

A regional bioeconomy strategy for East Africa

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Background

“Africa’s economic transformation is starting in the new age of biology”

• Juma, 2011



Sustainable/circular bioeconomy

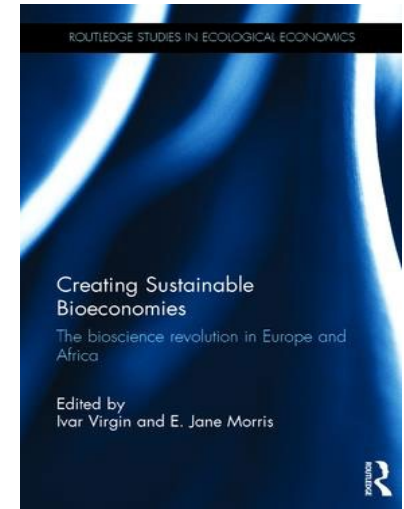
Bioscience innovation & innovation systems/sustainable bioeconomy

Biotechnology/genetic engineering/living modified organisms/biosafety

Biodiversity/access to genetic resources & benefit sharing

1990 2000 2010 2020 2030

2063



EA Context

- Endowed with biological resources.
- Rapidly growing & urbanizing population.
 - Popn 294m (2021 estimate); >65% rural.
 - GDP of USD315bn in 2021; agric. contributing 30%.
 - > 50% informal sector
 - Growth forecast at 5.6% by end 2021

- Challenge:

- Sustainably manage biological resource
- Opportunities for youth/women.



Figure 1: Map of East Africa
Source: <https://wikipedia/commons/East Africa>

Responding to the challenge

Diversify sources of growth based on biological resources – more inclusive & sustainable

Strengthen
Innovation
ecosystems

Enhance social &
economic value
of biological
resources

Create new
business
prospects

EA bioeconomy strategy - domicile

- Developed in 2020/2021 financial year by the East African Community (<https://www.eac.int>) through the East African Science and Technology Commission (<https://easteco.org>) & partners (including SEI) with support from *icipe*/BioInnovate Africa.
- Strategy anchors on the EAC Vision 2050, African Union Agenda 2063, SDGs 2030 & other related regional science and technology policies – and covers the period 2021-2030.



EA bioeconomy strategy – pillars

Sustainability pillars

- Environmental sustainability
- Climate change adaptation & mitigation
- Sustainable production & consumption

Priority themes

- Food security & sustainable agriculture
- Health & well being
- Sustainable energy
- Biologically based industries

Key activities

- Primary production – of commodities grown by small holder farmers
- Value addition –to biomass from agricultural produce, other biological materials
- Biological waste conversion – from municipal and agro-industrial waste.
- Ecosystem services

Innovative biologically based solutions of interest to the region

- Healthier foods and beverages
- Biofertilizers
- Biopesticides
- Biofuels
- Biomaterials
- Insects as alternative protein sources – food/feed
- Integrated techs for waste-water treatment
- Microbial processing using enzymes



Barriers/Opportunities

Barriers

- Limitations in innovation capacity
- Weak supply chains
- Inability to organise markets

Opportunities

- Value addition & agro processing are regional priorities
- Global movement towards sustainable bioeconomies
- Favorable policy incentives – e.g., ban on disposable polythene bags
- African Continental Free Trade Agreement (March 2018)

Possibilities for Africa/Sweden/EU collaboration

- Collaborative R&D (in both science & policy).
- Strategic alliances, and investing in the startup ecosystem in the region.
- Mutual innovation collaboration – to test new products/business models.



BioInnovate Africa – a collaborative bioeconomy platform

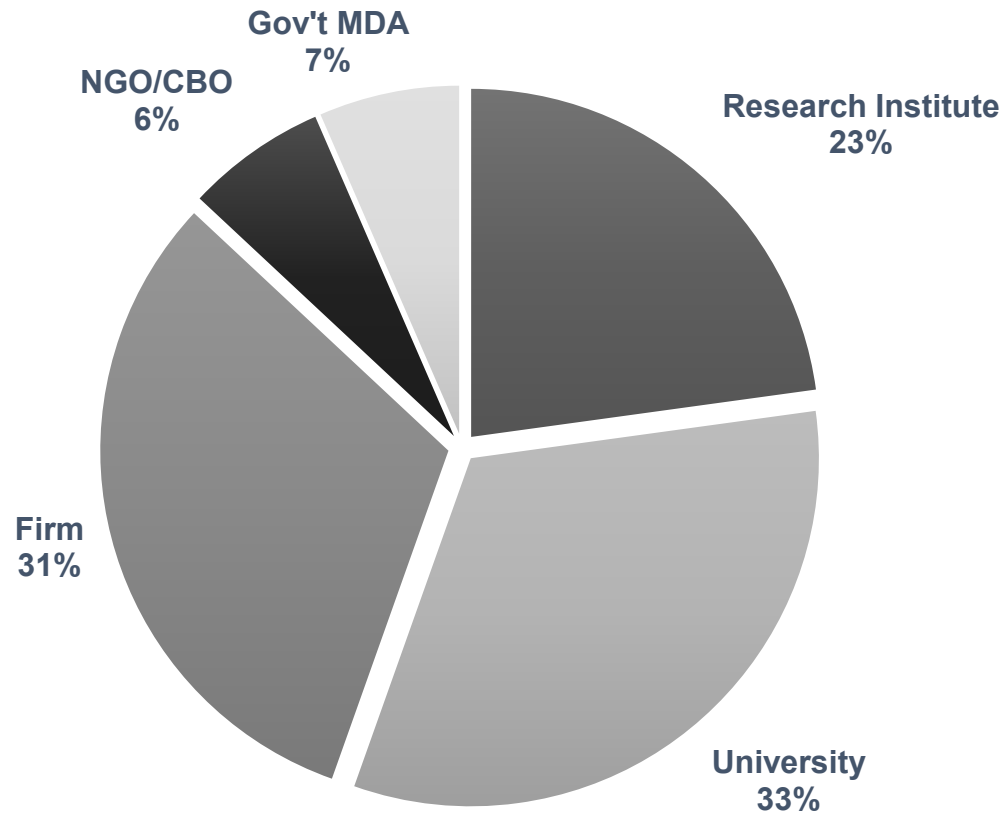


Figure 2: Organizational affiliation of BioInnovate Africa Partners



Value creation

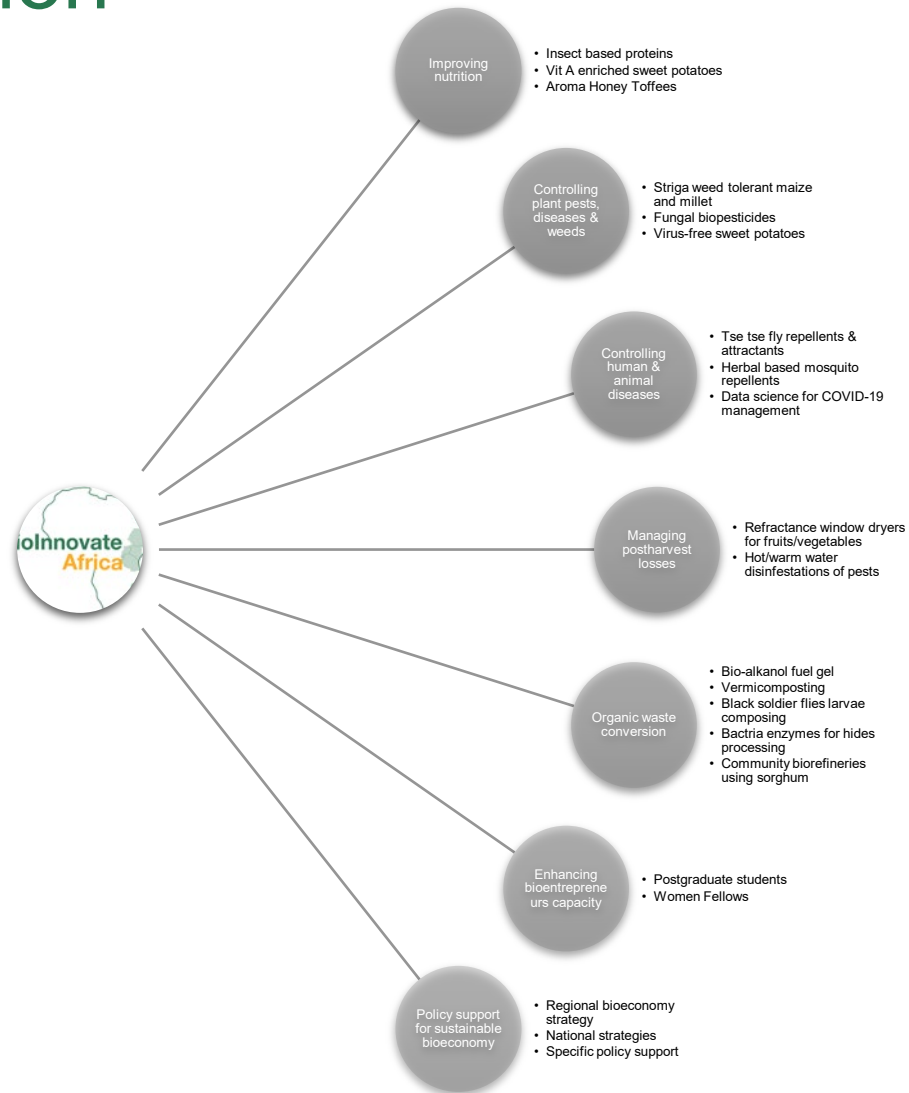


Figure 3: Innovative biological based products from BioInnovate Africa

Conclusion

The regional bioeconomy strategy for East Africa presents opportunities for:

- diversifying the economy, and linking smallholder farming communities to regional markets, creating jobs, increasing household incomes, and reducing poverty.
- developing national bioeconomy strategies
- regional integration and international collaboration in science, innovation and policy.



Thank you



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