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EVALUATING THE COMMON NEEDS, OPPORTUNITIES, AND CHALLENGES IN ADVANCING BIOECONOMY DEVELOPMENT IN AFRICA

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#G20South Africa | www.g20.org.za

OUTLINE

- Overview of the East African Bioeconomy Strategy with regards to focus areas.
- Unemployment and the role of Bioeconomy.
- Focus on Agriculture, IKS, Biomanufacturing (Bio-packaging) and Bioenergy.
- Sector-specific opportunities
- Conclusion and future perspectives

KEY THEMES AND OUTCOMES OF THE EAST AFRICAN BIOECONOMY STRATEGY

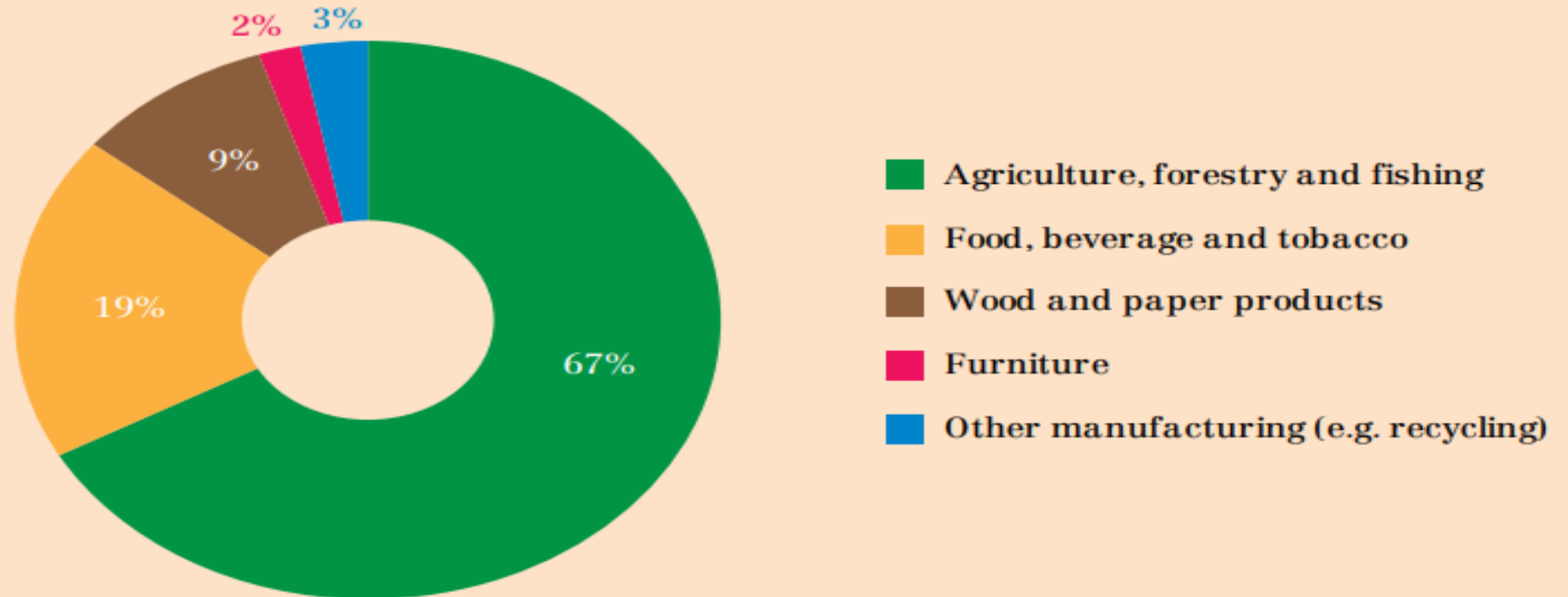
- **Food Security**– Value addition, novel foods, bio-based agricultural inputs.
- **Health & Biotechnology** – Bio-based pharmaceuticals, traditional medicines, nutraceuticals, and cosmetics.
- **Sustainable Products & Industries** – Bio-packaging, textiles, construction materials, industrial enzymes, and bio-based feedstocks.
- **Modernization of sustainable bioenergy** – Biofuels, biogas for transportation, and waste-to-energy solutions including the use of biowaste and industrial by-products for electricity generation.
- **Enabling policy environment.**
- **Innovation system.**
- **Capacity Building.**
- **Infrastructure-Agro-processing, Bioprocessing, biorefineries etc.**
- **Funding, Coordination, partnerships, communication, public awareness and markets.**
- ***Sustainable industrialization, Job creation, Protection of the environment, Growth of the economy.***

UNEMPLOYMENT AND EMPLOYMENT SHARE IN SOUTH AFRICA'S BIOECONOMY SECTOR

Unemployment rate in Africa was 8.9%-7% percent in 2023-2024.

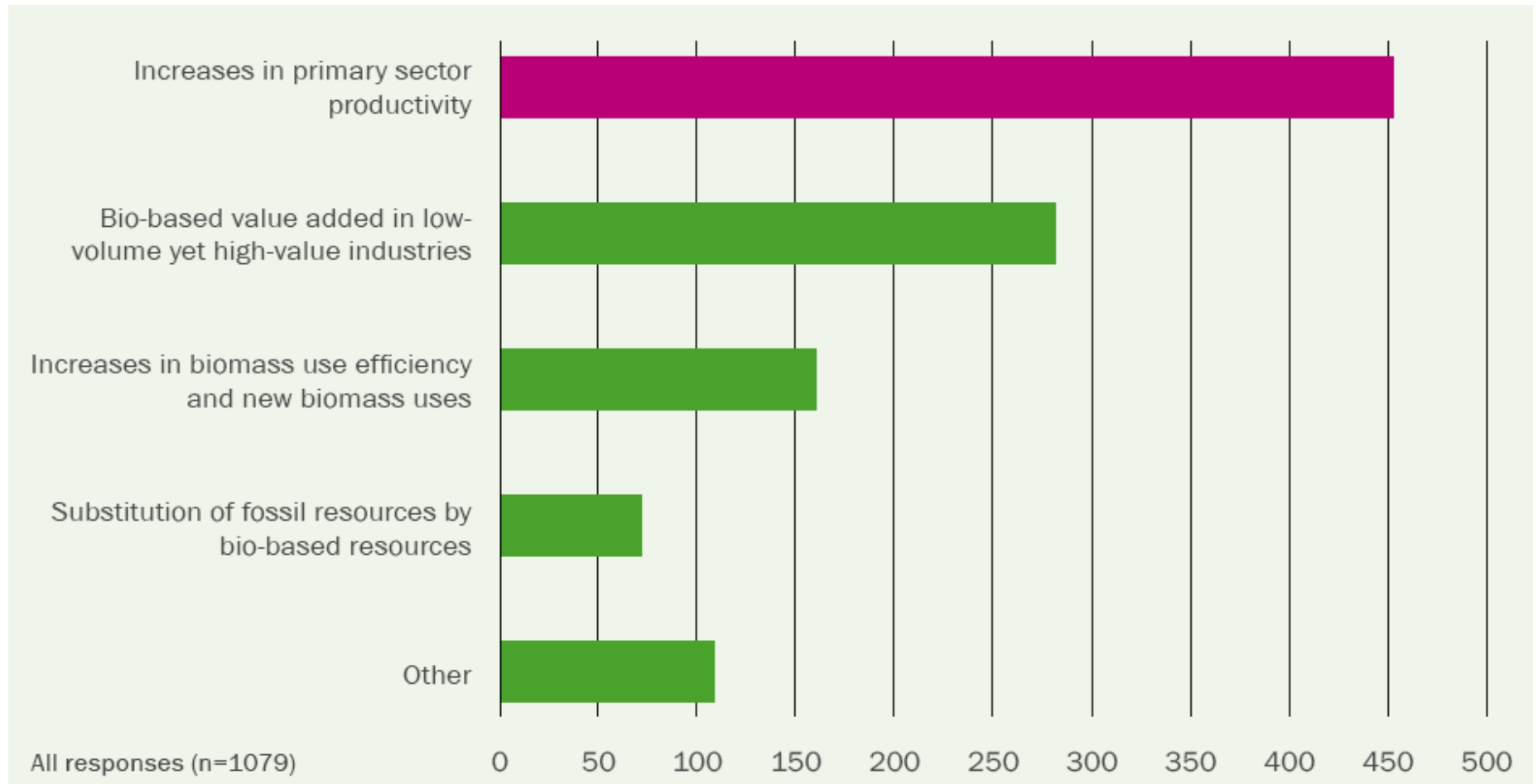
Unemployment levels varied significantly across African countries.

South Africa in 2024 estimated unemployment rate of 27-30% (Statistica 2024)



Source: NACI (National Advisory Council on Innovation). 2022. Audit of the south African bioeconomy sector. Pretoria.

PROMISING TECHNOLOGICAL ADVANCES



- www.biooekonomierat.de/en

BIOECONOMY OPPORTUNITIES

- The agricultural economy employs 65–70% of Africa's labour force and is the backbone of most economies, accounting for 25–40% of GDP.

Value Addition e.g Benin-Cotonou-Glo Djibe Industrial Park:
A hub for agro-processing industries.

- **Pineapple Juice**
- **Cassava and its Products:**
Garri, chips, bread, fufu, biofuel etc.
- **Cotton:** towels, uniforms.
- **Dried Cashew Nuts**
- **Over 24,000 Employees**



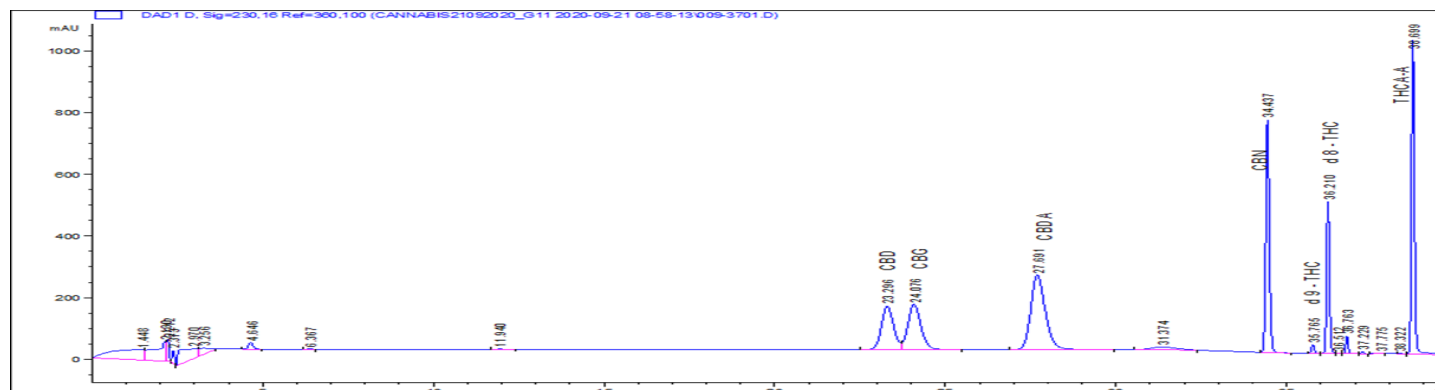
AGROBIOLOGICALS AND BIO-BASED AGRICULTURAL INPUTS

- **Biostimulants:** Products designed to enhance the growth and productivity of plants.
- **Biopesticides:** Products used for plant protection (e.g., microbes, natural enemies, extracts from plants or animals).
- **Biofertilizers:** Products used for plant nutrition.

The agricultural biologicals market in the Middle East and Africa is expected to reach USD 2 billion in 2024 and grow to USD 2.60 billion by 2029, with a CAGR growth of 5.4% from 2024 to 2029.

WEALTH OF INDIGENOUS KNOWLEDGE

- **African indigenous knowledge systems** along with other rural innovations could yield generational wealth for communities through Intellectual Property.



- Medication, Nutraceuticals and Food e.g. Cannabis 23 companies
- Gummies, cosmetics, flavoured drinks, brownies, drops, beverages etc.

OPPORTUNITIES IN THE BIO PACKAGING MARKET

- The ban on plastics in many African countries has opened a new industry for bio-packaging.

- **Fibretext Green Packaging Ltd**
Kenya



- **Armelle Sidje**
Cameroon
Royal Academy Prize



OPPORTUNITIES IN THE BIO-ENERGY SPACE

- **Ethiopia** is actively exploring the development of Sustainable Aviation Fuel (SAF) to reduce its reliance on imported aviation fuel and minimize its greenhouse gas emissions and impact on climate change.
- In August 2024, Ethiopian Airlines Group signed a Memorandum of Understanding (MOU) with Satarem America Inc. to collaborate on the production and use of SAF in Ethiopia. Satarem will produce SAF in the country, and Ethiopian Airlines has agreed to purchase the SAF from Satarem. This strategic partnership represents a significant step that Ethiopian Airlines is taking toward a more sustainable and environmentally friendly future.



OPORTUNIES IN THE HEALTH SECTOR

- Largest global market for HIV/TB drugs.
- Growing public-private collaboration in generics supply chain, creating local manufacturing opportunities.
- Unique flora and fauna offer untapped therapeutic and production potential.
- Combining modern science, biodiversity, and indigenous knowledge to accelerate product development.
- World-class researchers and regulatory framework enable competitive clinical development.
- Strong expertise in drug discovery, diagnostics, and therapeutic delivery systems.
- Significant investments in vaccines.
- Strategic international partnerships.

FUNDING

- **Public Sector** (South Africa): Department, Bio-Innovation Centres, Technology Innovation Agency, Industrial Development Corporation, Commercial Banks.
- Many African countries: Relevant line Ministries or Departments
- **Private Sector Funding**: Primarily in-house Research & Development.
- **Grants from Donors**: ODA, Bill & Melinda Gates Foundation, EU, etc.
- **Coordination**: Example from South Africa.

OTHER OPORTUNIES IN THE BIOECONOMY

OPPORTUNITY	
Market Access	G20 represents 85% of Global GDP, 75% of International trade and 80% of the world population. African Free trade Agreement, Regional and bilateral markets.
Policy Environment	Supportive to innovation
Land Tenure	A challenge in some African countries and streamlined in others

RESEARCH AND DEVELOPMENT

- Key to the success of any bioeconomy.
- African countries must establish dedicated institutions focused on innovation (e.g., CSIR, IRAD, Cocoa, Sugar industries).
- Universities and research institutions should adopt entrepreneurial strategies.
- Incubation of technologies until maturity is essential.
- Industries must access the best localized technologies from universities and research institutions.

CONCLUSION

- Many African countries are rich in biodiversity and biomass, which can be harnessed with the right skills, investment, research, infrastructure, and institutional support.
- More investment in research and innovation is needed, along with policies to improve education, training, and infrastructure to capitalize on the bioeconomy.
- A continent-wide development plan, aligned with the African Union's Agenda 2063, is essential.



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Thank you