

EXECUTIVE SUMMARY

The Workshop on Advancing Bioeconomy Development in Nairobi, Kenya, held on 28th January 2025 in Nairobi, convened over 80 private sector stakeholders, policymakers, researchers, and international partners to address the systemic challenges and opportunities in Kenya's bioeconomy. Organized by the Stockholm Environment Institute (SEI) in collaboration with the Kenya Private Sector Alliance (KEPSA) under the Advancing Bioeconomy Development in Kenya (ABDK) project, the workshop emphasized the role of Micro, Small, and Medium Enterprises (MSMEs) in driving sustainable economic growth through biobased sectors. The workshop's key objectives included advancing Kenya's bioeconomy by addressing private sector challenges, enhancing Micro-Small and Medium Enterprises (MSMEs) engagement through policy, finance, and technology, and fostering Sweden-Kenya partnerships for sustainable growth.

Kenya's Vision 2030 and its fourth Medium-Term Plan (2023–2027) prioritize the Bottom-Up Economic Transformation Agenda (BETA), targeting sectors like agriculture and MSMEs to achieve inclusive growth. The bioeconomy aligns with these goals by optimizing Kenya's 1.3 billion hectares of arable land, diverse ecosystems, and a workforce where 80% depend on agriculture. However, underutilization of bioresources remains only 10% of tea exports undergo domestic processing (vs. 50% in Uganda), 40% of agricultural produce is lost post-harvest, and 40% of biomass is discarded as waste. Kenya's bioeconomy transformation depends on harnessing its vast biological resources, empowering MSMEs as innovation drivers, and adopting Sweden's multi-stakeholder roadmap model to align policies, financing, and technology transfer. By prioritizing circular economy solutions, value-added bioprocessing, and cross-sector collaboration, Kenya can emerge as a regional hub for sustainable industrialization, advancing climate resilience, job creation, and equitable economic progress in line with Vision 2030 and the Sustainable Development Goals (SDGs).

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40%

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In linking Kenya's development agenda and priorities with the rich and advanced Swedish bioeconomy sector, the workshop was organized into three complementary and interactive sessions namely:

- A. Session 1:** Introduction Session which laid the background of the Bioeconomy project in Kenya and its focus on matching enterprises in Kenya and Sweden.
- B. Session 2:** Overview of Bioeconomy in African Context bringing in various bioeconomy related studies in Africa by SEI and partners such as the Bioinnovate Africa Programme and East African Science and Technology Commission (EASTECO) including the recently held The Global Bioeconomy Summit 2024 (GBS2024) which was hosted for the first time outside Europe in Nairobi, Kenya, and Session 3: Investment and Business Environment which mapped out various opportunities and barriers facing private bioeconomy MSMEs in Kenya.
- C. Session 3** involved working groups breakouts that focused on three issues (i) Food Systems (Agriculture, Livestock, Fisheries), (ii) Environment, Natural Resources and Waste Management, and (iii) Forestry and Bioenergy. The breakouts mapped existing bio-based enterprises, analyzed challenges for MSMEs (including fragmented policies, limited financing, and infrastructural gaps in technology and markets), and identified opportunities such as blended finance mechanisms, and technology transfer, leveraging Sweden's bioeconomy roadmap model to enhance Kenya's capacity in sustainable value chains and circular economy innovations.

The workshop concluded that Kenya possesses significant biological resources and a workforce heavily reliant on agriculture, positioning it as a leader in sustainable industrialization. However, there is a need to address the barriers through investments and policy harmonization which has a high potential of unlocking Kenya's MSMEs bioeconomy potential, as envisaged in the Country's Vision 2030 goals.

Collaboration with Sweden was noted to offer actionable pathways to accelerate progress. Sweden's bioeconomy model demonstrates the efficacy of road mapping and cross-sector partnerships. Moving forward, Kenya must prioritize multisectoral collaboration to integrate bioeconomy principles into its development agenda. This includes forming a Kenya Business Bioeconomy forum to align stakeholders, leveraging the National MSME Policy to channel funding into biobased startups, and partnering with institutions like Bioinnovate Africa to commercialize innovations



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INTRODUCTION

The Workshop on Advancing Bioeconomy Development in Kenya, held on 28th January 2025 in Nairobi, was organized by the Stockholm Environment Institute (SEI) and the Kenya Private Sector Alliance (KEPSA) under the Advancing Bioeconomy Development in Kenya (ABDK) project. This initiative is strategically aligned with Kenya Vision 2030's fourth Medium-Term Plan (2023–2027), which prioritizes the Bottom-Up Economic Transformation Agenda (BETA) pillars of Agriculture and Micro-Small and Medium Enterprises (MSMEs) to drive inclusive growth, job creation, and sustainability. The workshop convened over 80 private sector MSMEs spanning agriculture, forestry, fisheries, waste management, and bioenergy alongside policymakers, researchers, financiers, and international partners, to address systemic barriers and unlock opportunities in Kenya's bioeconomy.

The workshop's three core objectives guided discussions on:

- 1. Challenges and Opportunities for the bioeconomy in the private sector in Kenya:** Participants examined systemic barriers such as fragmented national/county policies, limited access to finance (e.g., high-risk perceptions deterring investments in ventures like Biogas International's fish waste-to-energy projects), and outdated agro-processing infrastructure. Opportunities centered on Kenya's potential to leverage MSMEs 7.4 million enterprises contributing 33% of GDP as catalysts for circular innovations (e.g., Safi Organics' biochar production) and value-added bioprocessing (e.g., crop residues to biofuels).
- 2. Micro-Small and Medium Enterprises (MSMEs) Empowerment:** Discussions dissected factors influencing MSME participation, including misaligned regulations (e.g., slow biotech approvals), gaps in blended financing (e.g., green bonds), and infrastructural deficits in cold storage and digital market linkages. Case studies like Sanergy's waste-to-fertilizer model demonstrated scalable solutions requiring policy and financial support.
- 3. Sweden-Kenya Linkages:** Sweden's Fossil Free Sverige initiative, which engaged 500+ stakeholders to achieve fossil-free competitiveness by 2045, provided actionable insights. Opportunities for collaboration included technology transfer in bioprocessing, certification frameworks for sustainable biomass, and co-creation of industrial roadmaps to align Kenya's policies with global market demands.

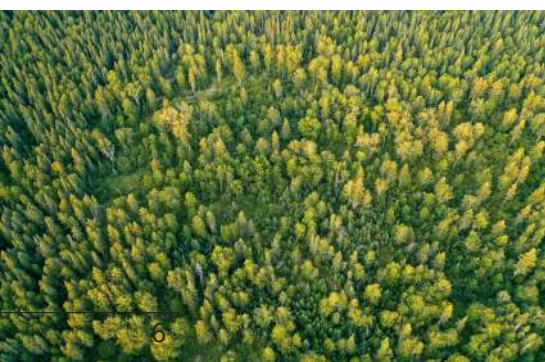
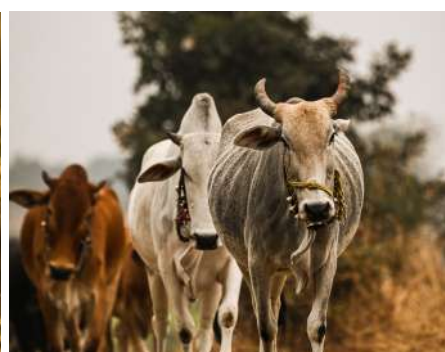
WORKSHOP SESSIONS AND DISCUSSIONS

The workshop was structured into different sessions, including sessions dedicated to working group discussion. Opening remarks set the stage, with representatives from the Stockholm Environment Institute (SEI) outlining the ABDK project's alignment with Kenya's Vision 2030 and its focus on bioeconomy-driven inclusive growth. Ms. Lisa Anderson from the Embassy of Sweden emphasized the transformative potential of cross-sector collaboration, while Dr. Jackson Kinyanjui of KEPISA underscored MSMEs' pivotal role in Kenya's bioeconomy, citing their 33% GDP contribution. A keynote presentation by BioInnovate Africa highlighted regional challenges, including underutilized bioresources and 40% post-harvest losses, while advocating for science-driven innovation.

This was followed by three focused working group discussions:

- 1. Food Systems (Agriculture, Livestock, Fisheries):** Explored value chain optimization, addressing Kenya's low domestic processing rates (e.g., 10% of tea exports) and strategies to reduce post-harvest losses through agro-processing innovations.
- 2. Environment, Natural Resources, and Waste:** Tackled circular economy opportunities, spotlighting enterprises like Takataka Solutions (95% waste recycling) and Safi Organics (biochar production), while addressing policy gaps in eco-levy enforcement and funding for biobased startups.
- 3. Forestry and Bioenergy:** Deliberated on sustainable energy solutions, including biogas projects like Biogas International's fish waste-to-energy systems, and community-led afforestation to curb deforestation.

Each group mapped sector-specific enterprises, analyzed challenges (policy fragmentation, financing gaps), and identified Sweden-Kenya collaboration pathways, such as adopting Sweden's roadmap methodology for fossil-free competitiveness. The sessions culminated in actionable recommendations to strengthen MSME participation, align policies, and scale biobased innovations, laying the groundwork for Kenya's \$2 trillion bioeconomy potential.



Session 1:

Introductions and Opening Remarks



Dr. Romanus Opiyo, Programme Leader for Sustainable Urbanization, shares a comprehensive overview of SEI.

Dr. Romanus Opiyo from Stockholm Environment Institute (SEI) introduced the session and stated the workshop objectives, output, and expected outcomes. He explained the mandate of SEI across the globe together with the new strategy 2025-2029 and three strategic focus areas, namely, climate transitions, nature and resources, and health and wellbeing.



Ms. Lisa Anderson delivers her remarks at the Workshop Opening Ceremony

Remarks by Lisa Anderson, Embassy of Sweden

Ms. Lisa Anderson from the Embassy of Sweden was impressed with the different actors who attended the workshop and highlighted the need for value addition and resource optimization for a sustainable environment and the creation of livelihood opportunities. Integrating bioeconomy strategies has enormous potential. It leads to sustainable job creation and promotes inclusive growth across many diverse actors. With diverse actors, private sectors, and research in combination with academic research, there is a good basis for advancing the bioeconomy in Kenya.



Remarks by Jackson Kinyanjui, Kenya Private Sector Alliance (KEPSA)

Dr. Jackson Kinyanjui, Kenya Private Sector Alliance (KEPSA), emphasized the importance of bioeconomy in creating business opportunities both locally and internationally. The bioeconomy is heavily reliant on agricultural, forestry, and aquatic resources, which form the backbone of the economy in Kenya. However, the country faces a significant challenge in fully tapping into these opportunities, with an exceptionally low level of bioprocessing and value addition in agricultural products. For instance, while Kenya is one of the world's largest exporters of tea, only 10% of this product undergoes value addition, compared to other countries such as Uganda, where more than 50% is processed domestically. This underdevelopment of value chains needs to address, as it holds the key to unlocking sustainable economic growth.

The private sector, as represented by KEPSA, plays a pivotal role in realizing the full potential of the bioeconomy. Through investment, innovation, and partnerships, the private sector can drive the necessary transformation in biobased industries. According to the World Economic Forum's 2024 Global Competitiveness Report, bioeconomy-related industries are expected to generate over \$2 trillion globally by 2030. Kenya, as an emerging economy, has an opportunity to tap into this market and contribute to the growing demand for sustainable and circular products. By investing in the bioeconomy, Kenyan businesses can drive innovation, strengthen our global competitiveness, and position Kenya as a leader in sustainable development.

The role of Micro, Small, and Medium Enterprises (MSMEs) in this sector cannot be overstated. MSMEs are the driving force behind innovation and value creation in Kenya's bioeconomy. With over 7.4 million MSMEs contributing 33% of Kenya's GDP and employing more than 80% of the working population, they are central to economic inclusion and job creation. However, to ensure their growth, there is an urgent need to provide MSMEs with access to technology, capital, markets, and enabling policies.

The National Policy on MSMEs, which outlines initiatives to increase MSME participation in key sectors, is a vital framework that we must support in the bioeconomy space. KEPSA remains committed to facilitating these crucial resources through strategic partnerships and policy advocacy. Today's workshop brings together key stakeholders, including private sector representatives, government policymakers, financiers, researchers, and innovators. Together, the workshop will engage in robust discussions on the challenges and

opportunities facing the bioeconomy, explore the role of MSMEs and identify ways to enhance their participation in the sector. In addition, the workshop will examine successful models from Sweden, where the bioeconomy contributes significantly to the economy. Sweden's bioeconomy, valued at over 8% of their GDP and 12% of their export turnover, provides valuable lessons on how to scale up bio-based industries and enhance market linkages between Kenya and global actors.

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Bioeconomy-related industries are expected to generate over **\$2 TRILLION** globally by 2030.

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Session 2:

Overview of bioeconomy in the African context.



*Ms. Shira Mukibi,
Bioinnovate Africa*

Presentation on BioInnovate Africa Programme

Ms. Shira Mukibi from Bioinnovate Africa presented the three main areas of interventions of advancing bioeconomy in Kenya; a) support the development of bioeconomy pathways in biobased sectors through collaboration between Kenyan and Swedish bioeconomy actors, b) generate evidence of business opportunities in biobased sectors targeting micro-small and medium enterprises and c) promote national and international policy engagement on bioeconomy.

It is estimated that Eastern Africa has a population exceeding 400 million people, with 58% residing in rural areas. The region's GDP stands at approximately US\$40 billion, with 33% of that amount originating from the agriculture sector. Additionally, over 60% of the economic activity occurs in the informal sector. The population heavily depends on agriculture and biological resources for food, fuel, housing, and medicine. Unfortunately, most of these bioresources are utilized in their raw form, leading to a significant 40% loss post-harvest, while another 40% of biomass is disposed of as biological waste. Furthermore, Agro-processing remains suboptimal due to challenges related to pests, diseases, the quality of inputs, market access, and environmentally polluting practices. As populations increase, more people live in cities and urban centers, and the demand for agricultural produce and value-added products (e.g., food, feed, energy, medicine, and other essentials like cosmetics, detergents, and industrial chemicals) from renewable bioresources will inevitably rise.

BioInnovate Africa's approach to the bioeconomy focuses on driving innovation through a regional, science-based strategy, connecting research and development in biological resources with market needs by facilitating collaborations between academia, industry, and government to develop sustainable biobased products and policies in Eastern Africa, primarily by funding projects, building capacity, and promoting policy development to foster a sustainable bioeconomy in the region. With a vision to foster a sustainable bioeconomy in Africa by enabling scientists to translate innovative biological research ideas, inventions, and technologies into practical applications that benefit society, essentially connecting scientific discoveries to the market and creating positive social impact; its mission is to support scientists in Eastern Africa to develop and commercialize impactful, biologically-based innovations through funding, policy development, and collaboration with industry and government partner.



*Dr. Philip Osano, SEI
Africa Centre Director*

Presentation on Bioeconomy Business Case for Africa

Dr. Philip Osano highlighted the importance of bioeconomy, which uses scientific knowledge to add social and economic value to biological resources in an environmentally sustainable way. Bioeconomy is seen as a growth pathway that reduces carbon emissions, preserves biodiversity, and creates jobs.

- » **Why a Bioeconomy?** Africa has a competitive advantage in developing a sustainable bioeconomy due to its abundant renewable biological resources and large arable land mass.

The business case for a bioeconomy in Africa includes economic stability, biodiversity richness, emerging biotechnology capacity, agricultural potential, and forward-looking bioeconomy policies.

- **Economic Stability:** Africa has the fundamentals for economic growth, with relative macroeconomic stability and increasing foreign investment. Diversifying sources of growth, including a bioeconomy, can help achieve higher growth rates.
- **Biodiversity Richness:** Africa’s rich biodiversity provides a solid foundation for developing a bioeconomy. Traditional knowledge associated with biodiversity offers leads for scientific discovery and validation.
- **Biotechnology Capacity:** Modern biotechnology, including recombinant DNA techniques, is finding niches in industrial manufacturing and crop improvement, contributing to food security and economic growth.
- **Agricultural Potential:** Agriculture provides the main feedstock for the bioeconomy. Africa’s arable land can support sustainable agricultural production and value addition through agro-processing.
- **Forward-looking Bioeconomy Policy:** Several African countries and regional economic blocs have developed bioeconomy strategies that focus on sustainability, climate change adaptation, and value addition.

Developing a bioeconomy in Africa can increase the economic and social value of biologically based goods and services, promoting economic diversification and participation in global value chains.



*Dr. Ivan Virgin - SEI's
Senior Research Fellow,*

Presentation on the pathways development for biobased sectors- lessons from the Swedish methodology by Fossilfritt Sverige

Dr. Ivan Virgin explained the importance of bioeconomy road mapping. By developing pathways for bioeconomy business partners can foster collaboration, innovation, and sustainable growth in the bioeconomy while aligning interests, visions, resources, and expertise among diverse stakeholders, including businesses, governments, and research institutions. This strategic approach encourages and attracts investment, reduces risks, and accelerates the adoption of upscaling technologies and business solutions for bio-based initiatives. Additionally, it articulates demand from policymakers regarding necessary regulations and standards, ultimately raising the profile of the sector and its products in the marketplace.

The Fossil Free Sweden initiative is a strategic effort aimed at achieving fossil-free competitiveness and supporting the nation's ambitious goal of zero net emissions by 2045. Launched in 2015, it has successfully brought together over 500 companies, municipalities, regions, and organizations to collectively strive for Sweden's position as one of the first fossil-free nations. In 2017, the initiative encouraged various industry sectors to voluntarily develop their own tailored roadmaps, outlining their commitment and strategies for transitioning to fossil-free operations, with the understanding that government support is crucial for this goal. These roadmaps facilitate a structured dialogue among sector actors, allowing them to articulate their roles in delivering sustainable solutions and suggesting necessary policy enhancements for a conducive environment. By fostering collaboration across diverse sectors, including steel, chemicals, forestry, agro-processing, and seafood, the initiative not only emphasizes profitability through sustainable practices but also addresses barriers and identifies business opportunities. As a result, key industries are pioneering innovations such as fossil-free steel production, utilization of biobased resources, efficient timber use, and the development of novel bioproducts, thereby bolstering their sustainability and economic competitiveness.

Session 3:

Group Breakout Discussions



During the afternoon session, a participant took the stage to present a portion of their group's collaborative work.

The working groups consisted of three main areas: Food System (including agriculture, livestock, and fisheries), Environment, Natural Resources and Waste, and Forestry and Bioenergy. Group discussions mainly focused on:

1. The existing bio-based enterprises along the value chain in different working groups
2. The challenges and opportunities for bioeconomy for the private sector in Kenya including factors that influence the participation of MSMEs in Bioeconomy including:
 - a. Policy, regulation, and standards
 - b. Finance and capital and markets.
 - c. infrastructure and technologies
3. Linkages opportunities between Sweden and the Kenyan private sector.



Working Group 1:

Food Systems (Agriculture, Livestock and Fisheries)

The food system comprises a diverse range of bio-based enterprises across agriculture, livestock, and fisheries sectors. The table below highlights key players and their roles in the value chain.

Mapping bio-based enterprises along with the food systems value chains

Agriculture
Farm Share Kenya Limited: Focuses on sustainable agricultural production.
Ololo Farm: Engages in organic farming practices.
Kamunju Coffee Farm: Specializes in coffee production.
Bromide Ventures Limited: A key player in agricultural innovation and farming solutions.
Chanay Agri Processors Ltd: Involved in agricultural processing and value addition.
MiriEliVenture Limited: Focuses on agribusiness development.
Rwathia Agro Farm: A diversified farm contributing to crop production.
Mwees Farm Enterprises Ltd: Specializes in vegetable farming and sustainable agricultural practices.
County Beekeeper Ltd: Promotes beekeeping and honey production.
Ranja Avocado Farm: Focuses on avocado cultivation for local and export markets.
Benta's Cereals: Engages in cereal production and distribution.
Yaseen Business Aggregators: Supports aggregation and distribution of agricultural produce.
Potato Republic: Specializes in potato farming and processing.

Livestock (categorized into four)

Category	Enterprise mapping
Feed product	Major players include Unga Limited, Bidco, and Joy Millers, supplying animal feed products
Processing & value addition	<ul style="list-style-type: none"> Kenya Meat Commission (KMC) and KENCHIC lead in meat processing. Various county-level slaughterhouses contribute to local meat processing. The National Beekeeping Institute supports honey production and processing
By-product utilization	<ul style="list-style-type: none"> Tanneries associated with KMC process leather. Joka Jok and Igullar specialize in leather bag production. Bata manufactures safari boots, utilizing local leather
Research & development	<ul style="list-style-type: none"> Kenya Agricultural and Livestock Research Organization (KALRO): Focuses on food crops, livestock, biotechnology, and climate-smart agriculture. Kenya Industrial Research and Development Institute (KIRDI): Innovates in food processing technologies. National Beekeeping Institute: Advances honey production and pollination technologies. Ministry of Agriculture, Livestock and Fisheries (MoALF)

Fisheries

Category	Enterprise mapping
Aquaculture	<ul style="list-style-type: none"> Fish hatcheries and breeding centers in Kiganjo, Homabay, and Siaya counties. Sagana Aquaculture leads fish farming practices.
Fish feed manufactures	<ul style="list-style-type: none"> Kamuthanga Fish Farm Jewlet Fish Farm
Fisheries biotechnology firms	<ul style="list-style-type: none"> Egerton University Aquaculture Centres Jaramogi Oginga Odinga University
Seaweed and Algae Cultivators	<ul style="list-style-type: none"> Kwale county Kilifi county Lamu county
Packing and distribution	<ul style="list-style-type: none"> Chilled packaging Vacuum-sealed packaging

Challenges and Opportunities for Bioeconomy in the Private Sector in Food Systems (Agriculture, Livestock and Fisheries)

The bioeconomy in Kenya represents an enormous potential for private sector growth, particularly for Micro, Small, and Medium Enterprises (MSMEs). However, several challenges and opportunities persist, which are significantly influenced by key factors such as policy, regulation, and standards; finance and capital markets; and infrastructure and technologies.

	Challenges:	Opportunities
Policy, Regulation, and Standards in agriculture, livestock, and fisheries:	<ul style="list-style-type: none"> • Lack of government sensitization and disconnection between policymakers and other actors. • Exploitation of farmers by brokers. • Inconsistent standards across different value chains in agriculture within a bio-based economy. • Inadequate deployment of regulations for bio-based produce • Low knowledge and enforcement of policies and standards in fisheries, livestock, and agriculture. • Difficulty differentiating between aquaculture and wild fishing practices for sustainable management. 	<ul style="list-style-type: none"> • Sustainable Feed Production – Development of climate-resilient, organic, and alternative livestock feeds, such as insect-based proteins and agro-waste utilization. • Biogas & Renewable Energy – Conversion of livestock waste into biogas and organic fertilizers, reducing reliance on fossil fuels while enhancing soil health. • Value-Added Livestock Products – Processing of dairy, meat, and hides into high-value organic and eco-friendly products. • Animal Health & Biotechnology – Use of probiotics, herbal treatments, and vaccines to reduce antibiotic dependency and improve livestock resilience. • Circular Economy & Waste Management – Recycling of farm residues into bio-based products like compost, biochar, and natural pesticides.
Finance and Capital and Markets in agriculture, livestock, and fisheries:	<ul style="list-style-type: none"> • Inadequate access to trade finance and markets. • Inadequate information on grant opportunities for bio-based enterprises. • Excess taxes imposed. • Logistics and transportation challenges. • Poor marketing strategies • Prohibitive costs of input, such as fish feeds. • Limited access to working capital for MSMEs 	<ul style="list-style-type: none"> • Export Market Potential – The UAE’s demand for meat products presents a high-value export opportunity for livestock farmers. By integrating sustainable bio economy practices such as organic feeds and ethical farming, farmers can differentiate their products, ensuring premium pricing and long-term market stability. • Co-operative Movements (SACCOs) for Sustainable Growth – Farmers can save and access affordable credit through SACCOs, reducing reliance on costly financing. This enables investments in biotechnologies, eco-friendly feed production, and improved animal husbandry, fostering a sustainable and circular bio economy. • Green Financing & Impact Investment – With the rise of climate-friendly financing, livestock farmers using eco-friendly practices (e.g., methane reduction, and regenerative grazing) can tap into sustainability-linked loans and grants to scale operations. • Value Addition & Diversification – Access to capital allows farmers to invest in bio-based processing industries, such as producing organic fertilizers from livestock waste, biogas for energy, and collagen-based products, enhancing economic returns while promoting waste-to-value approaches. • Grants and Government Support: Increased access to grants and public-private partnerships can scale sustainable operations.

<p>Infrastructure and Technologies in agriculture, livestock, and fisheries</p>	<ul style="list-style-type: none"> • Improper logistics and production capacity. • Competitive disadvantage of MSMEs compared to larger SMEs. • Lack of robust technology for SMEs and MSMEs 	<ul style="list-style-type: none"> • Kenya Agricultural & Livestock Research Organization (KALRO) – Through the Kenya Agricultural Observatory Platform (KAOP), livestock farmers can access real-time climate data, disease surveillance, and best farming practices, promoting sustainable livestock bioeconomy. • Innovative Feed Solutions: Investments in alternative protein sources (e.g., insect-based feeds) aim to meet growing feed demand while reducing environmental impact. • Technology Integration: Adoption of advanced tools for disease surveillance, feed optimization, and waste management enhances productivity across sectors.
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Opportunities of linkages between Sweden and the Kenyan Private Sector in food systems

Cooperation Area	Opportunities
<p>Co-operative Movement & Standardized Production:</p>	<ul style="list-style-type: none"> • Pooling resources for Co-operatives & SACCOS – Farmers can pool resources to invest in standardized livestock production, ensuring quality control, bulk purchasing of inputs, and collective bargaining for better market prices. • Certification & Quality Assurance – Standardized breeding, feeding, and processing practices can enhance the competitiveness of Kenyan livestock products in local and export markets in Sweden. • Standardized Production Practices-Collaborative efforts can focus on creating uniform production standards to ensure compliance with global consumer demands.
<p>Funding & Export Market:</p>	<ul style="list-style-type: none"> • Access to Affordable Funding – Strengthening cooperative-based financing models can help farmers access affordable loans for modern livestock farming, reducing reliance on high-interest bank loans. • UAE & Global Export Market/Opportunities – There is a growing demand for Kenyan meat products in the UAE and other international markets. By enhancing quality, compliance with export regulations, and investing in logistics, Kenyan farmers can scale up exports.
<p>Technology & Digital Innovations:</p>	<ul style="list-style-type: none"> • Smart farming solutions through the adoption of advanced livestock Data & Monitoring Systems – Platforms like KALRO and smart farming apps can improve livestock health monitoring, breeding efficiency, and disease management. • E-Commerce Platforms & Direct Market Linkages – Direct market linkages through digital platforms can eliminate brokers, allowing farmers to sell directly to processors, retailers, and export buyers. • Cold Chain & Meat Processing systems – Investment in cold storage and modern slaughterhouses can reduce post-harvest losses and increase value addition.

Learning & Exchange Opportunities (Kenya – Sweden Collaboration):	<ul style="list-style-type: none"> • Knowledge Exchange Programs – Kenya can benchmark with Sweden on sustainable livestock farming, cooperative models, and climate-smart innovations. • Joint Research & Training – Collaboration between Kenyan universities and Swedish institutions can drive research on improved breeding techniques, bio-waste utilization, and sustainable dairy/meat production. • Technology Transfer – The adoption of Swedish best practices in livestock management, processing, and farm automation can enhance Kenya’s livestock bioeconomy and improve efficiency. • Capacity Building-Mentorship programs, business coaching, and training initiatives can empower Kenyan MSMEs and SMEs to adopt sustainable practices.
Other Opportunities	<ul style="list-style-type: none"> • Partnerships & B2B Collaboration: Strengthened business-to-business (B2B) partnerships between Swedish and Kenyan firms can foster innovation in food systems. • Access to Capital for MSMEs/SMEs: Swedish financial institutions or investors could provide funding opportunities tailored to small-scale enterprises in Kenya’s bioeconomy sector. • Renewable Energy Integration: Joint projects on renewable energy solutions like solar-powered cold storage or biogas production could enhance energy efficiency across food systems. • Climate-Smart Agriculture Innovations: Knowledge sharing on climate-smart practices such as regenerative grazing or precision farming could boost resilience against climate change impacts.



Working Group 2:

Environment, Natural Resources and Waste

Enterprises in the environment, natural resources, and waste management

Company	Business Activity
SANERGY	Converts toilet waste into fertilizer and fuel, promoting sustainable sanitation solutions
PAKPRO Kenya	Manages the waste ecosystem for packaging materials (e.g., cartons, plastics) to drive circularity.
Mtaa Safi	Focuses on waste conversion and recycling
Shinners excellent	Collects and recycles organic waste, primarily from restaurants
Safe environment hub	Produces organic fertilizer from animal urine and food waste.
Takataka Solutions	Recycles up to 95% of collected waste, transforming organic waste into compost and plastics into pellets for manufacturers.
Safi Organics	Convert organic waste into biochar for agricultural use.
Tai Frontier	Provides waste management solutions
Bin2platter	Convert fruit waste into fruit jams, reducing food waste.
Eco-Bana	Produces biodegradable sanitary pads from banana fibers.
InsectPro	Uses Black Soldier Fly (BSF) larvae to convert organic waste into animal feed
Safaricom	Engages in renewable energy projects, tree planting, and waste management initiatives.
Biogas International	Pilots projects converting fish waste into energy.
Rural environmental outreach forum Kenya	Advocacy and training on climate change
Climate awareness defenders	climate awareness and advocacy.
Synergy Collaboration	Health and sanitation management
Sustain Energy Access Association Energy	Advocates on Renewable Energy

Action Aid-ECo-VISTA	Environmental
Stand Up and Shout	Environmental conservation and advocacy.
Northern Wolves	Involves in waste management
Green Aid	dedicated to environmental conservation and advocacy
Kesho Yetu initiative	Focuses on environmental awareness
Kenya Inter University Environmental Student Association	Environmental conservation and protection awareness (academicians)
Gigastream	Works on carbon-related issues
Solubag	Produces biodegradable non-woven bags
Sustainable Inclusive Business Kenya	Championing sustainability
Greece International Company-	Provides environmental management and consultancy services
Pearl Cleaning Services	Focuses on recycling

Challenges in the environment, natural resources, and waste management.

Inadequate Training	<ul style="list-style-type: none"> • Lack of proper training for waste management sector MSMEs on biobased packaging and eco-design
Financial Constraints	<ul style="list-style-type: none"> • Lack of funding, financing, or capital for waste sector/environment MSMEs • Budget and finance constraints • Limited linkages to funds/investors for new innovations
Lack of Government Support	<ul style="list-style-type: none"> • Insufficient incentives such as subsidies and waivers • Poor policy implementation and compliance (e.g., eco levy on waste products, KEBS standards) • Lack of domestication/localization of policies by counties
Awareness and Knowledge Gaps	<ul style="list-style-type: none"> • Limited public awareness and knowledge about environmental issues and solutions
Infrastructure and Resource Limitations	<ul style="list-style-type: none"> • Lack of necessary equipment to create eco-friendly products • Inadequate incubation hubs for biobased products
Research and Development Issues	<ul style="list-style-type: none"> • Insufficient research and development in the sector

Organizational Challenges	<ul style="list-style-type: none"> • Problems with organizational structure, management, and culture • Lack of leadership buy-in for environmental initiatives
Intellectual Property Concerns	<ul style="list-style-type: none"> • Lack of proper structures to protect intellectual property rights (e.g., patent rights, copyrights)
Market-Related Issues	<ul style="list-style-type: none"> • Lack of adequate secondary market for recycled or eco-friendly products • Poor perception of recycled products among consumers

Opportunities in the environment, natural resources, and waste management

Capacity Building and Awareness Creation	<ul style="list-style-type: none"> • Enhance knowledge and skills along the value chain to promote sustainable practices and environmental stewardship.
Support for Eco-friendly Initiatives	<ul style="list-style-type: none"> • Promotes the development of eco-design solutions, sustainable biobased packaging, and organic waste conversion projects to reduce environmental impact
Strategic Partnerships	<ul style="list-style-type: none"> • Create collaborative relationships among stakeholders, including government, private sector, NGOs, and academic institutions, to leverage resources and expertise.
Information Exchange Programs	<ul style="list-style-type: none"> • Establish platforms for sharing knowledge, best practices, and innovative ideas among industry players to drive continuous improvement and adaptation.



Working Group 3:

Forestry And Bioenergy

Existing Enterprises in Forestry	In Bioenergy
<ul style="list-style-type: none">• Horizon business venture -Focuses on non-timber forest products• Eco agribusiness -Focuses on fruit value addition.• Green for industries – Focuses on sustainable practices to limit environmental impact.• Nanyuki oils- a cooking oil company that also advocates sustainable agriculture and crop rotation.	<ul style="list-style-type: none">• Bidco-multinational consumer goods company• Mwea rice farm-rice producing.• Belovast energy-energy audit farm• Global environmental solutions- specializing in masonry waterproofing, fugitive dust control, and road base stabilization.• Afrisol Green Solutions Limited- a company that uses renewable energy, such as biogas, to help solve climate change, poverty, and health issues.• Delmonte- Well-known fruit processing and value-addition company.• koko-technology company for cooking fuel

Opportunities Of Linkages Between Sweden and Kenya in Forestry and Bioenergy.

Cooperation Area	Opportunities
Technology Transfer	<ul style="list-style-type: none"> • Energy efficiency audit systems • Energy monitoring systems • Greenhouse gas accounting systems • Remote sensing technologies for forest management
Financial Partnerships	<ul style="list-style-type: none"> • Collaboration with Swedish companies like biofuels firms and Ignite Sweden • Potential for a joint Kenya-Sweden bioeconomy fund
Capacity Building	<ul style="list-style-type: none"> • Forest community education on conservation importance and benefits • Training in the private sector on value addition in forestry products • Investment in early childhood curriculum to promote environmental awareness
Research and development.	<ul style="list-style-type: none"> • Bio-digestion for energy production • Waste-to-energy technologies. • Innovative uses of bio-waste, such as animal feed production
Knowledge Exchange	<ul style="list-style-type: none"> • Exchange programs between Swedish and Kenyan institutions • Fellowship programs for investors and researchers. • Bilateral agreements to facilitate knowledge-sharing
Sustainable Forestry Practices	<ul style="list-style-type: none"> • Lessons from Sweden's Successful Forest Management strategies • Adaptation of Swedish approaches to expand Kenya's forested areas
Bioenergy Development	<ul style="list-style-type: none"> • Collaboration on sustainable bioenergy projects, drawing from Swedish expertise. • Joint initiatives in biomass and biofuels sectors
Policy and Governance	<ul style="list-style-type: none"> • Knowledge sharing on effective forest governance models. • Collaboration on developing sustainable forestry policies

Challenges and Opportunities in Forestry and bioenergy

	Challenges:	Opportunities
Policy, Regulation, and Standards in agriculture, livestock, and fisheries:	<ul style="list-style-type: none"> • Government standardization bureaucracy • Expensive regulatory processes • Complex licensing procedures • Frequent changes in standards • Insufficient policy implementation at grassroots levels • No clear implementation pathways for national policies • Lack of designated implementing bodies • Weak coordination between national and county governments • Unclear management responsibilities for key forests (Mau, Kakamega) • Conflicting policies and roles among agencies for instance Kenya wildlife service KWS and Kenya Forest Service KFS on management and protection of natural resources. • Limited inter-agency communication • Insufficient stakeholder information. • Lack of policymaker sensitization about renewable energy and environmental conservation strategies. • Potential agency merger challenges • Lack of collaborative decision-making • Political bureaucracy hindering effective implementation. • Absence of comprehensive implementation strategies • Inadequate resource allocation • Political interference in environmental governance 	<ul style="list-style-type: none"> • Innovation that leads towards self-employment for bioeconomy projects i.e briquette making and energy savings jikos. • Trading carbon credits with off-takers who in return pay an amount with the carbon sinks, this can be tree planting, briquette making.

<p>Finance and Capital and Markets in agriculture, livestock, and fisheries:</p>	<ul style="list-style-type: none"> • Inadequate conservation financing from both national and county governments • Limited access to affordable long-term finance for environmental projects • Startups facing frequent rejections of funding requests. • Difficulties in accessing global markets for environmental products and services. • Existing energy cartels posing challenges for new entrants. • Limited carbon credit benefits reaching local communities. • Complex bureaucratic processes discouraging investment in the sector. • Lack of harmonized policies between various levels of government 	
<p>Infrastructure and Technologies in agriculture, livestock, and fisheries</p>	<ul style="list-style-type: none"> • Poor road access impeding forest management and fire response • Lack of proper fire extinguishing equipment in forested areas • Expensive infrastructure requirements for bioeconomy projects • Challenges in the construction and maintenance of refinery tanks • Shortage of qualified personnel to operate advanced systems • Limited capacity for technological adaptation and implementation • Inflexibility of available technological solutions • Inadequate research and development in environmental technologies • Insufficient integration of technology in environmental management practices 	

CONCLUSION

Kenya possesses significant biological resources and a workforce heavily reliant on agriculture, positioning it as a leader in sustainable industrialization. However, underutilization persists, with low domestic processing of tea exports and substantial post-harvest losses. While enterprises demonstrate scalable circular economy solutions, biomass waste remains high. MSMEs, key contributors to GDP and employment, face barriers in finance and technology. Addressing these gaps through investments and policy harmonization could unlock Kenya's bioeconomy potential, aligning with Vision 2030's goals.

The bioeconomy sector is struggling due to fragmented policies, weak enforcement, slow approvals, limited funding, and outdated infrastructure. However, its large arable land, biodiversity, and MSMEs present opportunities for sustainable industrialization. By partnering with Sweden, aligning with national plans, and empowering MSMEs, Kenya can tap into the global bioeconomy market, reduce emissions, and create jobs.

Collaboration with Sweden offers actionable pathways to accelerate progress. Sweden's bioeconomy model demonstrates the efficacy of road mapping and cross-sector partnerships. The Fossil Free Sverige initiative, engaging 500+ entities to achieve fossil-free competitiveness by 2045, provides a blueprint for Kenya to align policies, promote innovation, and scale biobased solutions such as fossil-free steel and agro-processing technologies. Key recommendations include adopting Sweden's roadmap methodology to co-create sector-specific strategies, establishing blended finance mechanisms, and launching capacity-building programs for MSMEs in circular design and bioentrepreneurship. These steps would address gaps in technology transfer, market access, and policy coherence while strengthening Kenya-Sweden linkages in waste-to-resource systems and certification frameworks.

Moving forward, Kenya must prioritize multisectoral collaboration to integrate bioeconomy principles into its development agenda. This includes forming a Kenya Business Bioeconomy forum to align stakeholders, leveraging the National MSME Policy to channel funding into biobased startups, and partnering with institutions like BioInnovate Africa to commercialize innovations. The workshop's report and inventory of biobased SMMEs offer a starting point for action, highlighting the need to convert discussions into tangible policies, investments, and inclusive growth.



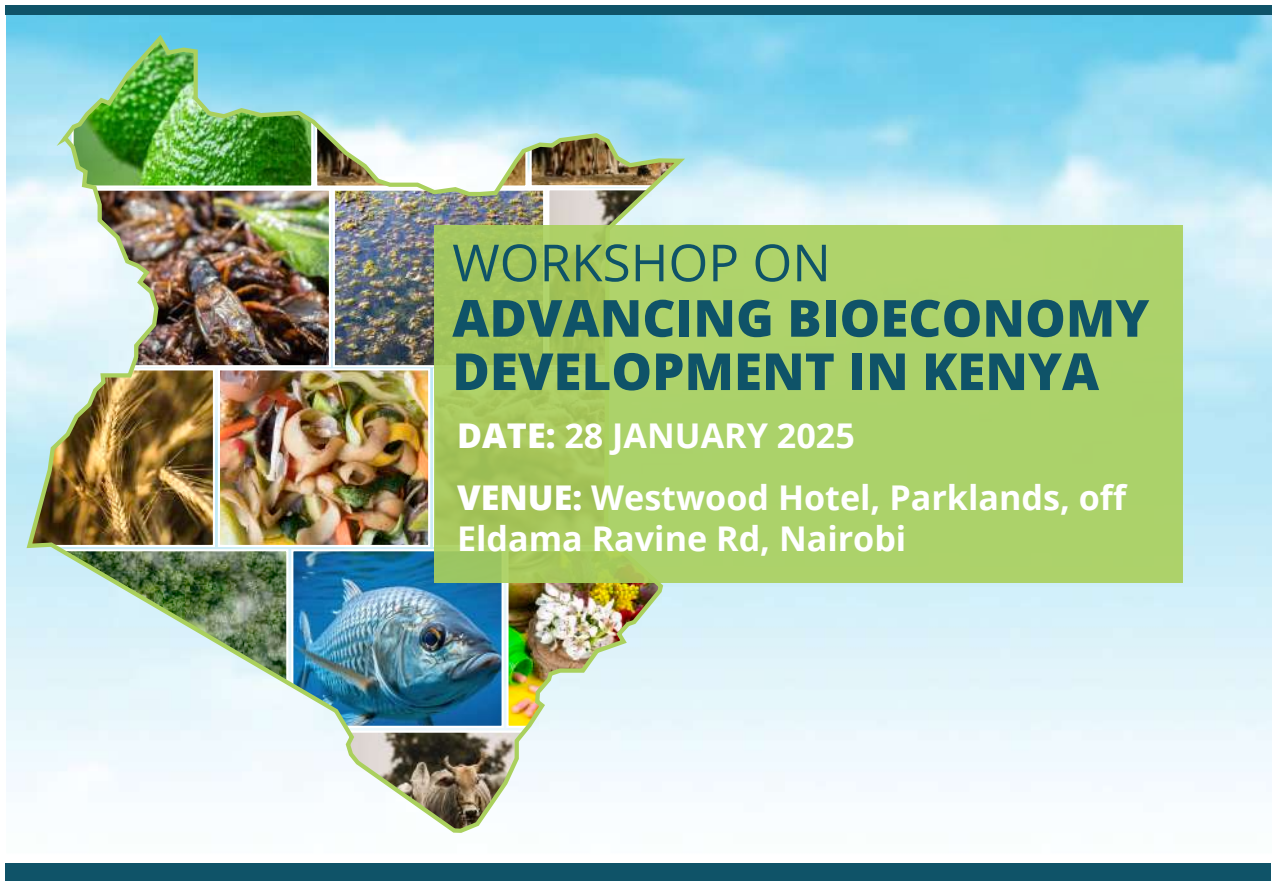
ANNEXTURES

ANNEX 1: LIST OF PARTICIPANTS

No.	Name	Organisation
1.	Lisa Anderson	Sida/Swedish Embassy, Nairobi
2.	Mary Mbenge	Sida/Swedish Embassy, Nairobi
3.	Philip Osano	Stockholm Environment Institute (SEI)
4.	Romanus Opiyo	Stockholm Environment Institute (SEI)
5.	Alphayo Lutta	Stockholm Environment Institute (SEI)
6.	Ivar Virgin	Stockholm Environment Institute (SEI)
7.	Jamila Ahmed	Stockholm Environment Institute (SEI)
8.	Shira Mukiibi	icipa /Bioinnovate Africa
9.	Jackson Koimbori	Kenya Private Sector Alliance (KEPSA)
10.	Joseph Ojiambo	Kenya Private Sector Alliance (KEPSA)
11.	Peris Kigumo	Kenya Private Sector Alliance (KEPSA)
12.	Melon Nekesa	Kenya Private Sector Alliance (KEPSA)
13.	Levi M Insendi	Kenya Private Sector Alliance (KEPSA)
14.	Jesse Johnson	Kenya Private Sector Alliance (KEPSA)
15.	Ferdinand Musungu	Kenya Private Sector Alliance (KEPSA)
16.	Sara Bonilla	WorldFish
17.	Eugene Dwiga	Farm Share k ltd
18.	Carolyne Nyambura	Carolyne Entreprises
19.	Martin Mugambi	Bromide Ventures ltd
20.	Lawrence Rapondo	Shiners Excellent Florist
21.	Njau Eunice	Eden Climate Centre
22.	William Ojomo	Peloccer
23.	Peter Oyango	Kaala Muno Integrated Dairy Farm
24.	Hillary Omondi	Youth Plus
25.	Janipher Otieno	Therapeutic Hands Management ltd
26.	Bonfas Otieno	Kesho Yetu Initiative
27.	Job Kasambyo	Packaging Producer Responsibility Organisation
28.	Geoffrey Oduro	County Centre for Climate Change
29.	Nancy Dalla	Tech Lishe Entreprises
30.	Gideon Kalii	SOCAA
31.	Miriam Eliane	Mirieli Ventures LTD
32.	Joseph Mutunga Mutisya	The Youth Cafe
33.	Wanja Nyaga	Chanay Agriprocessors
34.	Mary Waithera	The Fountain Woman Initiative
35.	Bernard Odongo	Belovast Energy Limited
36.	Joseph Kamau Gitigi	Rwathia Agrofarm
37.	Brian Andango	Gols FT
38.	Nungari Ndehu Caroline	Kamuyoo Coffee Fram
39.	Kevin Makokha	Aces Africa

40.	Dannis Omondi	Greenco International co.
41.	Benson Mukuru	Cadimax Limited
42.	Maina Nahashon	Sustainable Inclusive Business
43.	Flaren Otieno	ABS Bio Trade-GIZ
44.	Rufus Karanja	Renegerge LPG project
45.	Mary Wangechi	Entrepreneur/Farmer
46.	Mark Mwendwa Muia	Global Envtrail Solutions ltd
47.	Damaryce Ndira	Go Beyond ltd
48.	Wycliffe Ondieki	State Department for Blue Economy & Fisheries
49.	Irene K. Mumo	True ways Entrepreneurs ltd
50.	Sarah Wairimu	Mesarah Limited
51.	Johnson Mboya	GCCHAK
52.	Denish Omindi	GCK
53.	Mwiti Kitson	County Beekeeper Ltd
54.	Grace Musyimi	Sanergy Collaborative
55.	Jane Ochieng	Investor
56.	Nibitigeka Diendmine	Bishers Owner
57.	Justus Lokapel	Northen Wolves
58.	Emmanuel Busera	Kenya Peasants Leaque
59.	Kennedy Baroka	Orion Publishers
60.	Caroline Marangu	Zajah Enterprise
61.	Esther Macharia	Ammar Sacco
62.	Patrick Mwangi	Aquarius Media
63.	Beatrice Muema	Woodlands Kiti Honey
64.	Naftali Mutahi Njege	H.B. V
65.	Samwel Ongonga Odhiambo	Climate Awareness Defenders
66.	Christine Muraimo	Green Aid org.
67.	Jevick Ochieng	Investor
68.	Alice Wanjiru	Self Help group
69.	Lucy Njeri	Self Help group
70.	Nduta Karanja	Happy Valley Foods
71.	Chripine Njega	GCF
72.	Alice Otieno	DFA
73.	Linda Abayo	Coinage
74.	Brian Andago	Coinage
75.	Judy Wanja Mwangi	Uwezo Fund Oversight Board
76.	Leah Atieno Otieno	Eco Vista
77.	Felicity Mwendwa	Mwees Farm Entreprises ltd
78.	Lilian Omwange Moroka	Bentaas Cereals
79.	Yassin Hassan Sheriff	Sole Hub
80.	Eunice Wanja Ngui	Ololo Farm
81.	Victor Maundu Muvya	Coca Cola Beverages Kenya Ltd.
82.	Kelvin Muthomi Kainya	Mudfish Tastes
83.	Kelvin Munyi	Adberg Technologies

ANNEX 2: WORKSHOP PROGRAM



Time	Activity
0830-0900hrs	Registration of Participants
0900-0945hrs	<p>SESSION 1: WELCOME AND INTRODUCTIONS</p> <p>Moderator: Dr. Romanus Opiyo, SEI Africa</p> <p>Welcome Statements</p> <ul style="list-style-type: none"> • Introduction of participants and workshop objectives • Welcome remarks from the Stockholm Environment Institute (SEI) • Welcome Remarks from the Swedish Embassy/Sida Kenya <p>Official Opening Statement</p> <ul style="list-style-type: none"> • Chief Executive Officer (CEO), Kenya Private Sector Alliance (KEPSA)

0945-1015hrs	<p>SESSION 2: OVERVIEW OF BIOECONOMY IN AFRICAN CONTEXT</p> <p>Moderator: Dr. Alphayo Lutta, SEI Africa</p> <p>Background Presentations</p> <p>Advancing Bioeconomy in Africa through BioInnovate Africa Programme</p> <ul style="list-style-type: none"> • Dr. Julius Ecuru, Manager, BioInnovate Africa at ICIPE - International Centre of Insect Physiology and Ecology <p>Making the business case for a bioeconomy in Africa</p> <ul style="list-style-type: none"> • Dr. Philip Osano, Stockholm Environment Institute (SEI) Africa Center Director
1015-1045hrs	GROUP PHOTO AND HEALTH BREAK
1045 -1245hrs	<p>SESSION 3: INVESTMENT AND BUSINESS ENVIRONMENT</p> <p>Moderator: Dr. Jackson Kinyanjui, Kenya Private Sector Alliance (KEPSA)</p> <p>The World Café Breakout sessions will focus on three key factors that influence SMMEs participation in Bioeconomy: (1) Policy, Regulation and Standards; (2) Finance and Capital; and (3) Markets, Infrastructure and Technologies</p> <ul style="list-style-type: none"> • Group 1: Food System (Agriculture, Livestock and Fisheries) • Group 2: Environment, Natural Resources and Waste • Group 3: Forestry and Bioenergy
1245-1400hrs	LUNCH BREAK
1400-1530hrs	<p>SESSION 3: INVESTMENT AND BUSINESS ENVIRONMENT (CONT'D)</p> <p>Moderator: Dr. Jackson Kinyanjui, Kenya Private Sector Alliance (KEPSA)</p> <p>Plenary Presentations and Discussions</p> <ul style="list-style-type: none"> • Group 1: Food System (Agriculture, Livestock and Fisheries) • Group 2: Environment, Natural Resources and Waste • Group 3: Forestry and Bioenergy
1530 -1545hrs	<p>SESSION 4: LESSONS FROM SWEDEN ON BIOECONOMY</p> <p>Moderator: Dr. Philip Osano, SEI Africa</p> <p>Pathway Development for Biobased Sectors – Lessons from the Swedish methodology by Fossilfritt Sverige</p> <ul style="list-style-type: none"> • Dr. Ivar Virgin, Stockholm Environment Institute (SEI)
1545 -1600hrs	<p>CLOSING SESSION</p> <ul style="list-style-type: none"> • Closing Statements and next steps

ANNEX 3: WORKSHOP CONCEPT NOTE



CONCEPT NOTE



BACKGROUND

The Kenya Vision 2030 aims to transform Kenya into, “a newly-industrializing, middle-income country providing a high quality of life to all its citizens in a clean and secure environment”. The Vision 2030 fourth Medium Term Plan (MTP) 2023-2027 themed “Bottom-Up Economic Transformation Agenda (BETA) for Inclusive Growth” seeks to promote targeted investments in five (5) BETA pillars, namely Agriculture; Micro-Small and Medium Enterprises (MSMEs) Economy; Housing and Settlement; Healthcare; and Digital Superhighway and Creative Economy, to be implemented through Finance and Production; Infrastructure; Social; Environment and Natural Resources; and Governance and Public Administration sectors.

Kenya has a strong commitment to sustainability, and has developed several policies, laws and programmes to promote a low carbon development pathway by reducing emission of greenhouse gases (GHGs), control pollution, conserve biodiversity and improve waste management. These include the Green Economy Strategy and Implementation Plan (2016-2030), the Draft National Green Fiscal Incentives Policy Framework, the Draft Kenya National Biodiversity Strategy and Action Plan (2019-2030), the National Climate Change Action Plan (2023-2027), the National Forest Policy, and the National Sustainable Waste Management Policy.

The bioeconomy, adding value and optimizing use of bioresources is increasingly seen as a key enabler to sustainability challenges across various sectors and dimensions of society. Biobased resources, such as agricultural, forestry, marine and aquatic resources form the backbone of economies in eastern Africa, including Kenya. However, the very low degree of bioprocessing and value addition to agricultural, forestry or aquatic primary produce and biowaste makes it difficult for the country to use its bioresources as an engine for economic growth, including achieving the objectives of the Kenya Vision 2030. Encouragingly there is an increasing number of Micro-Small and Medium Enterprises (MSMEs) and community driven value addition initiatives engaged in bioeconomy development in the region, that are already creating employment and livelihood opportunities hence promoting inclusive economic growth

Additionally, SMMEs are also often pioneers and promoters of innovations in the bioeconomy which is a knowledge intensive industry. To thrive and develop SMMEs need access to technology, know-how, capital and markets. The Draft Science, Technology and Innovation (STI) policy 2020-2030 provides a framework for technological growth to support bioeconomy development in Kenya, thus enabling the integration of MSMEs in the biobased sectors into national, regional and global trade networks.

The Stockholm Environment Institute (SEI) is implementing a project on *Advancing Bioeconomy Development in Kenya* (ABDK), that is based on three interventions: (1) Support the development of Bioeconomy pathways for different biobased sectors through collaboration between Kenyan and Swedish Bioeconomy actors; (2) Generate evidence of business opportunities in Biobased sectors targeting Micro-Small and Medium Enterprises (MSMEs); and (3) Promote national and international policy engagement on Bioeconomy.

The ABDK project will contribute towards the achievement of three objectives of the Kenya Vision 2030 fourth Medium Term Plan (MTP IV) 2023-2027, namely (1) Eradicating hunger (zero hunger); (2) Creating on average 1.2 million new jobs annually; and (3) Achieving inclusive growth (leaving no one behind). In doing so, the project focuses on two BETA pillars of Agriculture and Micro-Small and Medium Enterprises (MSMEs) Economy. Additionally, the project also contributes directly towards the realization of some of the sustainability policy priorities of the Kenya government on climate change, biodiversity and pollution and waste management.

This project also seeks to promote partnerships between Kenya and Sweden private sectors. In Sweden, bioeconomy is estimated to account for more than eight percent of Sweden's total value added, and some 12 percent of the total turnover, and more than 20 percent of the total export value. The growing bioeconomy contribute to the industry's long-term competitiveness and export opportunities, as well as to sustainable growth and employment. As such, the project will involve a set of activities that could support a more effective and active partnership building between Kenyan and Swedish bioeconomy actors through knowledge and technology exchange, and co-creation of win-win innovation processes, platforms and business models bringing together Swedish actors and their MSME counterparts in Kenya. This will allow for exchange of ideas, build trust and co-create potential business concepts which are of interest to all partners.

The workshop will draw upon some of the knowledge and evidence generated on bioeconomy from the research and studies undertaken by SEI and partners covering biobased sectors and agricultural value chains, including staples (cassava), fruits (mangoes, avocado), export commodities (coffee), livestock (fodder, dairy), and fisheries, among others (**see section on publications**).



WORKSHOP OBJECTIVES

As part of the on project on *Advancing Bioeconomy Development in Kenya* (ABDK), SEI and the Kenya Private Sector Alliance (KEPSA) have organized a workshop to bringing together private sector to explore ways of strengthening investments in biobased sectors in Kenya.

The Objectives of the Workshop include;

1. To discuss the challenges and opportunities for bioeconomy for the private sector in Kenya
2. To review the key factors that influence the participation of Micro-Small and Medium Enterprises (MSMEs) in Bioeconomy, including Policy, Regulation and Standards; Finance and Capital; and Markets, Infrastructure and Technologies.
3. To share lessons from Sweden on the development of Bioeconomy pathway and explore opportunities of linkages with the Kenyan private sector

WORKSHOP OUTPUTS AND OUTCOMES

The key outputs from the workshop will include

1. Synthesis Report of the Workshop proceedings including gaps and opportunities informing bioeconomy value chains and market linkages potentiality in Kenya.
2. Inventory of Kenyan biobased Small, Micro, and Medium Enterprises (SMMEs)

The Outcomes will include.

1. Formation of Kenya Business Bioeconomy Working Group
2. Knowledge of the Swedish Model for Bioeconomy pathway development (methodology by Fossilfritt Sverige)

PARTICIPATION

The participants at the workshop will include private sector entrepreneurs and businesses working the biobased sectors, policy makers in Government, researcher and innovators, finance institutions and representatives from international organizations.

ORGANISERS

The Stockholm Environment Institute (SEI) Africa Center

The Kenya Private Sector Alliance (KEPSA)



Relevant Background Publications on Bioeconomy

Focus	Publication	Link
Bioeconomy	The state of the bioeconomy in Eastern Africa: 2024	https://www.sei.org/publications/state-of-the-bioeconomy-in-eastern-africa-2024
	The state of the bioeconomy in Eastern Africa: 2022	https://www.sei.org/publications/state-of-the-bioeconomy-in-eastern-africa-2022/
	Making the business case for a bioeconomy in Africa (Featured Issue in the 2024 Annual Trends and Outlook Report)	https://www.resakss.org/node/6907
Cassava	Transnational innovation systems for bioeconomy: insights from cassava value chains in East Africa	https://www.sei.org/publications/transnational-innovation-systems-for-bioeconomy-insights-from-cassava-value-chains-in-east-africa/
Avocado	Challenges and opportunities for upgrading the avocado value chain in East Africa	https://www.sei.org/publications/avocado-value-chain-east-africa/
Coffee	Handbook on sustainable consumption and production practices for entrepreneurs in the coffee value chain	Available upon request (in Swahili and English)
	Improving Kenya's coffee value chain: integration of sustainable consumption and production practices	https://www.sei.org/publications/kenya-coffee-value-chain-reform/
	Climate-smart coffee production in the East African Community and export opportunities to the EU	https://www.sei.org/publications/coffee-eac-eu-export/
Livestock (Dairy)	Sustainable Consumption and Production Practices for Dairy: A Handbook	Available upon request (in Swahili and English)
	Transforming Kenya's dairy industry through sustainable consumption and production practices	https://www.sei.org/wp-content/uploads/2022/09/kenyas-dairy-sub-sector-sei2022.028.pdf
Mango	Handbook on sustainable consumption and production (SCP) practices for entrepreneurs in the mango value chain	Available upon request (in Swahili and English)
	Boosting technology uptake: some ideas for improving small-scale mango farming in Kenya	https://www.sei.org/publications/boosting-technology-mango-farming/
Croton	Emerging bioeconomy opportunities in Africa: A case study of <i>Croton megalocarpus</i> Hutch in Kenya	https://www.sei.org/publications/bioeconomy-africa-croton-megalocarpus-hutch-kenya/
Fisheries	Examining the impacts of climate change on the livelihoods of fisher communities in the Lake Victoria zone region through a gender lens	https://cgspace.cgiar.org/server/api/core/bitstreams/a70c65c0-1a5e-4b0f-aa53-f3a0b90fb6ee/content
Multiple value chains	Building climate-resilient value chains in arid and semi-arid regions: a VC-ARID approach for rangeland adaptation in Kenya (focus on: Gums and Resins; Aloe; Mango; Livestock; Honey; indigenous Poultry; and Beadwork)	https://link.springer.com/article/10.1007/s10668-024-05229-6
Organic Waste	Setting the stage for the circular economy: Waste resource recovery opportunities in Naivasha, Kenya	https://www.sei.org/wp-content/uploads/2020/09/2020-sei-naivasha-waste-inventory.pdf

