Departments.	Monitoring and Evaluation template developed
		Identification of measurable key performance Indicators	All-year round		
	Conduct periodic SWOT analysis to assess the readiness and continuous review of capacity to implement the Roadmap	Development of SWOT analysis Template	Short-term		
		Leverage M&E to Determine when to carry out gap analysis	All-year round		

Timeline

- Short-term – refers to 0-2 years
- Mid-term – refers to 3-5 years
- Long-term – refers to 6-10 years
- All-year round – refers to throughout the entire 10 years



Enabling Framework

Policy and Legislation

- Legal framework- Enabling law that provides the legal backing to achieve 30% value addition
- National policy on Local Content- Presidential Executive Order that supports local content
- Extended Producer Responsibility and Circular Economy Regulation to improve resource use efficiency
- value addition/beneficiation policy across all sectors (Nigeria Industrial Revolution Plan)
- Backward Integration Policy
- National R&D Policy for innovation and entrepreneurship
- National policy on competitiveness
- Science, Technology, and Innovation policy
- African Continental Free trade Area (AfCFTA)
- IP Policy; Franchising policies
- Climate Change policies
- Raw Materials Certification Policy
- Policy for incentivizing value addition to attract investment
- National Gender Policy and National Policy on Gender in Agriculture

Programmes and Projects

- Set-up accredited laboratories (process, personnel, and product); equipping the laboratories; capacity building ISO-relevance/certification
- National and international certifications (in collaboration with statutory agencies- NAFDAC, SON)
- Establish industries in collaboration with relevant stakeholders
- Obtain ISO-90001 QMS certification for RMRDC
- Develop strategy for data generation/collation from primary and secondary sources
- Revive Techno-economic Survey to generate primary data (in collaboration with NBS and other agencies)
- Update the RMIS in collaboration with relevant agencies

Administrative Guidelines

- Review RMRDC existing operations to ensure alignment with the new ACT
- Create an operational guideline or Standard Operating Procedure (SOP) for all policies including definition of key roles and responsibilities
- Design implementation framework that includes key KPIs and M&E
- Establish competent policy implementation team through training and capacity building
- Establish synergies between land governance and raw materials development in a manner that aligns with National and Regional Policies. For example, Nigeria's Land Use Act (1978) and regional frameworks like the AU's Framework & Guidelines

Thematic Area of Focus



Value addition to Raw Materials

Strategic Objectives	Approach	Timeline	Key Deliverables / Milestones	Responsible
Source Raw Materials Locally and through Franchise	Identify critical raw materials	Short-term	Report on locally available raw materials published	RMRDC (Agriculture and Agro-Allied Raw materials Department (AAD), Planning, Statistics and Policy Department (PSPD) and Materials and Mineral Development Department (MMDD), and Chemical & Pharmaceutical Department (CPD))
	Improve or develop local content & franchising policies	Short-term	Local content and franchising policy for Nigeria's raw materials developed All-year round	
	Develop home-grown raw materials development action plans and local capacity for implementation, monitoring, and evaluation	Short-term	Home-grown raw materials value chain action plan prepared	
	Create database for raw materials	Long-term	Develop, populate and deploy database	
	Create incentive mechanism for stakeholders	Long-term	Relevant stakeholders Identified and incentivized	
Add Value to Raw Materials for Industrial Use and Export	Acquire/adopt process technology	Mid-term	Process technology acquired/ adopted	RMRDC (Technology Development Department (TDD) and Research and Demonstration Plant Complex (RDPC))
	Develop process technology	Mid-term	Process developed	
	Beneficiation	Long-term	Higher grade and quality products produced	
Reduce Raw Material Import Dependence	Develop packaging technology	Long-term	Consistent quality raw materials achieved for resource-based industries	RMRDC (Planning, Statistics and Policy Department (PSPD) and Investment Promotion and Consultancy Services Department)
	Conduct situation analysis on import dependence	Long-term		
	Quality and Certification	Long-term		

Data Development

Strategic Objectives	Approach	Timeline	Key Deliverables / Milestones	Responsible
Develop a Comprehensive RMIS Database to Improve Access to Accurate Raw Material Data	Data capturing (Survey / mapping)	Long-term	Nationwide audit of key raw materials identified and categorized	RMRDC
Establish a Centralized, Digital Data-sharing Platform	Data management (collation, analysis and interpretation and dissemination)	Short-term	Established key partnerships for data infrastructure	RMRDC
Establish a Natural Resources Investment Digital Dashboard (N-RIDD)	Digitization and compulsory publication of contracts, corporate tax revenues, royalties	Long-term	Transparent contract negotiation, licensing, exploitation, taxation, royalties, revenue mobilization and utilization established	RMRDC
Establish an Inter-Agency Coordination Mechanism to Support Database Management, Accelerate Regional Economic Integration and Collective Voice	Establish a joint action committee consisting of key stakeholders including government agencies, private sectors, and academia development process	Mid-term	Consultative workshops to define the structure and functionality of the database, open visa program for investors in the sector, improved regional infrastructure and harmonized trade policies National Land Information Database for transparency and investment planning developed Launch public awareness campaign to promote the use of data base by industry players, researchers and policy makers	RMRDC NCS NBS NIS
Implement Natural Capital Accounting for selected critical Materials	Carry-out raw materials valuation of critical raw materials to inform investment decision-making	Long-term	Participate in the Africa Natural Capital Accounting Community of Practice (NCA CoP) to convene natural capital valuation Expert Workshop to determine baseline Provide valuation (monetary) estimates for key raw materials	RMRDC

Capacity Building

Strategic Objectives	Approach	Timeline	Key Deliverables / Milestones	Responsible
Build Capacity and Develop Training Programmes for Effective Public Administration, Domestic Revenue Mobilization (DRM) and Public Finance Management (PFM)	Training workshops	Long-term	Trained staff, researchers and value chain actors	Admin and Human Resource Department (AHRD)
	Specialized training	Long-term	Trained and certified specialists	RMRDC training school.
	Technical support from international and donor partners on skill set improvement	Long-term	Identified and addressed skill gaps	Donor partners
	Technical support from international and donor partners on public administration, DRM, PFM, IFFs, & resource theft	Long-term	Public admin, DRM, PFM and IFF capacity built	Donor partners
Be Recognized as a Training Hub for Raw Materials Excellence	Collaborate with universities to organize tailor-made postgraduate programs for staff	Long-term	Postgraduate specialized training conducted.	RMRDC training school
	Conduct bi-annual skills audit and maintain skills upgrade and alignment.	Long-term	Skills audit conducted and upgraded RMRDC staff in data base management, interpretation and analytical tools trained Data literacy programmes to industries and businesses on how to utilize raw materials carried out	Admin and Human Resource Department (AHRD) and Planning Statistics and Policy Department (PSPD)
	Business capital development	Long-term	Preferred procurement training conducted – to prioritize and encourage development of Nigerian small- and large-scale enterprises	RMRDC training school

Collaboration

Strategic Objectives	Approach	Timeline	Key Deliverables / Milestones	Responsible
Ensure Policy Coordination	Develop strategic ecological, fiscal and monetary policies to encourage investments in natural resources value chains such as agriculture, land governance, energy, green minerals	2025-2034	Realignment of monetary and fiscal policies to support value chain development and manufacturing value added Land governance improved through a Land Use Harmonization for raw materials.	Planning Statistics and Policy Department (PSPD) in collaboration with MoF, CBN and NESG and other international organizations like
Initiate Strategic Partnerships	Leverage regional and continental platforms to boost intra-African trade on value-added products	2025-2034	5 existing partnerships Strengthened. 10 new global partnerships created and formalised.	Planning Statistics and Policy Department (PSPD)
	Develop collaborative framework and mechanism for research and development of raw materials	Short-term	Framework and mechanism developed	
		Short-term	Administrative guidelines developed	
		Long-term	Periodic review meetings to strengthen collaborations held	
	Develop Geographic Indications for Nigeria's raw materials	Long-term	Explore coverage of Geographic Indications (GI)	

Governance Structure

Category	RMRDC DG's Office	Government MDAs	Organized Private Sector	Donor Partners and Academia
Value Addition	TDD, RDPC, AAD, PSPD IPCSD, MMDD, CPD	Ministry of Innovation, Science and Technology, Ministry of Agriculture and Food security, Ministry of Livestock Development, Ministry of Blue and Marine Economy, Ministry of Solid minerals, Ministry of Mines and Steels, Ministry of Industry, Trade and Investment, Ministry of Finance, ALGON.	MAN,NACCIMA NASME,NESG,AFAN	AfDB, IRP
Data	PSPD, ICD, TDD, AAD, RDPC, IPCSD, MMDD.	Ministry of Finance (NBS, NCS, CBN, SEC etc), Ministry of Agriculture (ADP), Ministry of Industry, Trade and investment (NIPC, NEPC, Nigeria Commodities Exchange, SMEDAN) Ministry of Solid Minerals (NGSA, NEITI) ,	MAN, NACCIMA, NASME, NESG, AFAN, NABG, FACANMAN 2	AfDB, UNECA
Capacity Building	AHRD PSPD, TRAINING SCHOOL, TECHNICAL DEPARTMENT	ASCON, CMD, NIPPS, PSIN, NACETEM, e.t.c	MAN, NESG, FACAN, AFAN, NASME, NASI	AfDB, others
Collaboration	TDD, RDPC, AAD, PSPD IPCSD, MMDD, CPD	NATIONAL ASSEMBLY, Ministry of Finance (NBS, NCS, CBN, SEC etc) , Ministry of Agriculture (ADP), Ministry of Industry, Trade and investment (NIPC, NEPC, Nigeria Commodities Exchange, SMEDAN) Ministry of Solid Minerals(NGSA, NEITI) , Ministry of Innovation, Science and Technology, Ministry of Agriculture and Food security, Ministry of Livestock Development, Ministry of Blue and Marine Economy ,Ministry of Solid minerals, Ministry of Mines and Steels, Ministry of Industry, Trade and Investment, Ministry of Finance, ALGON, NEPZ, Nigeria Governors Forum.	MAN, FACAN	AFDB, WIPO, AU, others

Stakeholder assessment and engagement strategy

Stakeholder Groups	Composition	Influence	Stakeholder Contribution
Business Organizations	MAN, NACCIMA, Natural Capital Project	High	Provide funding, expertise, and market insights to ensure research aligns with industry needs
FMCG	Dangote Group, Nestle, UAC Foods, Nigeria Breweries	Medium	Invest in research to improve quality, sustainability, and cost-effectiveness
Research Organization/Universities	CGIAR, International Resource Panel, NUC, NBET, ARCN, NAERLS	High	Conduct studies, develop new technologies, and train professionals who contribute to raw material research
NGOs/CBOs/Donor organizations	Africa Natural Resources Investment Forum, Bill and Melinda Gates Foundation, Tony Elumelu Foundation, Nigeria Conservation Foundation,	High	Advocate for sustainable practices, provide funding, and support policies that promote local raw material utilization and support in capacity-building and awareness campaigns
Federal Government of Nigeria	Budgetary Allocation, Central Bank of Nigeria	High	Ensure the Council can carry out large-scale research and development projects, provide funds and initiate policies and subsidies to encourage investment in local raw materials
Private Financial Sources	PPP, Venture Capital Fund, Commercial Banks	Medium	Provide financial backing for research initiatives, startups, and commercialization of raw material innovation
Other Financial Sources	Ecological Fund, Sovereign wealth fund, BOI, TETFUND, Consulting Services, Development Financing Institution (Grants & Loans), Relevant UN Agencies (Grants)	High	Contribute to research and infrastructure development, ensuring long-term sustainability

Manufacturing Sectors



The identification and analysis of key sectors in terms of raw material requirements and development efforts are crucial for the creation of the 10-year Raw Materials Development Roadmap. This segment of the roadmap is particularly vital for the manufacturing sector, as it aligns with the Council's aspirations to advance the roadmap through various intervention supports, partnerships, and collaborations.

Key Interventions (1/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Base Metal, Iron and Steel Sector	Identify and develop certain critical raw material inputs such as titanium dioxide, lead and zinc ingots, zinc oxide, pig iron, ferro-alloys, fluxes, etc., currently being imported	Establish a databank on relevant exploration and mining organisations, industrial establishments, raw materials requirement and availability of local raw materials (including ore deposits) in the sector	A functional databank on critical raw materials for iron and steel sector in RMRDC	Mid-term
	Facilitate the manufacture of engineering products and prime movers (electric motors, petrol engines, diesel engines, etc.) for the operation of locally fabricated industrial machines	Promote establishment of at least 6 foundries, 10 machine and fabrication shops for engineering products manufacture	Six (6) foundries, 10 fabrication shops for engineering products manufacturing established through PPPs	Mid-term
	Develop local capacity for welding technology	Attract investment to produce strategic base metals as basic raw materials for key processing industries (e.g. iron, zinc, tin, copper, etc.)	At least 10 investments made in producing strategic base metals as raw materials vide PPPs	Mid-term
		Facilitate the provision of infrastructure by government to strengthen the smooth operation of the steel plants (e.g. rail network, inland water ways, etc)	Ten (10) investments attracted for infrastructure provision to enhance smooth operation of the steel plants	Long-term
		Canvass for minimal (1-5%) import duty on iron and steel for local fabricators	Duty on iron and steel materials for local fabricators reduced by 1-5%	Mid-term
		Sustain appropriate export tax on scrap metals and ensure compliance to stop the exportation of scrap metals. Also, organized scrap metal dealership should be mapped and encouraged	Appropriate export tax adopted and operational. Organized scrap metal dealership identified and mapped	Short-term
		Review tariff on non-ferrous alloys to encourage local manufacturers	Tariff on non-ferrous alloys reviewed to encourage local manufacturers	Short-term
		Build capacity to deploy reverse engineering approach to indigenous technology development	Establish Five (5) reverse engineering capacity development Centers	Long-term
		Identify and canvass for review of import duty on essential equipment, machinery and spares for raw materials processing to make them readily available and affordable	Import duty on essential equipment, machinery and spares for raw materials processing reviewed favorably	Mid-term

Key Interventions (2/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Base Metal, Iron and Steel Sector	Develop local capacity for welding technology	Create sectoral linkage with relevant professionally qualified personnel, institutions and industries to strengthen the sector	Sectoral linkages with relevant professionally qualified personnel, institutions created for Iron & Steel industries	Short-term
		Support emergence of ancillary, small and medium scale enterprises in the sector	Number of ancillary, small and medium scale enterprises in the sector supported	Mid-term
		Sponsor development of prototypes of appropriate processing technologies and encourage their commercialization	Develop ten (10) commercial prototype processing technologies	Long-term
		Support organized private sector participation in research in the sector	Number of industries mobilized and are participating in research in the Iron & Steel sector	Mid-term
		Promote investment and joint venture participation in the sector	Number of investments attracted and joint venture agreements signed	Mid-term
Chemical and Pharmaceutical Sector	Promote the development of raw materials for the chemical and pharmaceutical industries	Advocate for commencement and sustained operations of the nation's refineries and petrochemicals to provide the needed raw materials for the sector	At least two (2) refineries become functional and producing petrochemicals needed as raw materials for the sector	Long-term
	Develop local herbs as sources of alternative raw materials for the pharmaceutical industries	Initiate periodic review of tariffs on chemical and pharmaceutical raw materials to make locally-produced finished goods competitive	Number of tariff item chemical & pharmaceutical raw materials reviewed and adopted	Mid-term
	Promote investments in local production of chemical raw materials	Promote the establishment of small-scale/intermediate industries to feed the larger industries	Number of small/intermediate industries established to support the larger industries	Long-term
	Enhance local manufacturing capacity	Strengthen the linkage between research and industry for the development of chemical and pharmaceutical raw materials	Number of industries collaborating and funding research on development of chemical and pharmaceutical raw materials.	Mid-term
		Establish specialized industrial zones for chemical and pharmaceutical manufacturing	Creation of 5 industrial zones by 2027	Short-term

Key Interventions (3/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Chemical and Pharmaceutical Sector	Enhance local manufacturing capacity	Provide incentives for local and foreign investments in manufacturing facilities	Attract \$5 billion in investments by 2030	Long-term
		Develop partnerships with global pharmaceutical companies	Establish 10 partnerships with global firms by 2030	Log-term
	Improve Infrastructure and Logistics	Upgrade transportation networks to support industrial zones	Completion of key transportation upgrades by 2028	Mid-term
		Enhance port facilities for efficient export and import	Modernization of 3 major ports by 2028	Mid-term
		Develop reliable power supply systems for industrial areas	Ensure 24/7 power supply in industrial zones by 2026	Short-term
	Foster Research and Development (R&D)	Establish R&D centres focused on chemical and pharmaceutical innovation	Launch 5 R&D centers by 2025	Short-term
		Provide grants and tax incentives for R&D activities	Allocate \$500 million in R&D grants by 2030.	Long-term
		Collaborate with universities and research institutions	Form 15 collaborations with academic institutions by 2030	Long-term
	Develop Skilled Workforce	Implement training programs in chemical and pharmaceutical manufacturing	Train 10,000 workers by 2027	Short-term
		Partner with educational institutions for specialized courses	Establish 5 specialized courses by 2025	Short-term
		Provide scholarships and apprenticeships	Award 1,000 scholarships by 2030	Long-term
	Ensure Regulatory Compliance and Quality Standards	Strengthen regulatory frameworks for chemical and pharmaceutical products	Update regulatory frameworks by 2026	Short-term

Key Interventions (4/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline	
Chemical and Pharmaceutical Sector	Ensure Regulatory Compliance and Quality Standards	Implement stringent quality control measures	Achieve 100% compliance with international standards by 2026	Short-term	
		Facilitate regular audits and inspections	Conduct annual audits starting 2025	Short-term	
	Promote Sustainable Practices	Encourage the use of environmentally friendly technologies	Adoption of green technologies in 50% of facilities by 2030	Long-term	
		Implement waste management and recycling programs	Establish 10 waste management programs by 2028	Mid-term	
		Monitor and reduce carbon emissions	Reduce carbon emissions by 30% by 2030	Long-term	
Domestic and Industrial Plastics, Rubber and Foam Sector	Support production of raw materials for the sector, including polymer products, colourings (dyes & pigments), colour master batches, additives, natural rubber, etc.	Advocate for petrochemical industries to be established to supply basic raw materials such as polypropylene, polyvinyl chloride (PVC), polyvinyl acetate, master batches, lubricants, pigments, etc.	At least two (2) new petrochemical plants established to provide inputs to industrial plastic raw materials	Long-term	
	Promote substitution of imported raw materials with locally available petrochemical products	Mobilise private sector to invest in small-scale petrochemical plants in Nigeria	Number of small-scale petrochemical plants established and investment agreements signed with investors	Long-term	
	Promote the development of sustainable rubber production and utilization	Collaborate with Rubber Research Institute of Nigeria (RRIN) to promote the establishment of down-stream rubber processing industries, rubber plantations and also regulate the exportation of unprocessed rubber	MoU signed between RMRDC and RRIN to mobilize investments in establishing 2 down-stream processing industries and 5 rubber plantations. Also, existence of regulatory framework for exportation of unprocessed rubber		Long-term
		Jointly with RRIN to mobilise funding from the private sector to intensify R&D on natural rubber raw materials development	Number of R&D projects initiated and implemented by RMRDC and RRIN on natural rubber raw materials development		Mid-term
		Mobilise resources with RRIN for replanting of old rubber plantations and establishment of new ones	Number of investments secured for replanting of old rubber plantations and establishment of new ones		Mid-term
		Encourage implant R&D by companies in this sector	Number of companies with implant R&D programmes		Mid-term

Key Interventions (5/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline	
Food, Beverage & Tobacco	Support development and production of food additives from local raw materials	In collaboration with relevant agencies boost local production of tropical and temperate crops and other agro-based raw materials	Number of MoU signed on collaboration to boost local production of tropical and temperate crops and other agro-based raw materials	Mid-term	
	Promote the production of improved, high yielding and disease resistant crop varieties in collaboration with relevant agencies & private sector	Support local manufacturers to improve the quality of their agro-raw material products.	Number of local manufacturers supported to improve on quality of their agro-raw material products	Mid-term	
	Promote value chains for fisheries products in collaboration with relevant agencies & private sector	Improving fish value chains at all levels, including by-products and even losses (e.g. feed for aquaculture, fertilisers)	Number of fish value chains improved	Mid-term	
	Promote development of appropriate technology to produce enzymes, modified starch, essential oils, fruit and vegetable juices and other auxiliary products, and utilize fruit processing wastes in the production of useful materials such as pectin, and organic fertilizer	Mobilise finance and funding to support agricultural production and processing projects	Number of funded agricultural production & raw materials processing projects	Mid-term	
	Promote development and production of local herbs as substitute to hops in beer brewing	Promote supply and timely delivery of agro-inputs to end-users	Six (6) firms identified and MoU signed for sustainable supply and timely delivery of agro-inputs to users	Mid-term	
	Promote improvement in the production and processing of agro-raw materials	Support the private sector to invest in the production of intermediate products & raw materials considered as vital inputs for industries in the Food, Beverage and Tobacco sector	Number of firms committed to invest in production of intermediate raw material inputs for the sector	Mid-term	
	Support R & D on production of non-conventional local fruits and vegetables		Support the development of supply chain integration for value chains, and provide logistic supports (credit, inputs and extension services) to farmers for production of specified raw materials	Committee on supply chain integration established for value chain implementation and adoption of raw materials supply chain development strategy	Mid-term
			Collaborate with actors in the sector to identify input raw materials that can be substituted with local raw materials	Number of input item raw materials to be substituted with local raw materials and their incorporation in manufacturing production	Mid-term

Key Interventions (6/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Electrical and Electronic Sector	Identify and encourage development of basic raw materials (e.g. silica, copper, aluminium, plastic, rubber, mica, ceramics, tin, soot, various metal components) sourced locally for the sector	Collaborate with key actors in the sector to identify critical raw materials needed & promote investments in their development and utilization	Number of investment agreements facilitated and signed for development & utilization of critical raw materials needed by the sector	Mid-term
	Promote the adoption of appropriate technologies, acquisition of machinery and equipment needed to support utilization of locally available raw materials for the development of electrical & electronics components	Support the through low tariff deployment for the acquisition of the needed technologies, machineries and equipment to process raw materials for the development of electrical & electronics components	Reduced tariff on imported technologies, machineries and equipment for development of electrical & electronic components	Short-term
	Promote quality and standards in the development of input raw materials for the sector	Promote patronage of locally produced electrical and electronic products, including electrical cables and others for which high production standards have been established	Volume of consumption of quality electrical and electronic products produced locally	Short-term
	Promote development of renewable energy raw materials development for solar power equipment and accessories	Partner with actors in the sector to explore and develop local raw materials for the renewable energy industry	Number of quality item raw materials produced locally and certified by the standard bodies and RMRDC	Mid-term
Motor Vehicle and Miscellaneous	Develop auto-components such as engine blocks, single stroke engines, valves, brake drums, shock absorbers, etc., from locally available raw materials	Partner with private sector entities to attract investments to establish industries such as specialized injection moulding, pattern making etc.	The number of investment agreements reached with private sector partners	Mid-term
	Develop Composite Matrix, Polymer Matrix Composite (PMC) and Metal Matrix Composite (MMC)	Collaborate with automotive manufacturers (OEMs) to acquire technology for auto components parts production locally	MoU signed with Original Equipment manufacturers (OEMs) for auto components production	Short-term
	Promote production of engineering plastics for auto parts applications	Partner with agencies under education sector to establish auto engineering course in tertiary institutions and encourage R&D	Auto engineering course in tertiary institutions established and researches on components production promoted	Short-term
	Accelerate technological and industrial development to facilitate the production of a Nigerian vehicle	Collaborate with relevant institutions to develop skill sets in auto maintenance and repairs	Skill sets developed in collaboration with relevant institutions for auto maintenance and repairs	Short-term
	Provide automotive vehicles for urban and rural areas and thereby facilitate growth in the agricultural and other sectors	Collaborate with NADC to streamline the makes and age of vehicles imported into the country to ensure safety	Number of imported vehicles with age and makes streamlined	Short-term

Key Interventions (7/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Motor Vehicle and Miscellaneous	Provide automotive vehicles for urban and rural areas and thereby facilitate growth in the agricultural and other sectors	Partner with NADC to promote establishment of auto components test centre	Auto components test Centre established	Mid-term
		Partner with relevant institutions to promote local content on investments in the auto sector	Number of firms applying local content in the sector	Long-term
		Support the adoption of auto-industry development policy	Auto industry development policy adopted	Short-term
Non-Metallic Mineral Sector	Assess quality, group deposits into grades and determine the suitability of each mineral for specific industrial use	Carry out quality assessment in collaboration with Geological Survey and Steel Raw Materials Council to determine suitability of non-metallic minerals occurring locally for industrial use	Quality assessment of locally occurring non-metallic mineral raw materials carried out with relevant agencies	Short-term
	Research on exploration, improved ore recovery method and processing of non-metallic and mineral raw materials towards effective local sourcing and development to produce primary raw materials	Commission research on exploration, mineral ore recovery, and processing of non-metallic mineral raw materials in collaboration with relevant agencies	Number of researches commissioned on exploration, mineral ore recovery and processing of non-metallic minerals	Mid-term
	Develop processing technologies and machinery for the beneficiation of some non-metallic minerals like feldspar, silica, mica, etc.	Promote establishment of improved small-scale non-metallic mineral processing units to enhance mineral beneficiation.	Number of small-scale non-metallic mineral processing units established to enhance beneficiation	Mid-term
	Beneficiation and mass production processes for zircon, chromite, sand and fluorspar	Invest in the training of the manpower needs of the sector	Number of trained manpower for the sector	Mid-term
	Develop silica ramming and special refractory	Conduct research on development of silica ramming & special refractory	Number of research commissioned to develop silica ramming and special refractory	Mid-term
	Promote production of wax, colorants and binders for use in the manufacturing purpose	Facilitate grants or soft loans to investors in the sector	MoU/agreements signed for grants or loans to investors in the sector	Mid-term
		Promote establishment of catalytic model factories for non-metallic mineral processing	Number of catalytic model factories established for non-metallic mineral beneficiation	Long-term
		Promote establishment of Risk Fund for mineral processors	Risk-fund established for mineral processors	Mid-term

Key Interventions (8/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Non-Metallic Mineral Sector	Promote production of wax, colorants and binders for use in the manufactural purpose	Support and encourage more local fabricators in the design and fabrication of processing machinery	Number of local fabricators that received supports in the design and fabrication of processing machinery for non-metallic minerals	Long-term
		Collaborate with the Ministry of Mines and Steel Development to carry out survey on non-metallic minerals and publish the survey outcome	Survey on non-metallic minerals deposit carried out and the outcome published and disseminated	Mid-term
Pulp, Paper and Paper Products	Strengthen production of core raw materials and chemicals (kaolin, gum Arabic, soda ash, pigments, etc.) from local sources	Facilitate provision of incentives to farmers to plant tree crops	Number of farmers support with incentives to plant tree crops	Mid-term
	Develop and produce high quality paper and allied products from non-wood sources such as cotton, bargass, rice husks and other agricultural wastes	Support local industries to utilize R&D results such as pulping of long fibre sourced from kenaf, jute wastes, bamboos, etc.	Number of local industries supported to utilize R&D results to improve the productivity of the sector	Mid-term
	Develop alternative sources of long fibre pulp e.g. water hyacinth, bamboo, kenaf, raffia, cotton and sisal for the production of high-quality paper.	Strengthen the linkage between the pulp and paper sector and the universities, polytechnics and research institutes in the country to address the raw materials problems of the sector	Number of universities, research institutions and polytechnics that are linked and support activities of the sector to address their raw materials problems	Mid-term
	Develop local capacity for fabrication of pulping machineries and spare parts.	Invest in training of the human resource needs of the sector by both public and private sector	Number of people trained for the pulp and paper industries	Long-term
		Develop and promote mini- scale paper production technology in the country	At least five (5) mini-scale paper production technology developed	Long-term
		Intensify the campaign for afforestation to sustain the growth of the pulp and paper industry	Improved afforestation campaign and sustained production of raw materials for the sector	Long-term
		Promote private sector participation in primary pulp and paper production	Number of private sector entities engaged and Mou signed for participation in pulp and paper production	Mid-term

Key Interventions (9/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Textile, Weaving Apparel, Leather and Leather Products	To produce raw materials for textiles, carpets, wearing apparels, leather and leather goods industries	Design and fabricate efficient spinning, weaving, dyeing, printing, tanning machinery and equipment to upgrade indigenous process technologies of the sector	Two (2) efficient spinning, weaving, dyeing, printing, tanning machinery fabricated and operational	Mid-term
	High quality hides and skin, semi-finished and finished leather and synthetic leather	Encourage patronage of locally made textiles, garments, shoe wares, fibres and clothing	Three (3) indigenous process technologies upgraded	Mid-term
	High quality woven and non-woven fabrics and other wearing apparel inputs such as linings, gum stays, buttons, zippers, elastics, ribbons, etc.	Promote investment in the garment sub-sector	Four (4) investments attracted to the garment sector	Mid-term
	Textiles and finishing chemicals for tanning such as dyestuff, caustic soda, bleaching agents, starches, tannins, fat-liquor, chromes, etc	Improve the traditional processing technologies for hides and skin, fibres and clothing	Increased production of long staple cotton, kenaf fibre, hides & skin	Long-term
	Develop and upgrade the indigenous technologies for processing local raw materials for the sector	Boost the production of long staple cotton, kenaf, jute fibre, silk, hides and skin	Number of investments in local production of dyes and chemicals	Mid-term
	Increase the export earnings of the sector	Promote investment in the production of dyes and chemicals	Number of investments in downstream industries for synthetic fibre production	Mid-term
	Attract Foreign Direct Investment (FDI) into the sector	Provide affordable sources of fund to support the upgrading of technology	Funds mobilized to support the upgrading of technologies	Mid-term
Wood and Wood Products Sector	Develop genetically improved planting materials of indigenous crops and other economic tree species, through vegetative propagation for the promotion of agroforestry practices	Encourage extensive establishment of forest plantation	Increased forest plantations	Mid-term
	Develop genetically improved seedlings and viable propagation methods for endangered species	Develop machinery and equipment for wood conversion and wood work activities	Five (5) machinery and equipment for wood conversion and wood work activities developed	Long-term
	Develop processes for increased utilization of wood wastes and other agricultural wastes to perform the functions of solid wood	Research to identify and develop conventional and alternative sources of wood-based raw materials	Number of researches commissioned to develop conventional and alternative sources of wood-based raw materials	Long-term

Key Interventions (10/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
Wood and Wood Products Sector	Develop processes for increased utilization of wood wastes and other agricultural wastes to perform the functions of solid wood	Promote utilization of adequately treated wood	Six (6) wood treatment plants established	Long-term
		Coordinate exploration, exploitation and management of forests, wood and wood products on a sustainable basis	Best practices developed for management of forests, wood and wood products on a sustainable basis	Long-term
		Support forest and wood research to enable the nation be abreast with modern scientific results and standards on utilization and processing of wood	Number of research commissioned to support the sector.	Long-term
	Develop local capacity for the fabrication of tools, machines, and spare parts for promoting secondary and tertiary wood processing in Nigeria	Support SMEs and local artisans that specialize in the fabrication of wood processing tools	Number of SMEs and local artisans supported in the sector	Long-term
New and Advanced Materials	Develop ceramic reactors for energy generation, material synthesis and environmental purification	Mobilise investment in the development of reactors for energy generation, material synthesis and environmental purification	MoU signed and investment agreement reached with stakeholders for development of reactors for energy generation, material synthesis and environmental purification	Long-term
	Develop high efficiency manufacturing technologies for ceramics, to reduce resources, energy inputs and processing time	Provide support for development of Develop high efficiency manufacturing technologies for ceramics, to reduce resources, energy inputs and processing time	Resources mobilized for development of five (5) high efficiency manufacturing technologies for ceramics, to reduce resources, energy inputs and processing time	Long-term
	Develop advanced corrosion-resistant and wear-resistant structural components, by integrating the inherent high hardness, chemical stability and heat resistance of ceramic materials	Promote the development of and provide support for advanced corrosion-resistant and wear-resistant structural components	Resources mobilized for development of advanced corrosion-resistant and wear-resistant structural components	Long-term
	Develop functional crystal materials in the field of energy and environmental technologies	Promote the development of functional crystal materials in the field of energy and environmental technologies	Resources mobilised for development of functional crystal materials in the field of energy and environmental technologies	Long-term
	Develop low temperature synthetic route	Promote the development of low temperature synthetic route	Researches conducted on low temperature synthetic route for iron-exchange method	Long-term

Key Interventions (11/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
New and Advanced Materials	Develop functional inorganic film materials in the field of energy and information technologies	Develop forming processes for high performance materials using advanced powder metallurgy and plastic forming processes	Sponsor the development of forming processes for high performance materials using advanced powder metallurgy and plastic forming processes	Long-term
	Develop porous materials to replace traditional catalysts and absorbents	Sponsor functional inorganic film materials in the field of energy and information technologies	Resources mobilized for development of functional inorganic film materials in the field of energy and information technologies	Long-term
	Develop composite and biopolymers e.g. combination of nano-particles and polymer matrix to form a new materials	Promote research on porous materials to replace traditional catalysts and absorbents	Researches carried out on porous materials to replace traditional catalysts and absorbents commissioned	Long-term
	Develop biosensors and other bio-analytical devices	Promote research on composite and biopolymers e.g. combination of nano-particles and polymer matrix to form a new material	Five (5) researches carried out on composite and biopolymers	Long-term
	Support exposure of indigenous researchers to contemporary development in new and advanced materials research	Promote research on the development of biosensors and other bio-analytical devices	Researches on the development of biosensors and other bio-analytical devices undertaken	Long-term
	Establish specialized centres for R&D in new and advanced materials	Sponsor training on exposure of indigenous researchers to contemporary development in new and advanced materials research	Trainings organized on exposure of indigenous researchers to contemporary development in new and advanced materials research	Mid-term
	Encourage potential users of new and advanced materials to invest in research and development	Mobilize resources for the establishment of specialized centres for R&D in new and advanced materials	Resources mobilized for the establishment of specialized centres for R&D in new and advanced materials	Mid-term
	Establishment of a database on new and advanced materials, in collaboration with relevant stakeholders	Undertake sensitisation workshops for potential users of new and advanced materials to invest in research and development	Sensitisation workshops for potential users of new and advanced materials to invest in research and development undertaken	Mid-term
	Commercialization of new materials and adoption of advanced technology in manufacturing	Mobilise resources for establishment of a database on new and advanced materials, in collaboration with relevant stakeholders	Resources mobilized for establishment of a database on new and advanced materials, in collaboration with relevant stakeholders	Mid-term

Key Interventions (12/12)

Key Sectors	Objectives	Strategies	Key Deliverables	Timeline
New and Advanced Materials	Research into material synthesis, coatings and components, plasma surface modification of materials and components, artificial photosynthesis, catalysts, pollution sensors, environmental remediation, chemical recycling, etc	Promote commercialization of new materials and adoption of advanced technology in manufacturing	Five (5) new materials commercialized and three (3) advanced technology in manufacturing adopted	Long-term
	Develop raw materials through tissue culture	Sponsor research in material synthesis, coatings and components etc.	Funds mobilised for research into material synthesis, coatings and components etc.	Long-term
	Identifying expertise within Nigeria on new and advanced materials	Promote the development of specific raw materials through tissue culture	Specific raw materials developed through tissue culture	
	Contract research between industry and researchers	Map expertise within Nigeria on new and advanced materials	Mapping of expertise within Nigeria on new and advanced materials carried out	
	Special infrastructure at designated centres for research into new and advanced materials	Undertake contract research between industry and researchers	At least five (5) contract research between industry and researchers awarded	
		Mobilize investment for the establishment of special infrastructure at designated centres for research into new and advanced materials	Investment for the establishment of special infrastructure at designated centres for research into new and advanced materials secured and MoU signed	Long-term

Risk Assessment



Risk Assessment

Risk Categories	Risk Factors	Effect	Likelihood of Occurrence	Mitigation Strategy
Financial	<ul style="list-style-type: none"> Inadequate Funding Late disbursement of funds Diversion of funds Perception risk for government system 	<ul style="list-style-type: none"> Delay in research and development efforts Reduced investment in raw material innovation 	<ul style="list-style-type: none"> Medium Medium Medium Medium 	<ul style="list-style-type: none"> Build Staff to develop bankable projects Partner with donor agencies to increase access to financing Implement digital technology to improve transparency of operation and processes Streamline Terms of References for R&D and ensure frequent supervision
Policy and Regulations	<ul style="list-style-type: none"> Macro-economic volatility Policy inconsistency Changes in Governance/Leadership 	<ul style="list-style-type: none"> Misplacement of research priorities Limitation in research options High operational disruptions 	<ul style="list-style-type: none"> Medium Medium High 	<ul style="list-style-type: none"> Implement policy reviews to align with changing and emerging macroeconomic realities Strengthen and implement legal frameworks and implement penalties Develop and document a legal policy that will ensure implementation of the roadmap
Environmental	<ul style="list-style-type: none"> Climate change Natural disaster Poor waste management Deforestation Land use pattern Diseases and Pests 	<ul style="list-style-type: none"> Poor quality of raw materials Pollution and resource depletion leading to sustainability concerns Disruption in disrupt supply chains and research activities 	<ul style="list-style-type: none"> High High Medium Medium Medium Medium 	<ul style="list-style-type: none"> Develop environmental management plans such as hazard mapping, and flood plain mapping Ensure efficient effluent disposal (waste management, circularity) Promote circular economy Promoting agriculture and forest practices Promote good agronomic practice(GAP)
Stakeholder Engagement	<ul style="list-style-type: none"> Wrong partnership model Poor communication Poor stakeholder management 	<ul style="list-style-type: none"> Poor collaboration with industries and research institutions Conflicts between stakeholders, delaying project implementation Lack of trust and support from partners 	<ul style="list-style-type: none"> Medium Medium Medium 	<ul style="list-style-type: none"> Implement effective communication tools Organize workshops and training to promote sustainable practices Conduct stakeholder mapping Sustainability and policy integration Leverage digital tools to enhance interaction and engagement

Risk Assessment

Risk Categories	Risk Factors	Effect	Likelihood of Occurrence	Mitigation Strategy
Social	<ul style="list-style-type: none"> • Cultural and religious factors • Negative public perception • Discrimination • Political instability 	<ul style="list-style-type: none"> • Public opposition to certain raw material extraction methods • Ethical concerns regarding labor practices in sourcing materials • Socioeconomic disparities 	<ul style="list-style-type: none"> • Medium • Medium • Medium • Medium 	<ul style="list-style-type: none"> • Understand cultural barriers and tailor R&D to address such gaps • Initiate community engagement and public partnership • Develop and maintain proper response strategic plan
Operations	<ul style="list-style-type: none"> • Human resource risk (where research grants are not implemented) • Process risk • System risk • Equipment Malfunction • Human Error • Theft 	<ul style="list-style-type: none"> • Poor product quality • Low productivity • Inefficiencies in research processes • Workforce shortages or skill gaps 	<ul style="list-style-type: none"> • High • Medium • Medium • Medium • High • High 	<ul style="list-style-type: none"> • Streamline Terms of References for R&D • Develop and implement ERP and SOP • Deploy adequate security measures such as CCTV cameras and biometric passes to deter and uncover theft • Develop policies for consequence management • Provide regular trainings for staff at all levels • Institute disciplinary measures that deter human errors
Security	<ul style="list-style-type: none"> • Criminal activities • Communal clashes • Herdsmen and Farmers clash 	<ul style="list-style-type: none"> • Supply Chain Stability • Operational instability • Threat to live 	<ul style="list-style-type: none"> • High • High • High 	<ul style="list-style-type: none"> • Partner with security agencies • Engage local community leaders through community heads; Proper boundary delineation • Establish Grazing reserves and Ranching
Technology	<ul style="list-style-type: none"> • Failed technology/Failure to adapt to new and emerging technologies • Lack of awareness of new and emerging technologies • Cyber security and data governance • Poor software development 	<ul style="list-style-type: none"> • Rapid advancements may render existing research obsolete • Cybersecurity threats could compromise sensitive research data. • High costs of adopting new technologies 	<ul style="list-style-type: none"> • High • Medium • Medium • High 	<ul style="list-style-type: none"> • Technology acquisition and adaptation • Stakeholder consultation to meet tech demand • Provide advanced threat detection and protection against cyber-attacks • Install security software and developing a recovery plan • Develop and implement ISO standards of acquisition of modern and high quality materials



Director General / CEO

Raw Materials Research & Development Council
Federal Ministry of Innovation, Science & Technology