National Cassava Conference & Expo 2023

CONNECTING BUSINESSES

NCCE 2023

Summary Report

24th - 26th October 2023

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1. Introduction

The National Cassava Conference & Expo 2023 kicked off with a spirit of enthusiasm and collaboration, bringing together industry experts, researchers, farmers, policymakers, and stakeholders. The day was marked by insightful discussions, knowledge exchange, and interactive sessions focused on enhancing the cassava industry.

2. Key Study Findings

Key Theme	Main Discussion Points	Action Points
ITEM 1: Cassava Seed Systems	Introduction of superior varieties to diseases (CMD and CBSD)-IITA, TARI, TOSCI	Introduce disease-resistant systems and certification systems Research of New Varieties released in collaboration with KALRO, SelfHelp Africa and MEDA On-farm and on-station participatory evaluation trials set up in selected farms–Trials of TZ130, Mkumba, KBH2016B504 National performance trials of the most promising varieties, for official release and distribution evaluate efficacy of Cassava cuttings dipping in insecticides for control of cassava whiteflies/ Pests and Viruses in Kenya Technology Transfer Strengthening virus testing and inspection caapcity; TOSCI capacity development includes: Real time PCR, decentralized LAMP, 130 gazetted authorised seed inspectors (ASIs)
	Piloting a commercially sustainable Cassava seed deployment model-MMB, MEDA, TARI	Develop business model for all seeds classes; CSEs recruitment and seed production; structure to support the seed system; validation of the certification system.
	Building an economically sustainable seed system for cassava	Enabling farmers to access and adopt superior disease-resistant varieties (Superior variety) Government institutions providing an environment for scaling delivery of quality assured seeds. Advocacy and Mainstreaming

		Delivering healthy seed through Entrepreneurs
	Developing a Seed system supporting structures	Develop associations and partnerships such as SACCOS, financial sectors, coordinating with CSEs registration with TOSCI
	Increase in different of varieties in the various zones	Use of Seed production technology improved such as SAH technology, open field, nodes cutting petiole bud technology; Quality of seed assured throughout–Through Cassava seed inspection and certification protocol
	Scaling of the Best cassava model to other geographies	Developing strategic models such as the VICRA project in Kenya
	Developing a National Cassava development strategy	Including cassava seed system promoting the best Cassava model that supports the Use of the certified cassava seed is promoted by the government; the government recognizes CSEs; Best Cassava project is acknowledged for the support to the Government in production is the 1st education of the National development strategy.
	Building an economically sustainable and integrated cassava seed system	Ensuring the integration of breeding and seed system activities–High demand and new varieties developed go into the seed system; EGS seed production; Multiplication technologies; ESG seed production; Cassava Seed Entrepreneurs (CSEs) –set up network of trained commercial seed producers and promote the sale of quality seeds of improved varieties; Processor-Led Model to establish a system of large and medium-scale processors; Quality control and Disease management developed for all seed classes; Catalyzing, scaling and replication through partners.

ITEM 2: Production & Market Systems	Multi-location evaluation of elite cassava varieties in Dual resistance to cassava mosaic and cassava brown streak diseases in Kenya	National breeding programmes should develop resilient and adapted varieties but with no specific and wide testing beyond national geographies. For sustainable mitigation and adaptation–measures to identify, characterize and preserve cassava with dual resistance to CBSD and CMD are necessary multi-environment evaluation of elite cultivators that posses agronomic and morphological traits reducing the incidence and severity of the two diseases (CBSD & CMD)
	Direct Market Players	The impact of market system approaches can achieve significant scale through positive systemic change, thus helping the poor to access services, generate jobs and income and reduce poverty.
	Supporting suppliers of goods and services	Small-scale farmers and private seed companies are brought together and agree on appropriate seed packs–private seed companies can repackage in small-quality seed mini-packets sold profitably but at affordable rates;
	Entities that influence the Cassava business environment.	Recognize approach projects take longer to emerge compared with projects that provide more direct support to target groups.
	Small Scale farmers act in the market system as laborers, producers and entrepreneurs, and their livelihoods depend on the market system Small Scale Farmers are excluded from benefiting from the market.	Market systems facilitate learning processes among all actors
	Market systems that many actors are affecting the core function of goods and services;	Market systems facilitate learning processes among all actors;

	Cassava is not part of the priority value chains for the government. The ministry of Agriculture and Livestock Development argues this was an oversight.	Inclusion of cassava as a priority value chain to enhance its production to meet the growing demand and support to different initiatives such as Roots and Tiber strategy, the Flour Blending initiative and the Flour blending standards.
ITEM 3: Policy & Regulatory Environment	Cassava Products Standards such as: KS EAS 776: 2012 Production and handlings of fresh Cassava -Code of practice EAS 1101:2022 Cassava Seed-requirement for certification	Facilitate trade and access Markets by harmonization of cassava standards across the EAC region, Certification of products in one country allows easily tradable across the borders
	Flour blending standards E.g KNWA 2839-1: 2018 Blended Flour–specification (Part 1: Maize and Cassava Blend) KNWA 2839-2: 2018 Blended Flour–specification (Patr 2: Maize and sorghum blend)	In consultation with the Authority and the county government shall determine and issue a gazette notice on the proportions of the total blended or composite flour to be milled and marketed in Kenya
	Flour Blending Regulation–The (Draft) Crops (Blended and Composite Flours) Regulation, 2022	Finalization of the outstanding stages– Finalization of legal drafting, National Validation, Gazettement of the flour blending regulation draft
	Vegetatively Propagated Crops-Seed Protocol	Implement Certification controls Virus and promoting sustainable seed trade Perfecting Rapid propagation Techniques through practices such as standard TC to screenhouse propagation Policy Support: Advocate for policies that support investment in cassava post-harvest technologies.

3. Conclusion and Recommendations

Conclusion

The first day of the conference concluded with a sense of accomplishment and optimism. Participants, including experts, policymakers, and farmers, shared invaluable knowledge and experiences, setting the stage for further collaboration and growth within the cassava industry and shaping a dynamic narrative for the future of cassava production. The day's discussions highlighted the industry's potential and underscored the shared commitment to its sustainable development. The day was marked by profound insights and engaging discussions, underscoring the significance of key themes that form the backbone of the cassava industry.

Recommendations

Quality seed systems are an integral part of all cassava value chains, contributing to an; Increase in Cassava production; Decreasing cost production and increasing profitability; Preventing the spread of diseases and pests; Improving the quality of the produced food and products; Encouraging investment (essential element of the business).

The Cassava seed system is an important component of the value chain. The seed system required synchronized collaboration between different actors. All the parameters of the seed system namely; Variety development, seed production and seed distribution, should be managed in a way that ensures sustainability

Characteristics of the Cassava seed system in order to ensure farmers have access to quality seed through a seed system need to be functional and sustainable.

Cassava seed systems must include mainly three interlinked activities; 1) variety improvement–Involve variety development, testing, release, and promotion 2) Seed production–Involve seed multiplication in required quantity and quality 3) seed delivery–Involve seed packaging, transportation, storage and distribution.

On production and market systems: Provides insight into the performance of best-bet clones for CBSD and CMD dual resistance as well as agronomic traits in regional testing and adaptation, and Genotypes should be recommended for wonder use in the region to boost production and productivity on farmer's fields.

Inclusion of cassava as a priority value chain to enhance its production to meet the growing demand and support to different initiatives such as Roots and Tiber strategy, the Flour Blending initiative and the Flour blending standards.

Programmes using a market system development approach can achieve significant scale through positive systematic change and thus help poor or small-scale farmers generate jobs income and reduce poverty.

A Market System Development (MSD) approach requires system actors to adopt and implement new practices based on incentives from within the system, however, this takes more time than a direct approach, but the impact is more likely sustainable and at a greater scale.

4. Introduction_Day 2

The objective of this session was to bring the discussion from Policies to Practice and to reflect on a comprehensive approach to cassava cultivation, considering various aspects from pre-planting to post-harvest stages. Sessions addressing these topics can significantly contribute to the advancement of cassava agriculture by disseminating knowledge, promoting innovation, and ensuring sustainable practices. Embarking on a transformative journey, exploring pivotal themes that are reshaping the cassava industry and propelling it towards a future of sustainability, growth, and prosperity.

5. Key Study Findings

Key Theme	Main Discussion Points	Action Points
ITEM 1: Best Practices Dissemination, Learning, and Scaling up: Can a systems Approach to sustainable small-holder cassava whole VC in Kenya Address the demand Gap, Catalyze Commercialization, Job Creation, and Overall Food Security	Leveraging System Approach for Sustainable Value Chain Development	The system approach is a means of thinking about and explaining the factors and interrelationships that affect the system and behaviour. The consequence is that everything is interrelated: changing one component of the system will affect the entire system, and unintended effects will befall every area and action. Avoid hasty and simple fixes.
	Lesson Learned Cassava Value Chain development	creation of a seed system Business development Growth of the market system
	Lessons from the Development of the Sweet Potato Value Chain	IFAD-funded integrated farming systems for smallholder farmers in East Africa, which are being implemented in Kenya, Tanzania, and Burundi. This supports the development of sweet potato value chain.

	Lessons Learned from Tissue Culture Banana Value Chain Development	Commercialization of TC Banana Scaling up the benefits of Tissue Culture Banana technology in Kenya across the entire value chain_AGRA-funded program in Kenya Production and marketing of tissue culture bananas in Kenya in collaboration with USAID/Fintrac Roots, Tubers, and Bananas Accelerator for Rapid Propagation Innovation and Seed Distribution (RAPID project) in Tanzania and Uganda in collaboration with BMCF, MEDA/CCA.
	Sustainable small-holder cassava value chains are vital for addressing the demand gap and ensuring food security	Disseminate best practices to small-holder farmers. Implement scalable systems for sustainable cassava cultivation.
	A systems approach can catalyze commercialization, create jobs, and foster overall food security in Kenya	Facilitate commercialization and job creation through strategic partnerships.
ITEM 2: Technology in Processing	High Quality Flour, Cassava Peels, Mobile Processing, Flour for Bread/Chips	High Quality Cassava Flour (HQCF) Processing
	Technological advancements enhance cassava processing efficiency and product diversification.	Promote the adoption of modern processing technologies.
	Technology adoption can streamline processing, reducing post-harvest losses.	Facilitate training programs to empower processors with technological skills.
ITEM 3: Innovation and Commercialization of the Seed System	Sustainable Cassava Seed and Market Systems; A Case of Western Kenya	Target interventions such as promoting high-quality seed distribution, providing training on best agricultural practices, strengthening market linkages, stabilizing prices, and enhancing processing facilities. Adopt innovative technologies, promote climate-smart farming practices, encourage farmer cooperatives, implement quality control measures, invest in research and development, and foster public-private partnerships.
	Innovation drives the commercialization of high-quality cassava seeds	Encourage research and innovation in seed production.

	Robust seed systems are fundamental to enhancing cassava yields and quality.	Establish seed quality standards and certification processes
ITEM 4: Pest and Disease Management	Incidences of CBSD and CMD in Lamu County and Western Kenya	Develop and promote cassava varieties resistant to CBSD and CMD through selective breeding and genetic modification, ensuring a resilient cassava crop in the face of viral infections. Conduct farmer training programs and awareness campaigns about disease identification, prevention, and management. Empower local farmers with knowledge and skills to identify early signs of diseases and implement best practices for disease control. Establish a robust monitoring system to track disease incidence regularly. Enforce strict biosecurity measures to prevent the introduction and spread of disease vectors. Invest in research to understand the biology and behavior of disease vectors. Foster collaborations between research institutions, governmental agencies, non-governmental organizations, and international partners. Provide financial and technical support to farmers whose crops are affected by CBSD and CMD. This support can facilitate the adoption of disease control measures, promote sustainable agricultural practices, and enhance the overall resilience of local farming communities.
	Effective pest and disease management are essential for safeguarding cassava crops.	Conduct training on integrated pest management techniques.
	Integrated pest management practices mitigate the impact of diseases on cassava yields.	Foster collaborations between researchers and farmers for disease surveillance.

ITEM 5: Climate Smart Cassava	A Review of Climate Smart Cassava Varieties in Kenya	Introduction and adoption of climate-smart cassava varieties are essential for ensuring sustainable food production, improving resilience among farmers, and enhancing food security in the face of climate change.
	Climate-smart cassava varieties and practices enhance resilience to climate change.	Promote climate-smart farming techniques.
	Climate-smart agriculture is crucial for sustainable cassava production.	Develop climate-resilient cassava varieties through research and breeding programs.
ITEM 6: Boosting African Cassava Industry Through Mechanized Production and Agro-processing along the Cassava Value Chain, including Kenya, across East, South and West Africa	Technology Transfer	The integration of Mechanized Production and Agro-processing along the cassava value chain
	Mechanized production and agro-processing increase efficiency and output.	Advocate for investment in mechanized production.
	Investment in mechanization can revolutionize the African cassava industry.	Provide training and support for agro-processing enterprises.
ITEM 7: Key Practices and Approaches in the Delivery of High-Quality Cassava Seed	Key features of the system for the delivery of high-quality cassava seeds	A novel approach involves integrating digital technologies, such as mobile applications and data analytics, to monitor and ensure seed quality. Utilizing blockchain technology for transparent supply chain management can help track seeds from production to distribution. involving local communities in seed production and encouraging farmer-to-farmer knowledge exchange enhances seed quality and adoption.
	Efficient delivery mechanisms are essential for ensuring the availability of high-quality cassava seeds to farmers.	Develop streamlined delivery systems for high-quality cassava seeds.
	Adoption of best practices enhances the success rate of seed delivery programs.	Train extension workers and farmers on seed handling and planting techniques

ITEM 8: Innovations, Technology, Best Practices & Scaling up	Shaping the future of cassava Using technology	Seed tracker facilitating electronic registration and certification By providing farmers with essential knowledge, facilitating market access, and promoting sustainable practices, the app is shaping a future where cassava farming is more productive, economically viable, and environmentally sustainable.
	Innovations and best practices drive scalability in cassava production.	Promote innovation competitions and research grants.
	Technology adoption enhances the efficiency of scaling up initiatives.	Create platforms for scaling up successful cassava projects.
ITEM 9: Overview of Cassava post-Harvest technologies in Kenya	Household Level Postharvest Operations High Quality Cassava Flour	Capacity Building: Continuously educate farmers on proper post-harvest techniques, emphasizing the importance of timely harvesting, proper storage, and processing methods. Access to Finance: Provide farmers and entrepreneurs with access to financial resources to invest in post-harvest technologies, equipment, and storage facilities. Infrastructure Development: Improve rural infrastructure, including roads and electricity, to facilitate the transportation of cassava products from farms to markets, reducing losses during transit. Research and Innovation: Encourage continuous research and innovation in cassava post-harvest technologies. Market Access: Strengthen market linkages by creating platforms where farmers can directly connect with processors, retailers, and consumers.
	Post-harvest technologies are critical for reducing losses and improving cassava quality.	Conduct workshops and training sessions on post-harvest technologies.
	Knowledge dissemination on post-harvest techniques is key to their successful adoption.	Establish demonstration sites for post-harvest practices.

ITEM 10: Investment Opportunities in Cassava Value Chain	Financing; KCIC, UMBA	Access application forms for agriBiz for Applications of grant opportunities for farmers. Collectively contribute to the sustainable development of the agricultural sector, uplift the living standards of communities, and promote economic resilience among farmers and entrepreneurs involved in the cassava value chain.
	Lucrative investment opportunities exist across various segments of the cassava value chain.	Showcase investment opportunities through targeted campaigns.
	Strategic investments can catalyze industry growth and create employment opportunities.	Facilitate investor-farmer forums to bridge investment gaps.

6. Conclusion and Recommendations

To scale up Cassava production, it is critical to establish supporting legislative frameworks to support the various nodes, particularly seed system development, as illustrated by the Tanzania case study.

Youths must conduct applied research to promote agricultural engagement, particularly in the production of cassava.

This will enable youth to engage in agricultural methods for commodities with strong market demand, such as cassava, and will promote further commercialization.

One of the guests in attendance: The gap between what is accessible and what is produced was discussed. They suggested to increase crop production; it is critical to challenge farmers, involve them, and demonstrate the availability of established markets for a commodity such as cassava.

Invest in processing facilities even before cassava output reaches the projected yields. This will pique farmers' interest in orphaned crops like cassava.

In the context of technology transfer, the conclusion drawn is that mechanized production and agro-processing are crucial for transforming the African cassava industry into a sustainable, lucrative, and globally competitive sector. By addressing these aspects and working collaboratively, Kenya as a nation can unlock the full potential of the cassava industry, fostering economic growth, creating jobs, and improving food security across the continent.

Increased production MUST be complemented with appropriate postharvest management strategies

There are effective postharvest technologies to reduce PH losses. This requires:

- Creating awareness about PH technologies through agricultural fairs and expos
- Development of better linkages between research/ extensions/farmers and sixers of research

- Adopt effective strategies to increase postharvest technology uptake

The National Cassava Conference & Expo 2023 has been a pivotal event, unearthing profound insights and innovations within the cassava industry. Through engaging discussions, expert presentations, and collaborative initiatives, the conference has illuminated a path toward a more sustainable, efficient, and inclusive cassava sector. The exploration of key themes has not only deepened our understanding but has also sparked a collective determination to address challenges and seize opportunities within the industry.

Recommendations:

1. Best Practices Dissemination, Learning, and Scaling up:

Establish a knowledge-sharing platform to disseminate best practices, encouraging collaboration and learning among small-holder farmers.

Collaborate with educational institutions and research organizations to conduct regular training programs, enhancing farmers' skills and promoting sustainable agricultural practices.

2. Technology in Processing:

Foster partnerships between technology providers and cassava processors, ensuring the seamless adoption of advanced processing techniques.

Develop awareness campaigns to educate processors about the benefits of technology adoption, emphasizing efficiency, reduced wastage, and diversified product lines.

3. Innovation and Commercialization of the Seed System:

Invest in research and development to create disease-resistant and high-yield cassava varieties, enhancing the commercial seed system.

Facilitate partnerships between seed producers and farmers, encouraging the adoption of certified seeds and promoting sustainable seed production practices.

4. Pest and Disease Management:

Establish a nationwide early warning system to monitor and respond promptly to pest and disease outbreaks.

Provide farmers with access to affordable and eco-friendly pest management solutions, promoting integrated pest management practices.

5. Climate Smart Cassava:

Promote climate-smart agricultural techniques, including drought-resistant cassava varieties and water-efficient farming methods.

Collaborate with climate research institutions to develop region-specific climate adaptation strategies, ensuring cassava cultivation remains resilient in the face of changing climate patterns.

6. Boosting African Cassava Industry Through Mechanized Production and Agro-processing: Along the Cassava Value Chain, Including Kenya, Across East, South, and West Africa:

Advocate for public and private sector investments in mechanized production, enhancing efficiency and scalability.

Provide training programs to equip farmers and processors with the skills necessary for adopting mechanized production and agro-processing technologies.

Establish regional collaborative platforms to facilitate knowledge exchange, policy harmonization, and resource sharing across African nations.

Encourage cross-border partnerships among farmers, processors, and traders, promoting regional integration and market access.

7. Key Practices and Approaches in the Delivery of High-Quality Cassava Seed:

Develop a comprehensive training curriculum for extension workers, ensuring they are equipped with the latest knowledge on seed handling and planting techniques.

Implement quality control measures within the seed delivery system, ensuring only high-quality seeds reach farmers.

8. Innovations, Technology, Best Practices & Scaling up:

Create innovation hubs and research centers dedicated to cassava, encouraging research, experimentation, and scaling up of successful innovations.

Establish mentorship programs connecting experienced entrepreneurs with budding innovators, fostering a culture of innovation and entrepreneurship within the industry.

9. Overview of Cassava post-Harvest Technologies in Kenya:

Launch awareness campaigns highlighting the importance of adopting post-harvest technologies to reduce losses and improve cassava quality.

Provide financial incentives and support for farmers and processors investing in post-harvest technologies, ensuring widespread adoption across the industry.

10. Investment Opportunities in Cassava Value Chain:

Develop a comprehensive investment guide showcasing lucrative opportunities within the cassava value chain, targeting both local and international investors.

Organize investment forums and matchmaking events, connecting investors with viable cassava-related projects and ventures.

In conclusion, the National Cassava Conference & Expo 2023 has set the stage for transformative change within the industry. By implementing these recommendations and fostering ongoing collaboration, the

cassava sector can realize its full potential, becoming a cornerstone of food security, economic growth, and sustainable development across Africa.

7. Introduction_Day 3

The third day of the National Cassava Conference & Expo 2023 focused on refining industry strategies, addressing challenges, and exploring new opportunities within the cassava sector. Participants gathered with a shared goal: to propel cassava farming towards a sustainable and prosperous future.

8. Key Study Findings

Key Theme	Main Discussion Points	Action Points

ITEM 1: Food Security & Cassava	1. Food and Nutrition Security Status in Kenya. 2. Cassava plays a crucial role in enhancing food security, particularly in regions prone to food scarcity. 3. Sustainable cassava farming practices can significantly contribute to increased food production and accessibility.	1. Nourishing the future and securing Food through Cassava 2. Advocate for policies that support and incentivize cassava production to address food security challenges. 3. Encourage investments in research to develop disease-resistant cassava varieties and enhance crop yield.
ITEM 2: Social Inclusion	1. Marginalized communities benefit from empowerment within the cassava industry, leading to economic growth 2. Inclusive practices can foster participation of small-scale farmers and marginalized groups.	1. Improve Gender Consideration through Program Approach are made to better deal with gender analysis and based on Project Objectives–if the project is making efforts to address gender equality should be reflected, beneficiary, situation analysis/ needs assessment, activities and outcomes which clearly capture the change experienced by men, youth in the different categories (such as small-scale farmers, traders and school children). 2. Integrate gender lens to ensure gender equality in the production of cassava and participation in cassava value-added chain 3. Promote initiatives that support women and underprivileged communities, providing access to resources and training. 4. Develop partnerships between the cassava industry and local organizations to ensure inclusive participation.
ITEM 3: Health & Nutrition	1. Cassava is a valuable source of nutrition and can play a vital role in addressing malnutrition. 2. Raising awareness about cassava's nutritional benefits is essential for improving public health.	1. Initiate educational campaigns to inform communities about the nutritional advantages of cassava-based diets. 2. Collaborate with health organizations to develop fortified cassava products to combat malnutrition.

ITEM 4: Gender & Nutrition Application in the Cassava Value Chain	1. Gender disparities exist within the cassava industry, necessitating the active involvement of women. 2. Integrating nutrition education into cassava value chain practices can improve community health.	1. Post-harvest management to reduce on food wastage an increasing knowledge and understanding of good food safety hygiene and sanitation behaviors. 2. Inclusion of gender strategies entrenched to enhance the women's voice, choice and control. Similarly, support women more to build self-confidence; self-esteem; self-worth and increase women's decision-making power and economic independence; continuous assessment to determine levels of women's engagement; influence and participation in cassava farming, increase access to patterns and if there is a joined decision making and delegate roles sharing labor across the cassava value chain. 3. Assess constraints and barriers on women and non-participating om and benefiting equally from the cassava value chain. 4. Promote gender diversity and women's participation in leadership roles within the cassava sector. **5.** Incorporate nutrition education into cassava processing and product development, focusing on women's empowerment.

ITEM 5: Standards Development, Flour Blending, regulations, Vegetatively Propagated Seed Protocol	1. Effects of Paper, Polythene and Plastic Packaging materials on Cassava root-Leaf Flakes' Shelf Life 2. Food Safety Challenges in Processed Cassava Products in Kisumu and Busia Counties of Kenya 3. The Roots and Tuber Crop Strategy 4. Flour Blending Communication Strategy 5. Regulatory frameworks and standards are essential for ensuring the integrity of the cassava industry. 6. Flour blending and vegetatively propagated seed protocols are critical for sustainable cassava cultivation.	1. Further research and development are necessary to explore eco-friendly alternatives that can provide extended shelf life without compromising environmental integrity. 2. Collaboratively tackles issues significant issues such as enhancing regulatory enforcement and launching educational initiatives, the safety and quality of processed cassava products can be significantly improved, ensuring the well-being of consumers in the Kisumu region. 3. Emphasizing diversification, innovation, and market access aligns with the broader goals of agricultural sustainability and economic growth. 4. Continuous monitoring and evaluation are essential to assess of the root and tuber strategy's impact, identify challenges, and adapt approaches as needed. 5. Ongoing monitoring and feedback mechanisms are vital to assess the Flour blending communication strategy's impact, identify areas for improvement and adapting communication methods to effectively resonate with the target audience. 6. Fostering understanding and appreciation for blended flours, this strategy contributes to improve nutrition and overall well-being among consumers, promoting a healthier society.

ITEM 6: Cassava Processing, Product Development– GMO, Exports Opportunities	1. Review of Cassava Value Added Products for Nutrition & Livelihoods in Kenya 2. Reduction of Post-Harvest Losses for Enhances Value Addition Through Mechanized 3. Processing of Cassava Tubers: Evaluation of Modified Multipurpose Cassava Processing 4. Machine for Size Reduction, Chipping & Grating 5. Market Systems: Implementation of Cassava Initiative in Coastal region 6. Cassava Seed Systems: Lessons from Kenya 7. Innovations in cassava processing, including GMO applications, can enhance yield and product quality. 8. Identifying global export opportunities and adhering to market demands are essential for industry growth.	1. Cassava is rich in nutrients and can solve food security achieved by training on techniques and strategies on how to improve cassava value chain 2. Cassava seed access (Partnership with KALRO, MEDA, KEPHIS) to increase supply of cassava seeds. However, the efforts are volatile according to Joyce with lack of consistency. 3. MESPT Partnerships with other bodies such as KALRO and KEPHIS to ensure access and increased supply of quality seeds 4. Partnerships for market linkages (SMEs/aggregators, Local traders) such as KALRO 5. Capacity development (County government, KALRO, Business service providers, Green technology service providers)--Ensures farmers as they learn they are able to practice such as training on proper spacing and proper handling post harvest. 6. Implementation of A ‘hub & spoke’ seed distribution system is envisioned for the achievement of the goal and strategies. 7. Invest in research and development to promote GMO applications while addressing environmental and health concerns. **8.** Develop strategies to access international markets, emphasizing product diversification and quality assurance.

ITEM 7: Technology & Innovations	1. Promote the adoption of precision farming technologies, IoT applications, and sustainable agricultural practices among farmers. 2. Technological advancements, including precision agriculture and IoT, have the potential to transform cassava farming. 3. Innovation and research collaborations are key drivers for sustainability and efficiency in the industry.	1. The journey toward CBSD-resistant cassava varieties is ongoing, emphasizing the need for sustained research, community engagement, and collaboration between research institutions, farmers, and governmental agencies. 2. Tap into the potential of digital solutions in addressing agricultural challenges, promoting sustainable practices, and improving the livelihoods of farmers worldwide. 3. Promote the adoption of precision farming technologies, IoT applications, and sustainable agricultural practices among farmers. 4. Facilitate workshops and training sessions to enhance awareness about innovative cassava processing methods.

9. Conclusion and Recommendations:

I. Food Security & Cassava

Conclusion: The conference emphasized the pivotal role of cassava in ensuring food security. It was evident that sustainable cassava farming practices are essential to meeting the nutritional needs of communities, especially in regions facing food scarcity.

Recommendations:

Research and Development: Invest in research to develop high-yielding and disease-resistant cassava varieties.

Education and Training: Provide farmers with training on best practices for sustainable cassava cultivation.

II. Social Inclusion

Conclusion: Promoting social inclusion within the cassava industry emerged as a fundamental theme. Empowering marginalized communities and ensuring their active participation can lead to economic growth and societal development.

Recommendations:

Community Engagement: Implement initiatives that provide equal opportunities and resources to small-scale farmers and underprivileged groups.

Partnerships: Foster collaborations with local NGOs and governmental agencies to support social inclusion programs in cassava farming communities.

III. Health & Nutrition

Conclusion: The conference highlighted the nutritional value of cassava. Addressing malnutrition through cassava-based diets requires raising awareness and creating access to fortified cassava products.

Recommendations:

Public Awareness: Launch campaigns to educate communities about the nutritional benefits of cassava and promote its inclusion in daily diets.

Product Development: Collaborate with food scientists to develop fortified cassava products targeting specific nutritional deficiencies.

IV. Gender & Nutrition Application in the Cassava Value Chain

Conclusion: Gender disparities persist in the cassava industry. Integrating nutrition education into the value chain can empower women and improve overall community health.

Recommendations:

Women's Empowerment: Establish mentorship programs and skill development workshops to encourage women's participation in all aspects of the value chain.

Education Integration: Include nutrition education modules in women-focused community initiatives, promoting balanced diets and healthy cooking practices.

V. Standards Development, Flour Blending, Regulations, Vegetatively Propagated Seed Protocol

Conclusion: Clear regulations, standards development, and sustainable cultivation methods are vital for ensuring the integrity of the cassava industry.

Recommendations:

Regulatory Collaboration: Collaborate closely with regulatory bodies to establish industry standards and certification processes.

Farmer Training: Conduct workshops to educate farmers about adhering to regulations, promoting sustainable farming practices, and optimizing flour blending techniques.

VI. Cassava Processing, Product Development–GMO, Exports Opportunities

Conclusion: Innovations in processing, including GMO applications, can enhance product quality and market opportunities. Accessing global markets requires a strategic approach and adherence to market demands.

Recommendations:

Research Investment: Invest in research to explore GMO applications in cassava while addressing ethical and environmental concerns.

Market Research: Conduct market studies to identify high-demand cassava products and tailor processing techniques accordingly.

VII. Technology & Innovations

Conclusion: Technological advancements, especially in precision agriculture and IoT applications, present transformative opportunities for the cassava sector.

Recommendations:

Technology Adoption: Encourage farmers to adopt precision farming technologies and IoT applications to optimize farming practices and resource usage.

Innovation Collaboration: Establish partnerships between research institutions and technology companies to drive innovation, research, and development in the cassava industry.

The day concluded with a vibrant sense of optimism and determination. Participants acknowledged the challenges but embraced the shared vision of a sustainable cassava industry. The conference provided a platform for networking, learning, and collaboration, emphasizing the significance of collective efforts in shaping the future of cassava farming.

The National Cassava Conference & Expo 2023, especially on Day 3, served as a beacon of hope for the cassava industry. Participants departed with newfound knowledge, valuable connections, and a shared commitment to sustainable practices. The conference not only showcased the challenges but also illuminated a clear path forward, emphasizing collaboration, innovation, and community engagement as the key drivers of a thriving cassava sector.

The conference highlighted the multifaceted nature of the cassava industry, emphasizing its pivotal role in global food security, nutrition, and economic sustainability. Participants engaged in vibrant discussions, sharing insights and experiences that illuminated the challenges and opportunities within the cassava value chain.

In conclusion, the National Cassava Conference & Expo 2023 has laid the foundation for a more sustainable, inclusive, and nutritionally enriched cassava industry. By implementing these recommendations, stakeholders can collectively work towards achieving these goals, ensuring a prosperous future for cassava farming communities and enhancing food security and nutrition for all.