



# COMMUNIQUE OF THE 9TH AFRICAN CONFERENCE ON ONE HEALTH AND BIOSECURITY

**Theme:**

**Maximizing Benefits and Understanding Risks of Synthetic  
Biology and Other Emerging Biotechnologies in Africa**

**Date: 20th - 21st November, 2023**

**Venue: Radisson Blu Anchorage Hotel, Victoria Island, Lagos, Nigeria**



**9th African  
Conference on One  
Health and Biosecurity**

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## PREAMBLE

The 9th African Conference on One Health and Biosecurity, themed Maximizing Benefits and Understanding Risks of Synthetic Biology and Other Emerging Biotechnologies in Africa, was held Monday 20th – Tuesday 21st November, 2023. The 9th edition of the annual conference was organized by the Global Emerging Pathogens Treatment Consortium (GET Africa) with the support of the Lagos State Government and in partnership with key non-state institutions across the world with a focus on biotechnology, particularly synthetic biology. The 2-day conference provided a unique forum for robust interactions to take stock of the potential benefits of synthetic biology and how to promote responsible application, circumvent the associated pitfalls of the technology in Africa, and create awareness of related developments at the cutting edge of science. The conference, attended by professionals, members of academia and stakeholders across the sectors of society, received presentations from resource persons cutting across the healthcare sector, agriculture, the environment, as well as from the development sector and civil society. The following observations and recommendations emerged following exhaustive deliberations:



# OBSERVATIONS

- 1.Synthetic biology is but one of the modern technologies of concern, such as artificial intelligence (AI), robotics, and nanotechnology and can hardly be considered in isolation of other existential paradigms.
- 2.Synthetic biology holds a great future for biobased sustainable production and offers applications in diverse areas of human endeavours, including medicine, agriculture, food security, energy security, space systems and exploration, climate-resilient systems and so on.
- 3.Synthetic biology is still evolving and not yet fully understood by the operators, just as there are fundamental risks associated with it, including biosafety, biosecurity, environmental impact, conservation upsets, undermining of distinction between living things and machines, and the potential to aggravate injustices to existing systems of intellectual property rights.
- 4.Building appropriate research infrastructure and streamlining of research governance is a necessary foundation of innovative research.
- 5.There is the problem of synthetic biology funding in Africa, with foreign and global funds still at the centre of it, even though some of the research is being done in Africa. The government alone cannot provide the infrastructure and training, nor can Africa rely entirely on donor and foreign agency-driven financing of synthetic biology research.
- 6.African countries are poorly represented among countries involved in bioeconomy, unlike European countries, and some of the constraints of bioeconomy, such as lack of suitable technology, social acceptance, political instability, uncertainties and competition, are more serious in Africa.





7. Emerging proclivities, dimensions and impacts of climate change have gone beyond increased temperature, biodiversity loss, environmental degradation, conflict and emerging infectious diseases to include the disruption of transportation of consumer goods and medical supplies, with potential to aggravate responses to emergencies.
8. Brain health is an important driver of human health and determines outcome in all aspects of life including economy, politics, and psychosocial wellbeing. Genomics, synthetic biology and precision medicine offer limitless opportunities to maximize brain capital.
9. Even where there are vaccine programmes in place, poor state of health infrastructure, poor vaccine access, inadequate communication and public awareness are serious impediments to response to disease outbreaks in Africa.
10. Healthcare delivery in Africa is largely fraught with inefficiencies arising from inadequate and fragmented data, as well as poorly leveraged opportunities offered by robotics, artificial intelligence, machine learning, deep learning.
11. Biobanking and genomic information independency are important for Africa's sovereignty and security; beyond addressing medical research needs, there are also economic benefits and social capitals inherent therein.
12. Poor financing strategy is a major impediment to development of Africa's health infrastructure and manpower, with healthcare financing strategy mostly founded on donations and loans which is not sustainable.
13. Some of the facilities put in place across Africa during the COVID-19 pandemic biobanks, sequencers and isolations centers have been abandoned and in state of degradation.

# CONFERENCE DECLARATION

*Motivated by the realisation that synthetic biology, bioeconomy and biotechnology in the broader sense constitute an inexorable tripod on which rests the future of sustainable material production and wholesome human development, Conscious of the fact that knowledge of bioeconomy is low in Africa even though Africans have great potentials in bioresources and indigenous knowledge and boast of cultures abhorrent of unsustainable resource appropriation and supportive of biodiversity conservation; Aware of the abysmally low investment in bioeconomy and synthetic biology by institutions and the limited capacity of African governments at various levels to respond to this challenge in the face of competing demands; Determined to promote bioeconomy, responsible and equitable use of synthetic biology and all other biotechnologies, **Conference Resolves and Declares** as follows:*

*To bestow unalloyed commitment to the promotion of synthetic biology and allied technologies in addressing challenges in diverse areas of life including medicine, agriculture, waste management and climate resilience, and in pursuit of sustainable resource exploration, exploitation, production and innovations; to pursue constructive engagement in harnessing and harmonising government commitment, national and continental venture capital and global resources for the development of bioeconomy and synthetic biology infrastructure, training and skill acquisition, and in support of the best practices in biotechnologies; to work with relevant state and non-state stakeholders at national, regional and global levels to address ethical, legal, and social issues bordering leveraging the opportunities of synthetic biology; and to conscientiously drive, in collaboration with other stakeholders, the development of framework for synthetic biology research policies and guidelines in Africa.*







# RECOMMENDATIONS

As a follow-up to the Conference Declaration, the following recommendations are proposed:

1. In appropriating emerging technologies, African governments and development leaders should focus on training the African mind to be able to pioneer indigenous solutions guided by a philosophy that drives positive change, preserves nature, protects human health and fosters unity of purpose.
2. Africa should assume her rightful position in the development and application of synthetic biology. Thus, African countries should sign relevant treaties at all levels to be alive to their responsibilities in funding, regulation, and development of guidelines while encouraging collaborations among research and development scientists across the continent.
3. African countries need to develop strong, inclusive, regional strategies to promote sustainable development around bioeconomy, embark on deliberate and aggressive promotion of bio-entrepreneurship, incentivize innovations, and systematically and equitably phase out inefficient and outmoded models of development.
4. Non-governmental organisations (NGOs), women and youth organisations and the civil society as a whole should be at the forefront of advocacy, networking, development monitoring and accountability towards advancing synthetic biology, bioeconomy and responsible applications of biotechnologies in Africa.
5. At the regional level, the establishment of the Africa Center for Genomics, Data Management and Bioinformatics has become imperative, while at national levels, countries should gradually adopt a

Smart Health Information Platform (SHIP) model approach to aggregating all healthcare information to address inefficiency in healthcare delivery.

6. African countries should streamline their healthcare financing policies to eliminate the contradictions between free healthcare and health insurance, promote domestic resource raising, leverage foreign supports and funding that do not foster dependency, and eliminate jurisdictional confusion among various tiers of healthcare delivery.
7. To be able to respond efficiently to outbreaks, African countries should, as a matter of urgency, strengthen their health policies by investing in infrastructure, manpower development, smart surveillance systems and vaccine equity, and in the medium term, promote multi-tier collaborations.
8. Health authorities should adopt technologically efficient approaches such as artificial intelligence (AI) to predict demand and enhance logistics and distribution systems for timely healthcare delivery, especially in hard-to-reach areas and climate change-disrupted ecosystems.
9. There is a need to develop a collective framework to ensure that critical assets put in place during the COVID-19 pandemic are protected, maintained and ready for operation in response to future outbreaks.

