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# 2<sup>nd</sup> INDIA-AFRICA SEED SUMMIT 2026

Seeding Solutions for India and Africa

15-18 September 2026

Connecting Continents for Sustainable Future



# SOUVENIR



# SuATI

## SUPPORT TO AGROECOLOGICAL TRANSFORMATION PROCESSES IN INDIA



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Agriculture and food systems are central to India's economy and livelihoods, but challenges such as land degradation, shrinking farm sizes, climate change and the environmental impacts of intensive agriculture threaten their sustainability. Agroecological approaches offer a pathway to increase farm incomes, restore degraded land, improve nutrition through diversification and reduce environmental impacts. Against this backdrop, the **Support to Agroecological Transformation Processes in India (SuATI)**

project, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by GIZ India in cooperation with the Ministry of Agriculture and Farmers Welfare (MoA&FW), National Bank for Agriculture and Rural Development (NABARD), and Ministry of Rural Development (MoRD), aims to accelerate India's transition towards sustainable and resilient agricultural and food systems.

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# Seeds, Capital and Technology for Africa's Agricultural Potential

By Dr. MJ Khan, Executive Director, World Agriculture Forum

I recently spent four days at the Africa Food Systems Forum 2026 in Kigali, and those four days in Kigali can leave you with many impressions. Mine was a growing sense that Africa's agricultural story is entering an important new chapter. With conversations surrounded by governments, businesses, financial institutions, development agencies, research organisations, innovators and farmer leaders covering every dimension of Africa's agricultural future: production, investment, value-chain development, markets, financing, institutional partnerships, linking farmers and SMEs with larger business ecosystems, and scaling innovations. Yet beneath the diversity of these conversations was a common question: how does Africa move from enormous agricultural potential to agricultural prosperity?

This experience reinforced my long term conviction that Africa represents one of the greatest agricultural transformation opportunities of our time. Africa has many of the fundamentals required for an extraordinary agricultural transformation: abundant agricultural resources, diverse agro-ecological systems, a young and growing population, rising food demand, and substantial untapped productive capacity. But the opportunity is not simply to produce more or cultivating more land, it is about improving the productivity, profitability, sustainability and resilience of African agriculture while building strong value chains around farmers. And at the

centre of this transformation lies something very small: the seed.

One of the most encouraging aspects of the Kigali discussions was the strong emphasis on quality seeds and improved genetics. We often begin conversations about agricultural transformation with irrigation, mechanisation, digital agriculture, finance, processing or markets. All of these matter. But their effectiveness is shaped, to a considerable degree, by what happens at the very beginning of the production cycle.

The right seed can have potential for higher productivity, greater resilience to drought, heat and disease, improved nutritional quality and stronger market outcomes. In many farming systems, access to quality seed is therefore not a marginal intervention. It is foundational infrastructure for productivity.

But Africa's long-term answer cannot simply be greater dependence on imported seeds. Africa needs stronger seed ecosystems of its own. That means investing across the entire chain: research and breeding, genetic improvement, local adaptation, multiplication, testing, certification, production, distribution and farmer access. It also means recognising the enormous diversity of African farming systems. A seed that performs exceptionally well in one agro-ecological zone may be poorly suited to another. The objective, therefore, should



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not merely be more seed. It should be more locally adapted, high-quality seed, produced at scale and made accessible to farmers at the right price and at the right time. That distinction is important.

There is also a deeper dimension to this conversation. Seed systems are not only about productivity; they are increasingly about resilience and strategic capacity. As climate conditions become less predictable, countries need the ability to identify, develop and scale varieties suited to their own agro-ecological realities. This makes investment in local breeding capacity, seed research and national seed systems not simply an agricultural priority, but part of building long-term resilience in food systems.

The real challenge, therefore, is not simply closing the seed-access gap, but closing what might be called the seed-to-yield gap: the distance between the potential of improved genetics and the results farmers are actually able to achieve. That gap is shaped by soil health, water, agronomic knowledge, finance, infrastructure and markets. Closing it requires us to think of seed not as an isolated input, but as the entry point into a broader productivity system.

### **India and Africa partnership with long-term potential**

These discussions are particularly relevant in the context of the 2nd India-Africa Seed Summit being held in Hyderabad from 15 to 17 September 2026.

I had conceptualised this initiative while serving as Chairman of the Indian Chamber of Food and Agriculture (ICFA). The vision was never limited to increasing seed trade between India and Africa. The larger objective has been to create enduring partnerships that can ultimately enable large-scale production of quality seeds within Africa itself.

India brings considerable strengths to such a partnership. It has developed a large and diversified seed industry backed by decades of public research, private entrepreneurship, breeding expertise and extensive seed-production networks. Indian companies have demonstrated the ability to produce quality seeds at competitive costs and develop varieties suitable for diverse farming environments.

India itself is a country of extraordinary agricultural diversity. Its farmers operate across very different soils, climates, cropping systems and production conditions. That experience of developing and scaling agricultural technologies across diverse environments offers useful lessons for Africa, even though African farming systems have their own distinct requirements and solutions.

The opportunity is therefore not to transplant an exact Indian model into Africa. It is to build a strong partnership. Africa brings its agricultural potential, ecological diversity, local knowledge and entrepreneurial energy. India brings experience in research, breeding, seed production, technology, entrepreneurship and scaling. These capabilities can help develop stronger, locally rooted seed industries across African countries.

However, for this partnership to be truly transformative, African leadership must remain at its centre. The objective should not be to replicate one country's agricultural model in another, but to co-create solutions around African priorities, institutions and farming systems. Partnerships are most valuable when they build local capabilities: African breeders and researchers, African seed enterprises, African production networks and African entrepreneurs who can sustain and expand these systems over time.

The goal should be an Africa increasingly capable of producing its own high-quality seeds at scale; locally adapted, affordable and accessible to millions of farmers, supported by African institutions and enterprises.

### **Seed + Capital + Technology**

Seeds alone, however, cannot transform agriculture. The conversations in Kigali repeatedly demonstrated the importance of connecting the entire agricultural ecosystem. Better seeds must be accompanied by agronomic knowledge, soil-health solutions, irrigation, mechanisation, finance, insurance, aggregation, storage, processing and assured



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markets. Africa's agricultural transformation can therefore be accelerated around three powerful drivers: Seed, Capital and Technology. Around these must be built infrastructure, institutions, entrepreneurship and market linkages.

Capital without technology can remain inefficient. Technology without capital cannot scale. And neither can deliver their full potential if farmers lack access to quality seed and functioning markets. This is why agricultural finance also needs to evolve. The question is not simply how much capital reaches agriculture, but whether capital is structured around the realities of agricultural production and connected to viable value-chain opportunities.

The same applies to technology. Africa does not need technology for technology's sake. It needs solutions that solve real constraints for farmers and businesses, that are commercially viable, locally relevant and capable of scaling.

There is also a fundamental question of risk. Agriculture is exposed to weather, biological, price and market uncertainties, and these risks can make otherwise attractive opportunities difficult to finance. The task, therefore, is not simply to put more money into agriculture, but to make agricultural systems more investable. Better data, aggregation, insurance, blended finance, credit guarantees, stronger market arrangements and predictable policy frameworks can help convert fragmented agricultural activity into investment opportunities that are visible, bankable and scalable.

Equally important is changing the way we view Africa's smallholder farmers and agri-SMEs. They should not merely be beneficiaries of development programmes. They must become business partners and integral participants in modern food value chains. They are producers, entrepreneurs, employers, suppliers and potential business partners. Their integration into modern food systems is essential to building agricultural economies that are both commercially viable and socially inclusive.

As I emphasised during my intervention in Kigali, the missing link is often not production, but integration. How do we connect fragmented farmers and SMEs to finance, technology, aggregation, processing, logistics and markets? How do we help them move from participating in value chains to capturing greater value within them? And how do we build systems in which private investment can work alongside public institutions and development finance to create sustainable commercial pathways? These are the questions that will determine whether Africa's agricultural potential becomes agricultural prosperity.

This also requires us to rethink how we measure agricultural transformation. We should ask how much income the farmer retains, how much value is created locally, how resilient the production system is to climate shocks, how much food reaches consumers, and whether agricultural growth is improving nutrition and creating productive employment. The ultimate measure of transformation is not simply more production, but greater value, resilience and opportunity across the food system.

### **A global responsibility and opportunity**

Africa does not lack agricultural strategies, ideas or successful initiatives. What it needs increasingly is the ability to connect these efforts and translate them into scalable, investable systems. That requires a different kind of collaboration. Research cannot remain disconnected from industry. Seed companies need stronger links with local production systems. Farmers need meaningful access to finance, technology and markets. Innovations need pathways to move beyond pilots. And private investment needs an enabling environment in which agricultural opportunities can be understood, de-risked and scaled.

The opportunity is to move from a project-based approach to a systems approach. A successful pilot can demonstrate what is possible; a functioning system determines whether that possibility can reach millions of farmers. This is where institutions have an important role to play. Institutions such as the World Agriculture Forum (WAF), FAO, CGIAR, International Seed Federation, African Union, AUDA-NEPAD and national agricultural research systems (NARS), together with governments, financial institutions, seed companies and farmer organisations, have an important responsibility and they also bring different capabilities to the agricultural ecosystem. The challenge is not to create more parallel initiatives, but to connect these capabilities around clear, country-level priorities and outcomes.

Regional integration will also be critical. Africa's agricultural opportunity cannot be fully realised within fragmented national markets. Stronger regional value chains can create larger markets, support economies of scale, encourage investment in processing and logistics, and allow agricultural enterprises to grow beyond domestic boundaries. But this will require complementary investments in infrastructure, standards, storage, trade facilitation and predictable regulatory systems.

In my present role at WAF, I remain equally committed to pushing forward seed partnerships as part of the larger agenda of transforming African agriculture. What Africa

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needs now are scalable country-level programmes connecting research with industry, seed companies with local production systems, farmers with finance and technology, and production with markets.

Ultimately, the measure of these partnerships should not be the number of programmes launched or agreements signed. It should be whether they build lasting capacity: stronger institutions, competitive enterprises, resilient farmers, functioning markets and agricultural systems capable of generating value long after an individual project has ended. That is the scale of the opportunity before Africa, and it is also a shared responsibility for all of us who have a role in shaping the future of food and agriculture.

### **Africa's food future is also an economic opportunity**

Africa's rapidly growing population will make food and nutrition security one of the greatest challenges of the coming decades. But I increasingly see this not only as a challenge but also one of the continent's greatest economic opportunities. Rising food demand can support investment in agriculture, agro-processing, logistics, storage, technology, research and rural enterprises. Stronger domestic and regional value chains can create jobs, deepen markets and reduce vulnerabilities created by excessive dependence on external supply.

With the right enabling environment, Africa can become not only more food secure, but a major centre of agricultural production, agribusiness, innovation and value creation. Getting there will require patience, investment and a

willingness to think beyond individual projects. It will require us to connect the pieces. Better seeds with better science. Capital with viable enterprises. Technology with farmers. Farmers with markets. And innovation with institutions capable of taking it to scale.

Perhaps the greatest shift required now is from projects to systems. Africa has demonstrated that successful agricultural innovations can emerge at the local level. The challenge is taking what works and embedding it within institutions, markets and financing structures that allow it to endure and scale. A successful pilot can demonstrate possibility; a functioning system creates lasting impact. The next generation of agricultural partnerships should therefore be judged not only by the number of farmers reached, projects launched or technologies deployed, but by whether they leave behind stronger institutions, enterprises and markets capable of continuing the transformation.

Ultimately, Africa's agricultural transformation will not be delivered by any one technology, institution or investment. It will come from how effectively we connect them, and whether we place the farmer at the centre of that system. After four days in Kigali, I came away with an even stronger conviction that Africa's agricultural future is not a question of whether the potential exists. It does. The question is whether we can build the partnerships, systems and investments capable of unlocking it. And perhaps the most powerful place to begin is also the smallest: A seed.



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## 2<sup>nd</sup> India–Africa Seed Summit 2026

***Connecting Continents, Cultivating Growth for Sustainable future***

### **The Summit in Perspective**

The 2nd India–Africa Seed Summit 2026 brought together government officials, policymakers, seed-sector leaders, researchers, scientists, entrepreneurs, development partners and stakeholders from India and Africa to advance dialogue and collaboration across the seed value chain.

The summit built on the India–Africa seed cooperation dialogue initiated through ICFA's Seed World 2019 engagement in Bengaluru and the 1st edition of the India–Africa Seed Summit in 2025. The 2026 edition took the conversation further towards seed trade, research and innovation, artificial intelligence and digital technologies, public–private partnerships, policy and regulatory cooperation, standards and certification, climate resilience, finance and South–South cooperation.

With participation from 70+ African delegates, the summit sought to move the relationship beyond dialogue towards practical partnerships in research, technology, seed production, processing, trade and capacity building.



## Inaugural Session

### *Setting the Context: Seed as the Foundation of Food Security*

On 16th September 2026, the summit opened with a ceremonial inauguration bringing together leaders and representatives from India and Africa. The proceedings included the lighting of the ceremonial lamp, welcome addresses, the launch of the 2nd India–Africa Seed Trade Report: Seeds Without Borders (Scope and Opportunities for Trade, Climate Resilience, Genetic Diversity, Technology and a Shared Roadmap for India and Africa) and the inauguration of the summit's two-day deliberations.

The ceremonial inauguration brought together Shri Surendra Mohan, IAS Agriculture Production Commissioner and Secretary, Department of Agriculture and Cooperation, Government of Telangana; Dr. Himanshu Pathak, Director General, ICRISAT; H.E. Ousman Abdou, Secretary General, Ministry of Agriculture, Government of Niger; Dr. Yacouba Diallo, Secretary General, African Seed Trade Association (AFSTA); Dr. Tarun Shridhar, Director General, Indian Chamber of Food and Agriculture (ICFA); Dr. M. J. Khan, Executive Director, World Agriculture Forum (WAF); and Dr. Paresh Verma, Director General, Federation of Seed Industry of India (FSII).



**Dr. Tarun Shridhar** welcomed the delegates and highlighted Hyderabad's position as India's seed capital, with 400+ seed companies, leading research institutions and a strong seed ecosystem.



He described seed as the first link in the agricultural value chain and a foundation of food and nutrition security, particularly for India and Africa's large smallholder populations facing climate risks. Referring to the 15 September India-Africa Seed Trade Roundtable, he identified key challenges including climate variability, stress-tolerant varieties, registration and testing, phytosanitary and biosafety procedures, counterfeit inputs, finance, women's access to technology and inputs, and regulatory barriers.

He called for regulatory harmonisation, joint research and breeding, capacity building, Indian investment and JVs in Africa, technology transfer, digital traceability and a standing seed-trade facilitation mechanism.

**Dr. Yacouba Diallo** highlighted the summit as a platform for practical India-Africa cooperation, noting that the two regions together have more than 1.4 billion smallholders facing climate pressures including erratic rainfall, rising temperatures, soil degradation and emerging pests and diseases.

He noted that Africa's seed market is valued at around US\$3 billion, with improved-variety adoption at only



35%, compared with 80%+ in South Asia and Europe, and projected to exceed US\$7 billion within the next decade. India, among the top five global seed exporters, supplies improved and climate-resilient seed to around 100 countries.

Dr. Diallo stressed that Africa should be a partner, not merely a market, with cooperation spanning science, policy, entrepreneurship, capacity building, supply chains, variety release and quality assurance. He called for stronger seed-trade corridors and greater Indian participation in African seed platforms, and invited stakeholders to the AFSTA Seed Congress, 16-18 March in Nairobi, expected to attract 600+ participants.

**Dr. Paresh Verma** called for closer India-Africa seed-sector engagement to translate opportunities into practical collaboration, focusing on three priorities: genetically superior varieties suited to African agro-



climates, sustainable seed supply chains and capacity, and greater farmer access to quality seed.

He stressed that Africa's 54 countries represent diverse agro-climatic, policy, market and institutional environments, requiring country- and crop-specific approaches. Drawing on India's own decades-long seed-sector development, particularly since the 1960s–70s, he emphasised that building sustainable seed systems requires long-term investment, research, infrastructure and partnerships.

He encouraged Indian companies to look beyond immediate trade towards research, breeding, local production and strategic partnerships in Africa.

**Dr. M. J. Khan** traced the India–Africa seed dialogue to Seed World 2019 in Bengaluru, and, referring to the Africa Food Systems Forum in Kigali with around 5,000 participants, noted that Africa's agricultural transformation must begin with seed and that India is viewed as a natural partner.



He highlighted growing African participation—from around 15 delegates in the previous edition to approximately 70 in 2026—and noted differing estimates of India's seed trade engagement: US\$130 million versus around US\$300 million based on APEDA HSN data, calling for reconciliation.

He said the opportunity could reach US\$1 billion, but stressed that this should come through harmonised

standards, joint breeding and research, genetic-resource sharing, local African enterprises, technology transfer and capacity building, rather than simply higher exports. He proposed a permanent or semi-permanent India–Africa Seed Partnership Platform to sustain dialogue and track implementation between summits.

**Dr. Himanshu Pathak** highlighted the summit's three distinctive features - its focus on seed, India–Africa cooperation, and Hyderabad as India's seed capital and stressed that resilient seed and soil systems are fundamental to agricultural transformation.



He noted ICRISAT's extensive experience in Africa and dryland agriculture, stating that around 90% of improved millet, pulse and oilseed varieties in relevant African contexts have links to ICRISAT and its partners through breeding or germplasm.

He outlined six areas for India–Africa cooperation:

1. **Climate-resilient and nutrition-oriented varieties:** Using gene editing and speed breeding to reduce development timelines from 10–12 years to potentially 3–4 years or less for targeted traits.
2. **Early-generation seed:** Strengthening breeder and foundation seed systems, with Seeds without Borders as a potential model.

3. **Seed value chains:** Sharing India's experience in seed production, processing, marketing and distribution.
4. **Public-private partnerships:** Joint development, testing and scaling of promising varieties and production systems.
5. **Digital agriculture:** Applying AI, machine learning, digital tools and traceability.
6. **Policy and capacity building:** Strengthening skills among researchers, farmers, students, policymakers and industry stakeholders.

Dr. Pathak reaffirmed ICRISAT's commitment to India-Africa collaboration in research, technology and capacity development.

**Shri Surendra Mohan, IAS** placed the seed sector within the context of food and nutrition security, noting that the global population has crossed 8.3 billion in 2026 and is projected to reach 9.9 billion by 2050. He highlighted the importance of quality seed for productivity and farmer incomes, citing a global seed market of around US\$167 billion, growing at 7.9% CAGR, alongside a presentation projection of approximately US\$116 billion by 2034.



He outlined India's seed ecosystem, comprising 100 ICAR institutes, 68 agricultural universities, 1 National Seed Corporation, 15 State Seed Corporations, 25

certification agencies, ~130 testing laboratories, 500 SMEs and 50 large national and multinational companies.

Highlighting Telangana's role as a major seed hub, contributing around 60% of India's seed requirement, he outlined Telangana Rising 2047 targets: 100 seed hubs, a 100-company Seed Research Park, production rising from 7 lakh to 15 lakh tonnes, exports from 7,000 to 22,500 tonnes annually, certification of at least 30 lakh quintals and mandatory digital traceability.

He stressed efficient production, quality assurance, skilled capacity and affordable last-mile access, noting that agro-climatic similarities between India and Africa create strong opportunities for cooperation.

## REPORT RELEASE



The inaugural session featured the release of the 2nd India-Africa Seed Trade Report: Seeds Without Borders (Scope and Opportunities for Trade, Climate Resilience, Genetic Diversity, Technology and a Shared Roadmap for India and Africa). The report was positioned as a factual and information baseline for future India-Africa seed cooperation.

The session concluded with acknowledgements to government partners, international organisations, industry associations, sponsors and other stakeholders supporting the summit.

## Panel Discussion : 1

### *Driving Seed Sector Growth : India–Africa Collaboration Opportunities*

**Mr. Sanjay Sethi, ED & CEO**, Indian Chamber of Food and Agriculture, highlighted the practical challenges affecting seed business growth in India and Africa, stressing the need to strengthen the entire seed value chain, particularly from a business and market perspective.

He noted that Africa's 54-country market, dominated by smaller seed businesses and fragmented farmer-level operations, faces significant regulatory and cost barriers. Seed registration can take 2–3 years, leading to time and cost overruns, employee attrition and financial pressures, particularly for smaller companies. He also raised the need to identify and strengthen seed-sector hubs in Africa, comparable to Hyderabad's established seed ecosystem in India, to support production, research, business development and regional market access.



**Mr Ram Kaundinya, Former Director General, Federation of Seed Industry of India (FSII)** identified four areas for India–Africa collaboration: knowledge, germplasm, products and technology transfer.

He outlined four stages of commercial engagement: distribution arrangements, licensing, joint ventures and owned operations. He recommended measuring progress through indicators such as number of



collaborations, business generated, new varieties developed, germplasm use, research and knowledge capacity, farmer capacity, and outcomes including productivity and resilience.

He stressed that farmers must remain the primary beneficiaries, with successful partnerships built on complementary strengths, mutual benefit, regulatory compliance, appropriate partner selection, and understanding of local institutional and cultural contexts.

**Dr. Prabhakar Rao, President, National Seed Association of India (NSAI)** highlighted the challenges of entering African markets, noting that Africa's 54 countries have diverse and often relatively small seed markets, while registration can take 2–3 years, increasing costs and uncertainty.



He called for practical regulatory reforms, including company-led trials under government oversight and allowing seed trade during an initial 3–4 year development period, before requiring local production and processing. He cited successful Indian seed applications in Africa, including vegetable seeds, maize in Egypt and sunflower in Tanzania.

He stressed that Indian varieties and hybrids have demonstrated suitability in several African markets and that regulatory reforms could help scale cooperation. He also urged farmers to purchase from authorised sources and retain invoices for quality-related claims.

Referring to India's 1966 seed legislation and a new bill under consideration, he emphasised the importance of recognising companies with integrated R&D, testing, processing and distribution capabilities.

**Mr Ndavi Muia, Sub-Regional Head - Africa & Middle East, Advanta Seeds International** emphasised that



Africa should be approached as a long-term investment rather than a short-term market. He highlighted the continent's demographic potential, with a population of approximately 1.5 billion projected to reach 2.5 billion by 2050.

He stressed that companies entering Africa must understand individual country contexts and invest for the long term.

**Mr. Senthilnathan Sengottuvelu, Chairman & Managing Director, ACSEN AgriScience** focused on the operational requirements of seed trade, including local infrastructure, inventory planning, timely seed availability, logistics and ports, supply-chain management, climate-risk early-warning systems and stronger local presence.



He stressed the need to maintain regional inventories to ensure timely availability and minimise disruptions from climate or production shocks. He noted ACSEN's operations began in Tanzania and are expanding into neighbouring markets, with plans to extend its presence across multiple countries, including West Africa.

**Dr. Paresh Verma, Director General, Federation of Seed Industry of India (FSII)** addressed perceptions around Indian seed quality in international markets.

He noted that in some international markets there is a perception that seed from Europe or North America is of higher quality than seed from India. He argued that



Indian seed companies must demonstrate their quality through strong products, reliable supply and international credentials.

He also highlighted logistics and procedural challenges that can affect the final quality and cost of seed reaching international markets.

### **Special presentation on Seed Education and Enterprise Development (SEED)**

**Dr. Dileepkumar Guntuku, Founder & CEO, Taraba Seeds Limited** presented the SEED initiative and Taraba Seeds' experience through an international training programme conducted in India with seed and institutional partners.

The programme focused on seed science, production and processing; enterprise development, financial management, leadership and entrepreneurship; and emerging technologies including AI, robotics and drones.

The experience underscored the need to strengthen human capacity alongside infrastructure, while addressing African seed-system challenges such as processing gaps, skills shortages, logistics constraints, import restrictions and the need for locally adapted production. It also demonstrated the value of training, shared infrastructure, local production, outgrower models and knowledge exchange.



## Panel Discussion : 2

### *Transforming The Seed Business Through AI & Digital Technologies*



**Mr. Ajay Kumar, VP & Head- R &D, Shriram Bioseed Genetics** highlighted the potential of AI to strengthen conventional plant breeding. While genomic selection and speed breeding have already shortened development timelines, AI can integrate genotype, phenotype and environmental data to improve parent and progeny selection, identify environment-specific performance, strengthen product placement, accelerate development, and support higher-yielding, climate-resilient varieties.



**Mr. Sanjaykumar Vasoya, Global Lead of Vegetable Seeds (Agronomy Marketing), Falcon Seed from ETG** highlighted the opportunity for seed companies to evolve from product sellers to solution providers



through digital platforms integrating soil testing, crop diagnosis, input calculators, spray recommendations and mobile advisories. Such tools can improve farmer decision-making while enabling companies to better understand farmer needs.

**Mr. Gubba Kiran, CEO & Director, Gubba Cold Storage** highlighted the role of specialised service providers in biotechnology laboratories, seed drying, warehousing, logistics, cold storage and multi-location trials.



He noted that outsourcing non-core functions allows seed companies to focus on R&D and commercial activities, while stressing the importance of genetic-resource conservation and investment in human capacity alongside infrastructure.

**Mr. Siddharth Tata, Founder & CEO, Hornbill Ag** emphasised that AI adoption should begin with a clearly defined business problem, with applications across product development, production-risk prediction, quality control, sales and marketing, and commercial decision-making.

He highlighted the potential of digital systems to provide real-time data on foundation seed movement, acreage, farmers, production, inventory, weather, yield expectations and traceability, strengthening decisions across the seed value chain.

He stressed that AI is only as effective as its underlying data, making reliable, accessible and quality datasets



essential.

**Dr Dileepkumar Guntuku, Founder & CEO, Taraba Seeds Limited (Nigeria) and AgTech Innovation Labs, USA** highlighted the role of AI and digital



agriculture in improving existing systems, streamlining processes and enhancing operational efficiency. He emphasised using digital tools to accelerate process development and strengthen overall performance.

**Dr Sanjeev Nayan, Head- SCM & Business Development, UACI- Seeds & Biotech** noted the significant increase in participation from South Africa and the growing presence of seed businesses, reflecting the expanding India-Africa seed engagement.

Drawing on his 12-15 years of experience with digitalisation, he highlighted how AI and digital tools have transformed supply chain management, enabling faster decisions and more accurate MIS and analytics. Digital systems now provide real-time visibility on foundation seed movement, production acreage, participating farmers, weather risks and expected yields, allowing companies to shift seed between states and respond to production risks more effectively.

He noted that GPS-based acreage mapping, crop and soil analytics, irrigation data, inventory visibility and traceability have replaced fragmented Excel-based systems. These tools help production, quality, marketing and management teams determine available and usable inventory, prioritise stocks for market, and match varieties with suitable locations and conditions.



He also emphasised that companies need not build every digital capability internally, as specialised technology providers can support AI and digital platforms. Overall, he highlighted digitalisation as a key enabler for better supply-chain visibility, market responsiveness and business decision-making.

## Panel Discussion : 3

### Public-Private Partnerships in Seed Research & Innovation



The third session moderated by **Dr. Narendra Dadlani, Former Technical Director, Asia & Pacific Seed Association (APSA)** examined how public

as recurring challenges.

He highlighted consortium models involving public research institutions, genetic resources and private seed companies as possible examples for future cooperation.



research institutions, governments, private companies and farmers can work together to convert research into scalable seed technologies.

Dr. Dadlani observed that public-private partnership has been discussed for many years, but successful models remain limited. He identified trust, mutual respect, incentives and different institutional cultures

**Shri Deelip Swami (IAS), Managing Director, Maharashtra State Seeds Corporation Limited (Mahabeej)** described Mahabeej as a practical example of a partnership involving farmers, government and institutional systems. Approximately 40,000 farmers are involved in seed production



through the organisation. He proposed expanding the conventional PPP framework into a broader “Seed-Soil-Science” approach.

He stressed that farmer capacity building should be an integral part of innovation. Research institutions may develop hundreds of varieties, but only a limited number ultimately reach farmers' fields. He also highlighted soil health and the need to ensure that innovations are practical, affordable and accessible to smallholders and remote farmers.

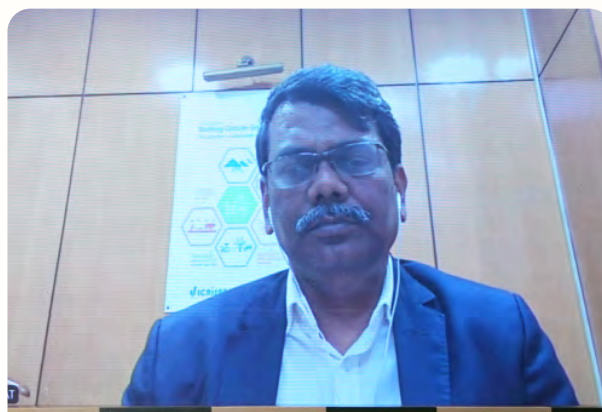
**Ms. Evelyn Lusena, Director - Center of Excellence for Seed Systems, Alliance for a Green Revolution in Africa (AGRA)** highlighted AGRA's nearly 20 years of work, including support for 600+ breeders through Master's and PhD training, development of 650+ varieties, and around 110 seed-related facilities.



She outlined the Center of Excellence for Seed Systems in Africa (CESSA) as a one-stop platform for seed-system information and coordination, alongside country-level seed assessments and investment plans.

She noted that 70–80% of African farmers still rely on farmer-managed seed systems, with significant differences in varietal age—from around 29 years in Mali to 5 years in Kenya. She also cited Rwanda, Kenya and Malawi as examples of countries strengthening policies to encourage private-sector investment.

**Dr. Dinesh Kumar Chauhan, Global Theme Leader Agribusiness Innovation and Nutrition, ICRISAT** outlined ICRISAT's approach to linking public research with private-sector and market partnerships, noting that Asia and Africa's dryland regions are home to 2.1+ billion people.



With 50+ years of dryland research, ICRISAT maintains 132,000+ germplasm accessions and has contributed to 900+ improved varieties and hybrids. He presented the Catalyst platform, which enables private-sector access to research, breeding lines, technical expertise and facilities through research grants, contract research, genomics, breeding, phenotyping, soil and plant health, advisory services, digital agriculture and capacity building.

He stressed that research has limited value unless it reaches farmers.

**Dr. Linga Reddy Gutha, Senior Manager - Business Development, IRRI** shared IRRI's experience of working with 150+ companies across Asia, Africa, Europe and the United States.

He noted that public-private collaboration now extends beyond germplasm exchange to breeding, digital technologies, fertiliser research, direct-seeded rice, climate change, greenhouse-gas mitigation, education, youth and women-focused development.

He emphasised a shift towards co-development, combining public-sector science and genetic resources with private-sector product development,



commercialisation and scaling to create solutions suited to specific African agro-ecologies.

**Dr. Harish Gandhi, Dryland Crops Breeding and Breeding Partnerships Lead, CIMMYT** stressed the need for a clear value proposition for both partners in public-private partnerships (PPPs). Given differences in institutional approaches, he highlighted the importance of trust, clear problem definition, identifying capability gaps, complementary strengths,

relationship-building and defined objectives.

He also emphasised joint research and co-development, with clear intellectual-property (IP) frameworks based on each partner's contribution. Joint ownership may apply to collaborative research, while commercialisation rights can be assigned to the private partner; existing institutional germplasm remains with its owner. Such clarity, he noted, reduces uncertainty and strengthens confidence in PPPs.



## Panel Discussion : 4

### *Unlocking Finance for Seeds: Building the India–Africa Seed Trade Corridor*



The fourth session moderated by **Mr. Sanjay Sethi, ED & CEO, Indian Chamber of Food and Agriculture (ICFA)** examined financing across the seed value chain. He described finance as the “blood supply” of the seed value chain, noting that the development of seed production, processing, logistics and trade depends heavily on appropriate financial instruments.



He observed that while development institutions have developed significant financing and support mechanisms, a key challenge remains in translating these instruments into effective, scalable support for the private sector.

He urged the panellists to consider more practical approaches to bridging this gap and creating financing models that can respond to the needs of private enterprises.

**Mr James Marc de Sousa-Shields, Country Director, International Fund for Agricultural Development (IFAD)** highlighted the persistent challenge of financing small and medium-sized agricultural enterprises, particularly those that lack the balance sheets required to access conventional loans. He stressed the importance of trade finance and more flexible financing structures to bridge this gap.

He described seed finance as a multi-dimensional challenge, requiring capital across the entire value chain rather than at a single stage. Different needs call for different instruments: grants or concessional



finance for research and public goods; working capital for seed multiplication; capital expenditure for storage, testing and logistics; and insurance or guarantees to manage climate, pest and market risks.

He emphasised the need to build a functioning financing architecture that brings together seed companies, farmers, FPOs and community-based systems, while creating conditions that attract private-sector capital. Given limited public and development-finance resources, he stressed that funding must be deployed strategically to demonstrate demand and unlock larger private investments.

He noted that financing constraints are closely linked to broader fiscal pressures and competing investment priorities, making market development and risk-sharing mechanisms essential to mobilising capital for seed and other agricultural value chains.

**Mr Elhadji Adama Touré, Practice Manager for the Agriculture and Food Global Practice, World Bank, USA** emphasised the need to align government, private-sector and development-partner interests to address practical constraints in Africa's seed sector.

Referring to recent discussions on Côte d'Ivoire, Guinea and Togo, he noted that access to quality seed remains a fundamental bottleneck. In Togo, the issue had been

highlighted at the highest level, with the recognition that without reliable seed systems, broader ambitions around agricultural value chains and exports would remain difficult to achieve.

He said the World Bank could act as an honest broker between governments and local businesses, building on resilient, locally rooted enterprises while combining capabilities across partners. Using the analogy of grafting and hybridisation, he stressed the value of strengthening established local businesses while bringing together complementary expertise and resources.

Touré called for greater attention to standardisation of seed-testing and regulatory processes between importing and exporting countries, and for technology



to be used to accelerate testing and reduce procedural bottlenecks. He reaffirmed the World Bank's willingness to work with partners across West and Central Africa, including by bringing institutions such as MIGA and IFC into relevant discussions.

**Dr. Donald Mavindidze, Senior Program Officer, Bill & Melinda Gates Foundation**, emphasised that seed is fundamental to agricultural resilience, productivity and rural economic growth, particularly in Africa. Referring to the Foundation's long-term transition, with operations scheduled to conclude on 31 December



2045, he said greater emphasis is being placed on ensuring that its investments create lasting impact.

With nearly US\$100 billion invested over two decades and plans to deploy around US\$200 billion over the next 20 years, the Foundation seeks to use its funding as catalytic capital, helping unlock investments that may otherwise be considered too risky by governments, companies and development-finance institutions.

He noted that Africa's seed systems vary significantly across regions, with some markets relatively advanced while others continue to face major gaps. Farmers cannot achieve higher productivity without access to quality seed, making stronger local seed systems essential.

Citing Nigeria, he explained that improved hybrids and biotechnology-based products are increasingly available, but local seed-production capacity remains a constraint. The Foundation is therefore exploring partnerships with companies such as Prasad Seeds to assess how established seed-production expertise from Asia can be adapted to strengthen Nigeria's local systems.

Dr. Donald stressed that the Foundation's investments are guided by African government priorities and focused on building sustainable seed systems,

improving farmer outcomes and creating impact that extends well beyond its operational horizon.

**Smt. Ramalakshmi Penugonda, General Manager, NABARD** highlighted NABARD's extensive grassroots network and its role in strengthening agricultural finance and rural institutions. Drawing on the SHG model, she noted how village-, mandal-, district- and state-level federations have created an effective channel for transparent delivery of government programmes. She pointed to nearly one lakh viable cooperative societies as another established network through which NABARD can reach farmers and rural enterprises.

She highlighted NABARD's role in refinance, credit facilitation, capacity building, technology adoption, FPOs and cooperatives, and risk mitigation. Citing a recent refinance product where funds were mobilised and disbursed within 2-3 weeks, she stressed the importance of financial solutions that align with agricultural cycles and ground realities.

The discussion also highlighted financing constraints faced by smaller seed companies, including working capital, trade finance, collateral, warehouse receipts and risk-sharing. Strengthening warehouse-receipt and trade-finance systems, particularly in Africa, was identified as important for improving access to finance across the seed value chain.



## Panel Discussion : 5

### CEOs' Panel on India & Africa Seed Trade



Moderating the fifth session, **Mr. Raghavan Sampathkumar, Executive Director, Federation of Seed Industry of India (FSII)**, drew together the panel's discussion, observing that Nigeria, ECOWAS and Tanzania are emerging as important centres of growth in Africa's seed sector. He suggested that other African countries could study the policy, regulatory and business models evolving in these markets and adapt relevant best practices to their own contexts.

He noted that where India and African regions share similar agro-climatic conditions, mutual recognition of

research and field-trial data could reduce duplication and facilitate the exchange of germplasm and products. He further stressed that technological cooperation must be supported by political will and institutional leadership to translate promising ideas into action. With India and Africa together representing nearly 2.5 billion people, greater cooperation is increasingly essential for food and nutrition security.

In an increasingly volatile geopolitical environment, disruptions can occur within weeks or even days, with input prices such as urea rising sharply. Building resilient regional partnerships is therefore becoming a necessity rather than an option.

**Dr. B. M. Prasanna, Managing Director, Borlaug Institute for South Asia (BISA)** drawn on nearly 15 years of experience in Africa, including as Director of CIMMYT's Global Maize Program, He highlighted the need to view India-Africa cooperation as a two-way partnership in knowledge, technology and innovation. His experience across 15-20 African countries and with 80-100 seed companies provided a strong basis for his





observations.

He outlined opportunities for collaboration among Indian seed companies, African national agricultural research systems and CGIAR institutions in areas including technology transfer, multi-location testing, quality assurance, genomics-assisted breeding, AI-driven breeding and climate resilience. He particularly emphasised trilateral partnerships that combine Africa's genetic resources and agro-ecological knowledge with India's technological and seed-sector capabilities. He stressed that the opportunity extends beyond seed exports towards long-term cooperation in research, innovation, capacity building and locally relevant product development.

**Mr. Gaurav Katyal, CEO, ACSEN AgriScience** shared experience of establishing operations in Tanzania,



formally launched in October 2024 after nearly two years of groundwork involving regulatory approvals, product registration, field demonstrations and farmer engagement.

He stressed that Africa should be approached as a long-term market, requiring local presence, strong stakeholder relationships and sustained farmer engagement. He also highlighted how factors such as rising diesel costs for irrigation influence farmers' economics and should inform breeding priorities, particularly as developing a new variety can take five to ten years. Mr. Katyal identified significant opportunities in vegetable seeds, noting that Tanzania has an estimated 4.5 million vegetable growers, while ACSEN is also exploring Rwanda and Uganda, where hybrid adoption is growing. He further underlined the need to understand country-specific regulatory pathways when expanding across African markets.

**Mr. Sreekanth Chundi, Executive Director and Business Head, Shiram Bioseed Genetics** drawing on



five to six years of experience across African markets, stressed that Africa's 60+ countries require differentiated, country-specific strategies based on agro-climatic conditions, regulations and farming systems. He cautioned against simply exporting Indian varieties, emphasising the need for locally adapted products, farmer understanding and strong local partnerships. He advocated a decade-long market-development approach, with sustained investment rather than short-term demonstrations and immediate

commercial expectations. While East and Southern Africa remain important markets, he identified the ECOWAS region as a significant opportunity, particularly given the relatively low adoption of improved seed and ongoing efforts to strengthen agricultural ecosystems.

**Mr. Karumanchi Prasad, Managing Director, Prasad Seeds Pvt. Ltd.** drawing on his journey from farming to seed production and processing, highlighted that Africa's key gaps often lie not in research or genetics, but in seed production systems, farmer capacity, processing and storage infrastructure.

He drew on India's experience, where seed production grew from approximately 500 tonnes in 1989-90 to 150,000 tonnes, supported by stronger production systems, infrastructure and farmer participation. He also cited the Philippines, Indonesia and Vietnam as examples of how local infrastructure can help translate research into farmer adoption.

Highlighting Nigeria as a current focus, he stressed the importance of building a successful country-level model before expanding to other markets.



**Dr. Mandar Godge, CEO, Grain International** highlighted regulation as an increasingly important constraint to India-Africa seed trade, with differences in seed standards, quality requirements, quarantine and product movement creating cross-border challenges.

He discussed emerging possibilities around the digital transfer of genetic information, while noting that this raises important questions related to Digital Sequence Information (DSI), intellectual property and international regulatory frameworks.



He also stressed the need for robust phytosanitary and quarantine systems to prevent the movement of pests and pathogens, alongside greater regulatory alignment to facilitate safe and efficient seed trade.

# DAY – 2

*Thursday, 17<sup>th</sup> September 2026*



## Panel Discussion : 6

### Policy and Regulation in Seed Trade: Fostering India-Africa Collaboration

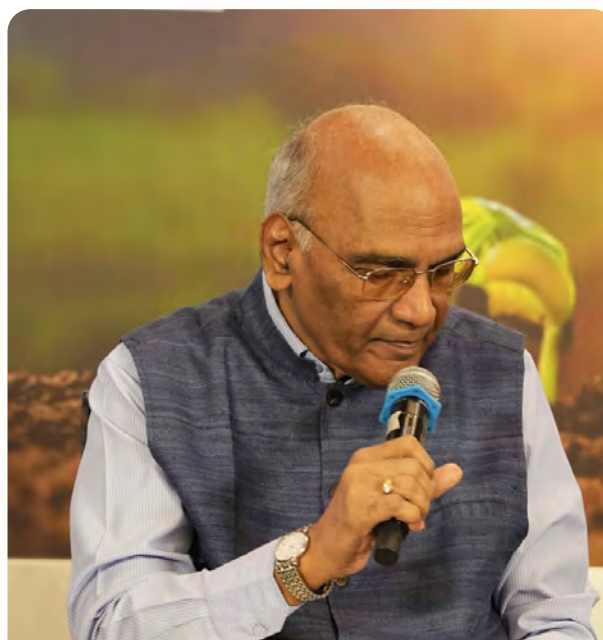


The second day began with a detailed panel discussion on seed policy, regulation, intellectual property, variety release and trade facilitation moderated by **Mr Ram Kaundinya, Former Director General, Federation of Seed Industry of India (FSII)**. He emphasised that policy and regulatory frameworks are critical to facilitating India-Africa seed trade, noting that outdated regulations, non-tariff barriers and procedural delays can constrain business growth.

He called for greater regulatory dialogue between India and African countries, including stronger interaction among seed associations, progressive farmer groups and technical bodies such as ISTA to support common quality standards, seed testing protocols and regulatory SOPs.

He also advocated a bilateral approach, with Indian companies working with the Government of India to establish arrangements with key African countries. Such mechanisms, he noted, could help fast-track

business proposals and reduce delays in a sector where product development and market entry are inherently time-intensive.



**Dr. Yacouba Diallo, Secretary General, African Seed Trade Association (AFSTA)** noted that Africa's 54 countries have diverse national seed policies and regulations. He highlighted the African Union seed and biotechnology platforms, AfCFTA, ECOWAS, COMESA and SADC, noting that while regional seed regulations exist, implementation remains a challenge.



Key areas requiring greater harmonisation include variety release, quality assurance, registration, testing, intellectual-property protection, phytosanitary procedures and alignment with international standards. He emphasised that harmonisation should facilitate seed movement while respecting national regulatory systems.

**Hon. Fatuhu Muhammed, Director General & Chief Executive Officer, National Agricultural Seeds Council (NASC)** highlighted Nigeria's willingness to strengthen cooperation with Indian seed companies.

He referred to existing Indian company engagement in Nigeria and noted that Nigeria had already approved renewals of Indian varieties. He emphasised two key objectives: Protecting farmers; and Protecting investors.

He described India as having reached a high stage of seed-sector development and Africa as a major opportunity for expansion. Nigeria's seed-sector regulatory system has been strengthened, including plant-variety protection and third-party seed



certification.

He cited approximately 634 registered seed companies in Nigeria and highlighted the growing demand for vegetable seed. He specifically encouraged Indian companies to explore Nigeria's vegetable-seed market.

**Dr. Francis Mwatuni, Lead for Seed Systems Analysis and Knowledge Resources, Centre of Excellence for Seed Systems in Africa (CESSA)** highlighted AGRA's work on harmonisation and seed-system development.

He noted that AGRA had helped initiate or support approximately 36 regulatory processes across 18 African countries. He highlighted the importance of strengthening national seed-system coordination, import-export regulations, quality assurance and biotechnology-related biosafety systems. He also referred to Africa's Seed Sector Performance Index as a



mechanism for assessing seed-system performance.

**Dr. KS NarayanaSwamy, President, Seed Producers Association** highlighted the proposed India-Africa Seed Trade Forum as a platform bringing together Indian and multinational seed companies, African seed entrepreneurs, associations, regulators, testing laboratories, progressive farmers and other stakeholders.



He called for continuous engagement beyond annual meetings, with priorities including faster variety evaluation, digital traceability, regulatory capacity building, testing cooperation, regulatory harmonisation, stronger trade facilitation and greater interaction among seed associations.

**Mr Raj Ganesh, Legal Advisor, PPVFR** clarified that African seed companies can apply for and obtain intellectual-property protection for their varieties in India, with the same rights and fees applicable to Indian applicants. The only additional requirement is an address for service in India for correspondence.

He noted that while India receives applications from several countries, applications from African countries remain limited, and encouraged African seed companies to register their varieties in India.

Regarding the use of data generated in African countries, he clarified that under the current law, only data generated through the prescribed Indian testing



system is accepted. He noted that efforts are underway to enable recognition of testing conducted by government authorities in other countries.

## Panel Discussion : 7

### Harmonising Seed Standards and Certifications for International Trade



Moderating this session, **Dr. Keshavulu Kunusoth, Former President, International Seed Testing Association, and Special Officer, Agriculture & Farmers Welfare Commission, Government of Telangana** noted that harmonisation does not mean identical seed laws. He emphasised that cross-border seed trade requires confidence and trust, supported by

mutual recognition, quality assurance, testing, certification, traceability, digital systems and reduced regulatory duplication.

He stressed the need for compatible systems, technical confidence and mutual recognition to facilitate seed movement across borders.

**Dr. Maman Songai, In Charge - Division Chief of seed and plants, Ministry of Agriculture, Govt. of Togo**



stressed that harmonisation should mean common technical requirements and comparable systems rather than identical regulations.

Togo is an ISTA member and has submitted an application for participation in the OECD seed schemes. He emphasised that mutual understanding and coordination between regions can facilitate seed movement.

**Mr. Jobson J. Momo, Director-General, Liberia Seed Development and Certification Agency** stressed the need to harmonise seed laws and technical procedures across West Africa, enabling varieties released and registered in one country to move across borders with reduced duplication of trials.



He proposed an India–Africa technical working group to examine regulations, technical requirements, variety release, certification and movement of planting material, initially focusing on rice, maize and soybean.

**Mr. R. P. Naidu, AGM & Regional Head, APEDA – Hyderabad & Visakhapatnam** highlighted India's



agricultural export ecosystem. APEDA supports exports across approximately 700 scheduled products.

India's agricultural and processed-food exports were cited at approximately 2.55 lakh crore, with non-basmati rice exports of approximately 55,000 crore. Telangana's non-basmati rice exports were cited at approximately 6,000–7,000 crore, while Andhra Pradesh's were cited at around 23,000 crore.

Seed exports—including vegetable seeds and maize—were cited at around US\$331 million, with approximately 15.56% annual growth.

He explained that APEDA supports exporters through market information, engagement with counterpart countries, tariff discussions, exhibitions and buyer–seller meets.

The session examined digital certification, traceability and regulatory harmonisation, highlighting the role of regional bodies such as ECOWAS and COMESA. It stressed that harmonisation should facilitate trade without creating additional bureaucracy, with the OECD Seed Schemes operating across more than 63 countries cited as an example. India's digital traceability systems were also discussed as a potential model for India–Africa cooperation.

Key priorities included strengthening varietal registration, seed testing, laboratory and phytosanitary systems, digital certification and technical capacity. The session called for mutual recognition, harmonised and crop-specific regulations, technical working groups, investment in laboratories, inspector training, international certification, digital traceability, APEDA-supported buyer–seller meets and stronger bilateral cooperation.

A World Bank participant among the audience also highlighted a recently launched G7/OECD joint initiative on seed certification in Africa and suggested that an India–Africa digital traceability pilot could connect with existing initiatives rather than starting from scratch.

## Panel Discussion : 8

### Climate-Resilient Seed Development: Sharing Best Practices Between India & Africa



The session moderated by **Dr. Deepak Chamola, Advisor, GIZ** focused on climate-resilient varieties, indigenous seed systems, modern breeding and farmer adoption.

**Mr. Jitu Vrajlal Soni, Chairman of the Agricultural Council, Tanzania** highlighted the value of indigenous and farmer-managed seed systems, calling for traditional knowledge to be integrated with modern technologies. He identified opportunities in sunflower, beans, maize and other locally important crops, while

noting that farmer preferences, food habits and local consumption patterns influence adoption of new varieties.

**Dr. Venkatram Vasantavada, Managing Director & CEO, SeedWorks** emphasised that indigenous and



modern seed systems should not be viewed as competing systems.

Traditional landraces may possess traits that are valuable for breeding, even where their yield potential is lower.

**Dr. Deepak Chamola, Advisor, GIZ** stressed that climate change is already affecting agriculture, with smallholder farmers in India and Africa particularly vulnerable. He cited an economic survey projection of a 20% decline in rainfed rice production in India by 2047, while a study across 120,000 agricultural plots in six African countries found climate impacts on 39% of plots, with average production reductions of 29%.



**Shri Shivanagouda S. Patil, Joint Director, Department of Agriculture, Government of Karnataka** highlighted Karnataka's systematic monitoring mechanism for quality seed delivery. He noted that landraces are conserved through a gene bank, performance-tested and evaluated through multi-location trials, followed by demonstrations in suitable areas.



Once accepted by farmers, seed multiplication and distribution are monitored through the Karnataka State Seeds Corporation or National Seeds Corporation

**Mr G Krishna Prasad, Founder and Director, Sahja Seeds** emphasised that for farmers, seed is a livelihood, not merely planting material. Climate-resilient varieties must perform under drought and heat while meeting needs such as low external inputs, local food



preferences, taste, adaptability and heritage.

He highlighted the value of farmer knowledge and seed-selection practices, noting that farmers consider factors beyond yield and duration, including diversity, pest tolerance, storage quality and suitability for dry sowing and specific fields.

**Dr Santosh Sahne, Vice President, Indian Value Chain Development** Association highlighted seed and planting material as the foundation of the vegetable value chain. He stressed that climate resilience must combine drought, heat, pest and disease tolerance with consumer traits such as taste, nutrition, aroma and shelf life, supported by timely seed availability during planting windows.



## Panel Discussion : 9

### *Seeds Without Borders and South-South Cooperation*



Moderating this session, **Amb Rajasekhara Chinthapally, Rtd. (IFS), Ministry of External Affairs, Government of India**, noted that approximately 36,000 crore worth of rice was exported from Andhra Pradesh and Telangana to Africa in the previous year, underscoring the scale of existing India-Africa agricultural trade.

He highlighted the broader momentum for international cooperation following the BRICS Summit and ahead of the UN Day on 24 September, as well as India's planned India-Africa Summit in March-April next year. He encouraged the session to identify concrete outcomes from the seed-sector dialogue that could potentially be presented at the upcoming summit.



**Dr. Manzoor Dar, Global Head – Seed Systems and Principal Scientist, International Crops Research Institute for Semi-Arid Tropics (ICRIAT)** introduced the concept of Seeds without Borders, describing it as a framework initiated through cooperation involving India and Bangladesh and subsequently expanded to 10 member countries.

The framework seeks to reduce duplication in R&D and testing where agro-ecological conditions are sufficiently similar. Under such arrangements, suitable varieties can be evaluated using minimum adaptation



testing and made available to farmers more rapidly.

He highlighted the potential for adapting the approach to India-Africa cooperation.

**Dr. Swati Nayak, India Country Manager, International Rice Research Institute (IRRI)** joined virtually and highlighted rice as a key area for India-Africa cooperation, noting the approximately 36,000 crore rice exports from Andhra Pradesh and Telangana to Africa in the previous year.

She highlighted Seeds without Borders as a framework to recognise testing data, reduce duplication, share genetics, shorten product-development timelines and accelerate farmer access. She also proposed a knowledge repository mapping crops and varieties to agro-ecological conditions, including flood-tolerant,



biofortified and low-GI rice varieties and other trait-specific products.

**Dr. Iyad Takroui, Head of AgChem & Seeds, Export Trading Group (ETG)** highlighted ETG's Africa-rooted operations and strong India linkages, noting its integrated presence across seeds, crop protection, fertilisers, commodities and logistics.

He cited ETG's expansion of white maize from one country in Zambia to 11 East African countries within three years, followed by entry into West Africa. Improved hybrid maize, he noted, has increased yields



in some contexts from about 1 tonne to 4-5 tonnes per hectare, improving incomes and livelihoods, particularly for smallholder and women farmers.

He stressed that varieties can take 5-7 years of R&D and around two additional years for registration, making repeated country-by-country processes costly and potentially outdated by market entry. He therefore called for harmonised systems and bilateral agreements recognising registration or testing across suitable markets to accelerate access to improved varieties.

**Mr. Manish Tyagi, General Manager – International Business, Kaveri Seeds** described Kaveri Seeds as a company with approximately US\$200 million turnover and growing international operations.

He emphasised the importance of understanding agro-ecological segments such as altitude, disease pressure, and rainfall and crop environments.



He cited examples where variety registration can take two to three years in one country and argued for faster-track systems in neighbouring countries with similar agro-climatic conditions.

**Dr. Doris Kanvenaa Puozaa, Seed Systems Specialist, West and Central Africa, CIMMYT Drylands Crop Program** called for institutionalised South-South cooperation beyond one-time technology transfer, through joint priorities and research, parallel product development, public-private partnerships,



and two-way exchange of technologies and varieties.

She also stressed strengthening Africa-India cooperation, including testing and use of African-developed varieties in India.

**Dr. Francis Mwatuni, Lead for Seed Systems Analysis and Knowledge Resources, Centre of Excellence for Seed Systems in Africa (CESSA)** identified weak national planning and coordination and gaps in policy, legal and regulatory frameworks as key constraints in African seed systems.

He stressed the need for coordination across breeding, early-generation and commercial seed production, quality assurance, markets, distribution, advocacy and farmer access, supported by human-capacity development and infrastructure for seed testing, variety maintenance and quality assurance.



Mr. Ajay Garg, Chief Technology Officer, DubiGro Biotech discussed the use of biotechnology to develop climate-resilient crops.

He highlighted a patented example involving a trehalose biosynthetic gene, which, when overexpressed in plants, can improve tolerance to drought; salinity; and other abiotic stresses.

## Panel Discussion : 10

### *Role of Research and Development in Advancing Seed Technology*



The final technical session was moderated by **Dr. Jayaprakash. T, Head – Supply Chain and R&D, Bharatiya Beej Sahakari Samiti Limited (BBSSL), Setup by Ministry of Cooperation, GoI** wherein he emphasised the need to strengthen the complete seed journey from innovation and breeding research to the farmer's field - as a key priority for India-Africa cooperation.



He highlighted four critical areas: seed innovation and breeding, robust seed systems, seed quality and

enhancement, and digital traceability. While India has witnessed significant growth in the development of new varieties, the key challenge remains translating these innovations into quality seed that reaches farmers at the right time and place.

He stressed that quality is built at the field level, requiring effective seed production systems, quality assurance and control, and appropriate technologies for seed enhancement and performance. Digital technologies can further enable end-to-end traceability, while capturing farmer feedback can help strengthen both seed systems and future research and innovation.

**Dr. Demba B. Jallow, Director General, National Agricultural Research Institute (NARI), Gambia** emphasised that every seed planted is a decision about the future, with implications for nutrition, livelihoods, resilience and economic stability. He stressed that no single innovation can independently transform farming; rather, integrated technology solutions are essential.



In the African context, he highlighted the importance of climate-smart agriculture, combining climate-resilient seeds with mechanisation and labour-saving technologies, particularly for women smallholder farmers facing rising labour constraints. He further emphasised the need to strengthen the research-extension-farmer linkage, ensuring that research outputs translate into practical solutions that reach farmers and improve productivity and resilience.

**Dr. B. Venkatesh Bhat, Principal Scientist (Genetics) and Nodal Officer – Seed, ICAR-Indian Institute of Millets Research (ICAR-IIMR), Hyderabad** highlighted the rapid advances in seed genetics, testing and seed enhancement technologies, including genomic selection, precision phenotyping, DNA fingerprinting for genetic purity, biopolymer coating, biopriming, microbial consortia and micronutrient encapsulation. These technologies can significantly improve seed quality, performance and productivity across crops.



He emphasised the importance of region-specific seed

systems to address genotype × environment interactions. Varieties and hybrids developed for one agro-ecological region may not perform optimally under different conditions such as variations in temperature, photoperiod, soil type, moisture availability and climate. A decentralised approach to seed production and varietal recommendations, including greater use of locally adapted landraces, can therefore improve adaptation, seed replacement rates and productivity.

Such region-specific seed systems can also enable the deployment of suitable varieties for specific conditions—for instance, dwarf types in areas prone to flooding or strong winds and taller varieties where biomass is a priority—thereby making seed technologies more responsive to local agricultural needs.

**Mr. Kossi Djifa Hounkanli, Director, Ministry of Agriculture, Govt. of Togo** highlighted the key challenges facing agricultural research in The Gambia, particularly limited human capacity and financial resources. He emphasised the need to strengthen research capabilities and institutional capacity to address emerging challenges effectively.



He also underscored the growing impact of climate change on agriculture, including the emergence and spread of new pests and diseases. Strengthening research systems, developing climate-responsive solutions and enhancing collaboration will be critical to making agricultural research more effective and

responsive to these evolving challenges.

**Dr. J. Jawaharlal, Head of the Seed Section, ICAR-Indian Institute of Oilseeds Research** highlighted India's significant edible oil import dependence, underscoring the need to enhance domestic oilseed productivity and strengthen sustainable seed technologies.



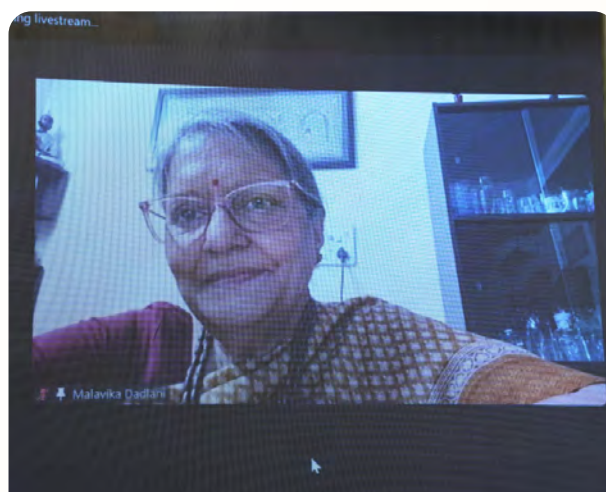
He presented an innovative plant-based biopolymer technology developed using cellulose and polysaccharides as an environmentally sustainable alternative to synthetic polymers. The technology enables seed coating with a combination of nutrients, pesticides, fungicides and other inputs, supporting improved seed performance while allowing controlled and crop-specific release of inputs.

The technology has been tested across pulses, oilseeds and other crops, with reported improvements in performance ranging from 15% to 60% in certain applications. With the technology already commercialised through seed companies and adopted for large-scale seed treatment, Dr. Jawaharlal highlighted its potential for climate-resilient, resource-efficient and sustainable seed systems, particularly across diverse agro-ecological conditions in India and Africa.

**Dr. Malavika Dadlani, Former President, Indian Society of Seed Technology** highlighted key opportunities for strengthening India-Africa cooperation in seed quality, testing and technology, particularly in view of the warm and humid climatic conditions prevalent across both regions.

She emphasised the need to develop practical and reliable seed vigour testing protocols for major field crops, as vigour remains an important but under-addressed parameter for maintaining seed performance under challenging storage conditions. Joint research between Indian and African laboratories could help develop and validate cost-effective methodologies.

She also identified significant potential in organic seed production, including the development of crop-specific protocols for producing high-quality and cost-effective organic seeds. Another promising area is biological seed technologies and microbial consortia, where Indian agricultural universities and research institutions have developed technologies with potential for wider application and commercialisation.



She further highlighted the scope for rapid seed testing technologies and public-private partnerships, drawing on successful Indian models for technology commercialisation. Such partnerships can facilitate technology transfer, capacity building and stronger seed systems across Africa.

## VALEDICTORY SESSION

### *Closing the Summit with a Shared Commitment*

The valedictory session brought together - **Shri Shiv Pratap Shukla**, Hon'ble Governor of Telangana, **Dr. Yacouba Diallo**, Secretary General, African Seed Trade Association (AFSTA), **Mr Sanjay Sethi**, ED & CEO, Indian Chamber of Food and Agriculture and Ms. Diplina Misra, Senior Manager, Indian Chamber of Food and Agriculture

The session also featured the **2nd Seed Business Awards 2026** and the signing of Memorandum of Understanding (MoU) between Indian Chamber of Food and Agriculture (ICFA) and African Seed Trade Association (AFSTA).

**Mr. Sanjay Sethi** welcomed the Hon'ble Governor and delegates, noting participation of 70+ delegates from 20 African countries and around 300 participants from India, Africa and beyond. He underscored the role of quality seed in agricultural transformation and the potential for stronger India-Africa cooperation through a continuous seed-sector engagement mechanism.

He proposed building a cohort of 500 Indian and African companies to foster knowledge exchange and business linkages, while highlighting the proposed ICFA-AFSTA MoU as a step towards facilitating seed and stakeholder movement. He also noted that establishing seed businesses in new markets can take 2-3 years or more,

underscoring the need for an enabling business environment and lower transaction costs.

**Dr. Yacouba Diallo** expressed gratitude to the Government of Telangana and Hyderabad for hosting the summit.



He described Hyderabad as India's seed capital and highlighted its potential as a platform for India-Africa seed cooperation. He said Africa had come not merely to seek seed imports but to share science, policy, entrepreneurship and experience.

He emphasised the need to:

- Strengthen Collaboration;
- Share Science;
- Make Quality Seed Available To Farmers;
- Build Value; And
- Continue The Partnership Beyond The Summit.



## 2<sup>nd</sup> Seed Business Awardees

The summit recognised contributions across the seed-sector value chain through the  
2nd Seed Business Awards 2026

| S.No | Award Category                                  | Organization                                                                                                                                                                        |
|------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Seed Diagnostics                                | Incotec India Pvt. Ltd.                                                                                                                                                             |
| 2    | Genetics Innovation                             | Bayer CropScience Ltd                                                                                                                                                               |
| 3    | Seed Technology                                 | Syngenta India Pvt Ltd                                                                                                                                                              |
| 4    | Leadership in Vegetable Seeds                   | ACSEN Agriscience Pvt. Ltd.                                                                                                                                                         |
| 5    | Value Chain Excellence                          | Prasad Seeds Pvt Ltd                                                                                                                                                                |
| 6    | Sustainable Seed Systems                        | Seedworks International Ltd                                                                                                                                                         |
| 7    | Climate-Resilient Seed Innovation               | Advanta Seeds                                                                                                                                                                       |
| 8    | Smallholder Impact                              | Bharatiya Beej Sahakari Samiti Limited (BBSSL)                                                                                                                                      |
| 9    | India–Africa Cooperation                        | Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)                                                                                                                       |
| 10   | India–Africa Seed Trade                         | Indo-American Hybrid Seeds (India) Pvt. Ltd.                                                                                                                                        |
| 11   | South–South Partnership                         | International Maize and Wheat Improvement Center (CIMMYT)                                                                                                                           |
| 12   | Industry Leadership                             | <b>Mr M. Prabhakar Rao</b><br>CMD, Nuziveedu Seeds Ltd. (NSL) & President,<br>National Seed Association of India (NSAI)                                                             |
| 13   | Seed Policy Leadership                          | <b>Dr. Paresh Verma</b><br>Director General, FSII - Federation of Seed Industry of India                                                                                            |
| 14   | Digital Transformation                          | Shriram Bioseed Genetics                                                                                                                                                            |
| 15   | Lifetime Contribution to the Global Seed Sector | <b>Dr. Keshavulu Kunusoth</b><br>Former President, International Seed Testing Association, and Special Officer<br>Agriculture & Farmers Welfare Commission, Government of Telangana |
| 16   | Quality Standards                               | Sri Rama Agri Genetics (I) Pvt.Ltd.                                                                                                                                                 |





### Address By Shri Shiv Pratap Shukla, Hon'ble Governor of Telangana



The Hon'ble Governor congratulated ICFA, delegates and partners, highlighting Telangana's growing seed, research and agricultural ecosystem. He emphasised that research and quality seed are critical to India's agricultural productivity and food security.

He highlighted Telangana's emergence as a seed and technology hub and called for stronger links between scientific knowledge and small farmers through collective efforts in warehousing, marketing, knowledge sharing, farmer education and stronger linkages among seed companies, corporations and farmers.

He stressed that farmers must benefit from value created through technology and market development, and congratulated the awardees and delegates, urging participants to carry the summit's learnings to their respective countries.



### ICFA-AFSTA MoU

The valedictory proceedings also marked the signing of a MoU between the Indian Chamber of Food and Agriculture (ICFA) and the African Seed Trade Association (AFSTA).



The MoU represents the summit's broader objective of creating a sustained institutional mechanism for India-Africa cooperation in seeds, including trade, knowledge exchange, technology, research and sectoral engagement.

### VOTE OF THANKS

The summit concluded with a vote of thanks by Ms. Diplina Misra, expressing appreciation to the Hon'ble Governor of Telangana, Dr. Yacouba Diallo, Mr. Sanjay Sethi, government partners, GIZ, World Bank, industry organisations, international delegates and all participants.

The vote of thanks recognised the support of the Government of Telangana, Ministry of External Affairs, Ministry of Commerce and Industry, Ministry of Agriculture and other government stakeholders. She also acknowledged the contribution of international and development partners, including GIZ and the World Bank, as well as research and agricultural organisations.

The summit concluded with the recognition that while the formal proceedings had come to an end, the India-Africa seed dialogue would continue through partnerships, institutional engagement and practical cooperation.

## Prelude to the Summit: CEOs' Roundtable & Networking Dinner

The India–Africa Seed Trade CEOs' Roundtable, held on 15 September 2026 and chaired by Dr. Tarun Shridhar, Director General, Indian Chamber of Food and Agriculture, set the business agenda for the 2nd India–Africa Seed Summit. Hosted by the Indian Chamber of Food and Agriculture (ICFA) in partnership with the African Seed Trade Association (AFSTA), the Roundtable brought together senior industry representatives and stakeholders from India and Africa to examine the scope for expanding commercial and strategic cooperation in the seed sector.

The deliberations centred on India–Africa seed trade opportunities and market potential, with particular attention to market access, regulatory frameworks and seed certification. Discussions also covered seed technology, R&D and knowledge exchange; investment opportunities and joint ventures; strengthening seed production, value chains and distribution; and expanding B2B linkages and private-sector partnerships.

A key focus was on identifying priority areas and actionable pathways for cooperation that could translate sectoral dialogue into stronger business linkages, technology partnerships and greater movement of seed and knowledge between the two regions. The Roundtable thus provided a focused business-oriented opening to the Summit, ahead of its wider deliberations on 16–18 September 2026.



## Field Visit: From Dialogue to Experience

The 18 September 2026 field visit marked the culmination of the four-day 2nd India–Africa Seed Summit, taking the Summit's India–Africa dialogue beyond the conference room and into the field. Accompanied by African delegates, the visit provided an opportunity to experience first-hand India's capabilities across agricultural research, seed innovation, production and technology.

The delegation visited ICRISAT, gaining insights into its work on agricultural research, innovation and climate-resilient solutions, and its wider role in strengthening food and seed systems across developing regions. The visit offered a closer understanding of how scientific research, technology and international partnerships can contribute to more productive, resilient and sustainable agriculture.

The delegation subsequently visited the Prasad Seeds manufacturing facility, providing a practical perspective on seed production, processing, quality management and the systems that underpin the movement of quality seed from research and production to farmers.

Together, the visits provided a fitting conclusion to the Summit—connecting policy with practice, research with enterprise, and dialogue with real-world applications. For the African delegates, the experience also opened avenues for greater understanding and future collaboration with Indian institutions and seed-sector enterprises.







## Strategic Partnership Discussion: Advancing India-Africa Seed Cooperation



A closed-door strategic discussion brought together **ICRISAT, the World Bank Group, the African Seed Trade Association (AFSTA) and the Indian Chamber of Food and Agriculture (ICFA)** to explore a coordinated approach to strengthening India-Africa cooperation in the seed sector.

The discussion focused on building a practical framework that connects **financing, seed production, technology, market access and last-mile delivery**, with the objective of developing sustainable and scalable seed systems across African markets.

The proposed collaboration brings together complementary strengths: **ICRISAT's research and technical expertise, the World Bank's financing and development ecosystem, AFSTA's continental seed-sector network, and ICFA's ability to mobilise Indian private-sector and industry partnerships.**

**India-Africa partnership is particularly important in this context.** India brings strong capabilities in seed research, breeding, production, technology and agribusiness, while African markets offer significant scope for agricultural development, innovation and seed-sector expansion. Linking these strengths through structured partnerships can facilitate technology transfer, investment, trade and capacity building, while contributing to more resilient and self-sustaining food systems.

The meeting marked a step towards developing a **coordinated India-Africa seed cooperation and commercialisation framework**, connecting institutions, finance and industry across the value chain.

## From Dialogue to Action

Across the summit's deliberations, several common priorities emerged.

1. **Strengthen Seed Systems** : Quality seed must remain at the centre of agricultural productivity, food security, and farmer income and climate resilience.
2. **Facilitate Seed Trade** : India and African countries should work towards faster variety testing, registration, phytosanitary procedures and regulatory cooperation.
3. **Build Bilateral and Regional Mechanisms** : Alongside continental and regional harmonisation, bilateral arrangements between India and priority African countries can accelerate cooperation.
4. **Move Towards Mutual Recognition** : Testing, certification and variety-release systems should increasingly recognise equivalent standards and reduce unnecessary duplication.
5. **Promote Joint Research and Breeding** : India and Africa possess complementary genetic resources, research capabilities and agro-ecological environments that can support co-development.
6. **Build Local Capacity** : Training researchers, regulators, seed professionals, entrepreneurs and farmers is essential for sustainable seed-system development.
7. **Strengthen Public-Private Partnerships** : Public institutions can provide research, genetic resources and de-risking, while private companies can bring investment, product development and scale.
8. **Invest in Digital Systems** : AI, digital traceability, data platforms and digital certification can strengthen seed quality, supply chains and market transparency.
9. **Develop Climate-Resilient Seeds** : Breeding and seed technologies must respond to drought, heat, salinity, pests, diseases and changing agro-climatic conditions.
10. **Mobilise Appropriate Finance** : Seed finance must address research, multiplication, storage, logistics, testing, risk management and commercialisation through different financial instruments.
11. **Keep Farmers at the Centre** : The ultimate test of any seed technology, policy or partnership is whether it reaches farmers, improves productivity and strengthens livelihoods.
12. **Make Cooperation Two-Way** : The relationship should not be limited to Indian seed exports to Africa. African genetic resources, varieties, technologies, businesses and agricultural knowledge can also contribute to Indian agriculture.



## THE WAY FORWARD

The Second India–Africa Seed Summit 2026 reaffirmed that the future of agricultural cooperation lies beyond seed trade alone—to the exchange of science, technology, knowledge, capital, genetic resources and expertise.

India's strengths in seed research, production and commercialisation complement Africa's agricultural potential, genetic diversity, growing markets and demand for quality seed. The opportunity is therefore to build stronger, more connected and resilient seed systems across both regions.

The proposed India–Africa Seed Trade Forum, ICFA-AFSTA MoU, public–private partnerships, technical working groups, regulatory cooperation, joint research and digital traceability provide pathways to translate this shared vision into action.

The summit closes with a clear direction: from dialogue to collaboration, collaboration to implementation, and implementation to measurable impact for farmers.



**भारतीय कृषि एवं खाद्य परिषद्**  
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