

Sugarcane, Sweet Sorghum, Bio-Ethanol and Bio-Fertilizer Production International Conference and Workshop

Report



Presented By:

BACF

<http://bacf.africa>





Sugarcane, Sweet Sorghum, Bio-Ethanol &
Bio Fertiliser Workshop & Conference

Introduction

Of the conference

South Africa faces intersecting challenges of rural underdevelopment, energy insecurity, climate change and pressure on traditional agricultural value chains.

Sugarcane and sweet sorghum were positioned during the conference as strategic crops capable of addressing these challenges simultaneously.

BACF convened the conference to create a shared, evidence-based understanding of how agriculture, policy, technology and investment can be aligned to unlock these opportunities at scale.

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Executive Summary

Black Agricultural Commodities Federation

The Sweet Sorghum, Sugarcane, Bio-Ethanol and Bio-Fertilizer International Conference and Workshop convened by the Black Agricultural Commodities Federation (BACF) marked a critical milestone in advancing South Africa's agricultural, energy and rural development agenda. Over two intensive days, the conference brought together national government departments, international experts from India and Sri Lanka, development agencies, industry leaders, investors and farmers to interrogate the full "farm-to-fuel" value chain.





Black Agricultural Commodities Federation

The conference moved decisively beyond conceptual discussion, presenting implementable models for inclusive rural development, bio-ethanol production, circular bio-industries and sustainable aviation fuel (SAF). Strong farmer participation, robust engagement during question-and-answer sessions, and the signing of a Memorandum of Understanding (MoU) underscored the conference's practical orientation and its focus on implementation, partnership and measurable impact.

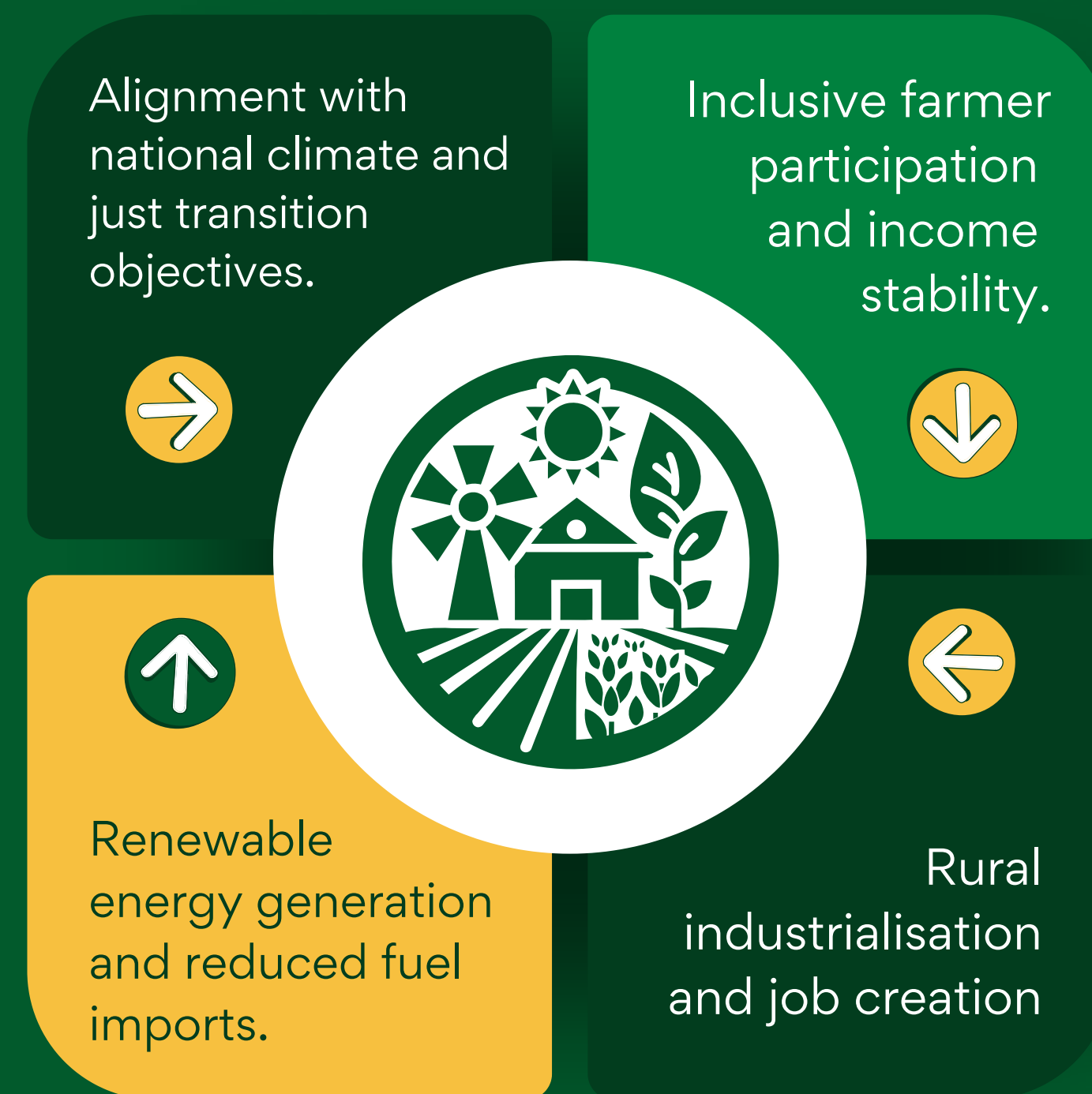




Background *and Rationale*

South Africa faces intersecting challenges of rural underdevelopment, energy insecurity, climate change and pressure on traditional agricultural value chains. Sugarcane and sweet sorghum were positioned during the conference as strategic crops capable of addressing these challenges simultaneously.

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Conference Design and Participation

The conference was structured as a two-day programme combining policy dialogue, technical presentations, global case studies, panel discussions and farmer engagement sessions.

farmers were not passive observers; they actively engaged with presenters, raised practical implementation questions and provided feedback grounded in lived agricultural realities.



Participants included

- National and provincial government departments (Land Reform, Agriculture, DMPR, DTIC, COGTA);
- International technical and research institutions;
- Private sector technology and infrastructure providers;
- Development agencies and investors;
- Farmer organisations, cooperatives and individual producers.



Day Proceedings

Policy Direction, Global Perspectives
and Implementation Models



Key Speakers and Institutional Contributions (Day 1)

Day 1 featured contributions from senior government representatives, international industry leaders and technical experts who collectively framed the policy, development and implementation context of sugarcane and sweet sorghum-based bio-industries.



Day 1 Proceedings



Opening and Policy Context

The opening sessions established the socio-economic and developmental context within which the conference was convened. Emphasis was placed on land reform, rural livelihoods and the need for integrated agricultural-industrial systems that go beyond primary production.

Global Experience and Rural Development

International expertise from Sri Lanka and India provided valuable insights into how sugarcane and sweet sorghum have been successfully integrated into bio-ethanol value chains. These case studies highlighted the importance of long-term planning, strong institutional coordination and farmer-centred development models.





Technology, Seeds and Digital Agriculture



Seed technology and varietal development were addressed by **ADVANTA Seeds**, who emphasised the importance of high-yield, climate-resilient cultivars suitable for both sugarcane and sweet sorghum. The presentation highlighted seed innovation as a foundational input for productivity, consistency and commercial viability.

Digital agriculture, AI-enabled farmer support systems and precision farming tools were presented as critical enablers for scaling production while managing climate and operational risk. Presentations highlighted the role of appropriate cultivars, precision agriculture, AI-driven farmer support systems and digital platforms in improving productivity, reducing costs and managing climate risk. These technologies were presented as enablers of scale, quality control and investor confidence.





Compliance, Funding and Panel Engagement



Discussions on regulatory compliance, land requirements, funding mechanisms and project readiness reinforced the need for coordinated action between government, financiers and implementers.

A panel discussion allowed farmers and stakeholders to interrogate feasibility, timelines and governance issues.





Day 2 Proceedings

Agronomy, Industry Readiness and
Market Integration



Key Speakers and Institutional Contributions (Day 2)

Day 2 focused on agronomy, industrial readiness and downstream markets, with contributions from research institutions, engineering firms and energy sector stakeholders.





Day 2 Proceedings



Agronomic Systems and Local Adaptation

Day 2 focused on optimising agronomic practices for sugarcane and sweet sorghum, including cropping systems, soil management and climate-resilient approaches. International research experience was contextualised for South African conditions, with particular attention to farmer capacity and extension support.

Farmer Institutions, LED and the Pilot Project Pathway

Sessions on cooperative models, aggregation systems and local economic development emphasised the importance of strong farmer institutions. The conference culminated in discussions on pilot project implementation, farmer feedback and pathways to scale.





Industrial Processing and Infrastructure Readiness

Industrial processing, machinery and turnkey infrastructure solutions were presented by **Luma International** and associated engineering partners. The presentation detailed end-to-end project delivery, including plant design, distillery systems, effluent treatment, zero-liquid discharge and operational commissioning, demonstrating readiness for large-scale implementation.

Industry presentations detailed turnkey engineering, plant design, distillery systems, effluent treatment, zero-liquid discharge and value-add processing. These sessions demonstrated that the technical capacity exists to support large-scale agro-processing and bio-ethanol production within South Africa.





Circular Economy and Value Addition

Dr Ananthalakshmi Ranganathan from the **National Sugar Institute (India)** presented advanced research on circular bio-economy models. She demonstrated how by-products from sugarcane and sweet sorghum can be converted into high-value outputs such as bio-chemicals, bio-materials, specialty sugars, activated carbon and bio-fertilizers, significantly improving project economics and sustainability.

Advanced research presentations illustrated how sugarcane and sweet sorghum by-products can be valorised into high-value products, including bio-chemicals, bio-materials, activated carbon, specialty sugars and bio-fertilizers. This circular economy approach reframed agricultural waste as a strategic economic resource.





Sustainable Aviation Fuel (SAF) and Market Opportunities

The energy transition and aviation fuel market were addressed by **Dr Nonyameko Sincadu** of **PetroSA / the Central Energy Fund (CEF)**. His presentation positioned bio-ethanol as a viable feedstock for Sustainable Aviation Fuel, highlighting PetroSA's existing GTL infrastructure, the need for certification and regulatory alignment, and the opportunity to integrate agriculture into South Africa's future fuel mix.

A key highlight was the exploration of bio-ethanol as a feedstock for sustainable aviation fuel. The role of existing national infrastructure, particularly PetroSA's GTL capabilities, was examined alongside policy, certification, funding and off-take requirements. SAF was positioned as a major future market capable of stabilising agricultural value chains while generating export revenue.





CROSS-CUTTING THEMES AND ANALYSIS

These themes were reinforced consistently across presentations by Ceylon Sugar Industries, ADVANTA Seeds, the National Sugar Institute (India), Luma International, PetroSA and BACF, reflecting strong alignment between research, industry and farmer priorities.

- **Farm-to-Fuel Integration:** Linking agriculture directly to energy and industrial markets.
- **Inclusive Ownership Models:** Positioning farmers as participants and beneficiaries, not only suppliers.
- **Technology as an Enabler:** AI, precision agriculture and digital platforms supporting scale and efficiency.
- **Energy Security and Climate Response:** Bio-ethanol and SAF contributing to national resilience.
- **Skills and Youth Development:** Building long-term capacity for rural industrialisation.





Memorandum of Understanding (MoU)

A Memorandum of Understanding was signed between BACF and strategic partners, formalising collaboration on:

- Sugarcane and sweet sorghum development;
- Bio-ethanol and downstream industrial processing;
- Skills development, technology transfer and pilot projects;
- Coordinated engagement with government and investors.

The MoU represents a commitment to move from conference dialogue to implementation.





Key Outcomes and Achievements

- Alignment between policy objectives, industry capability and farmer priorities;
- Increased readiness for pilot and scalable projects;
- Strengthened partnerships across government, private sector and research institutions;
- Clear articulation of SAF as a strategic growth opportunity;
- Active farmer engagement and buy-in.





Sugarcane, Sweet Sorghum, Bio-Ethanol & Bio Fertiliser Workshop & Conference



Call to Action

The conference issued a clear call to action for:

- Government to provide enabling policy frameworks and coordinated support;
- Development finance institutions to de-risk early-stage investments;
- Private sector partners to commit capital, technology and market access;
- Continued farmer mobilisation and institutional strengthening.



The Sweet Sorghum, Sugarcane, Bio-Ethanol and Bio-Fertilizer International Conference and Workshop successfully established a shared vision and practical roadmap for transforming agriculture into a driver of rural development, energy security and industrial growth.

Convened by BACF, the conference laid a credible foundation for implementation-focused partnerships that can deliver inclusive and sustainable impact at scale.

Thank You

