



AI FOR AGRICULTURE  
AI FOR AGRICULTURE  
AI FOR AGRICULTURE  
AI FOR AGRICULTURE  
AI FOR AGRICULTURE  
AI FOR AGRICULTURE  
AI FOR AGRICULTURE

# **AI for Agriculture – Summit 2026**

## **A Summary of Deliberations**

17<sup>th</sup> April 2026 | Clarks Avadh | Lucknow, Uttar Pradesh

India enters 2026 as the world's fastest-growing major economies amid global uncertainties, with agriculture underpinning this resilience. Per Economic Survey 2025-26, agriculture and allied activities account for nearly one-fifth of national income at current prices and employ ~46 percent of the workforce, reaffirming its centrality within Country's diversified economy. Yet this steadiness masks persistent challenges around productivity and incomes, particularly for smallholder farmers.

Agriculture remains inherently time-sensitive, where timely and accurate information is critical, making intelligence a core input. Over the past decade, technologies from digital mobile platforms, IoT, remote sensing to farm management systems have strengthened data capturing, systems visibility, and large-scale information flows. However, implementation, adoption and last mile delivery remain largely fragmented often constrained by cost, capacity, access or generic user persona. The existing gap is structural. Despite abundance of data, much of it remain weakly standardised, disconnected and insufficiently contextualised for farm-level use.

Artificial Intelligence (AI) offers the potential to unify weather, soil, crop, and market data into real-time, context-specific advisories. By embedding intelligence into existing systems, AI can simplify farm decision-making, reduce delivery costs, and improve scalability across the value chain. The Union Budget 2026–27 reinforces this shift, allocating INR 1.3 lakh crore towards 'Viksit' Agriculture, with a focus on technology-led productivity, sustainability, and value addition. While still nascent, AI in agriculture is already moving beyond pilots, with applications in advisories, credit, insurance, and market intelligence.

The focus now is not whether AI can be deployed, but how it can meaningfully serve farmers. This requires positioning AI as an agricultural "neural layer" that integrates systems, enables accessible interfaces, and supports scale through strategic investments. Equally critical is strengthening last-mile delivery, climate resilience, and market linkages. For AI to unlock its potential, it must graduate from experimentation to purposeful deployment where systems by design are responsible, ethical, inclusive, and trusted.

In keeping with this transformation, the **AI for Agriculture Summit 2026** was organised by ACCESS Development Services on **April 17, 2026 at Clark Avadh in Lucknow, Uttar Pradesh**. The first-of-its kind summit brought together **150** stakeholders from across the sector including Policymakers, Agri-tech innovators, Corporates, Researchers, Practitioners, Financial Institutions, and Civil Society Organisations over a single platform to share experiences from pilots and emerging practices, explore the evolving landscape of AI in agriculture, identify critical design, policy, and ecosystem enablers and build consensus on pathways for its responsible, inclusive, and scalable deployment. Structured as a Day convening, the Summit featured **18** Speakers contributed through 6 thoughtfully curated interactive sessions around niche aspects of advancing AI in Agriculture for improved decision making and deploying scalable, contextual and farmer-centric solutions for long-term livelihoods security.

The Summit commenced with the inaugural session, where **Shri Manoj Kumar Singh**, CEO, Uttar Pradesh State Transformation Commission, set the tone by highlighting the rapid expansion of India's AI ecosystem in agriculture and the next phase of transformation where AI meaningfully informs input use, crop planning, and market engagement.

The inaugural discourse was further enriched by the keynote address from **Prof. Ramesh Chand**, Member, NITI Aayog, who emphasised that AI is amongst critical enablers for small holding farmers however its effectiveness will depend on how well it is channelised to translate data into reliable and actionable insights for smallholder farmers.

The inaugural session also marked the release of the **AI in Indian Agriculture Report**, followed by key insights presented by author and editor **Mr Ramesh S Arunachalam**, Co-founder, CTO and Intelligence Architect, SERPICO Advanced Neural Technologies and Research Association, Switzerland. Subsequent deliberations covered data systems, AI-led farmer interfaces, and financing for scale, while also examining the risks, policy, institutional, and systemic interventions that are crucial for

advancing AI deployment in Agriculture. The interactive sessions, rich insights from speakers and presentations, and Innovation Pods added to the overall vibrancy of the Summit, fostering meaningful dialogue, knowledge exchange, and learning.

A summary of the priority action agenda, distilled from key insights emerging from the Summit deliberations and aligned with the evolving national and global context, is presented below, outlining clear stakeholder-wise pathways for enabling responsible, scalable, and farmer-centric deployment of AI in Indian agriculture.

### AI for Agriculture Summit – Priority Action Agenda (2026)

Actionable Priority	What Needs to be Done (Clear Action)	Lead Stakeholder(s)
Build interoperable, standardised Agri-data infrastructure	Create common data standards (geo-tagging, time-stamping, APIs) and integrate datasets (weather, land records, satellite, markets) into unified Digital Public Infrastructure (DPI)	Policy Makers/Govt. (Ministry of Agriculture, State Govts.), supported by Academia, Research Entities (IITs, ICAR)
Transition from predictive AI to hyperlocal decision support	Develop AI systems that deliver real-time, crop-stage and location-specific advisories, not generic predictions—validated with local datasets	Private Sector (Agri-techs) + Research Institutions (model development & validation)
Institutionalise monitoring, validation & accountability mechanisms	Set up mandates for AI advisories validation by trusted public institutions (e.g., India Meteorological Department, KVKs) and co-develop monitoring & accountability frameworks for errors	Apex Policy & Govt. Institutions supported by Academia, Research Entities
Investments in last-mile delivery and human interface models	Set up mandates for AI advisories validation by trusted public institutions (e.g., India Meteorological Department, KVKs) and co-develop monitoring & accountability frameworks for errors	Private Sector, Civil Society/NGOs supported by Govt.
Investments in last-mile delivery and human interface models	Scale voice-based, multilingual, low-bandwidth applications tailored to smallholders, including women farmers and marginal users	Private Sector (Tech companies, startups, Agri Techs)
Enable AI-driven Agri-finance ecosystems	Unlock AI usage for credit scoring, crop monitoring, and traceability, enabling banks and financial institutions to lend based on real-time farm data, further expanding blended finance models	Financial Institutions, Private Sector, supported by Apex Policy Institutions (RBI, NABARD)
Establish robust farmer data governance frameworks	Define clear data ownership, consent, privacy, and value-sharing protocols to prevent misuse and build trust in AI systems	Apex Policy / Government Institutions aligned with national and global benchmarks (e.g. FAO)
Embed AI safety, ethics, and audit systems	Operationalise AI safety frameworks (fairness, explainability, auditability) with continuous monitoring and grievance redressal at community level.	Apex Policy & Government Institutions, Private Sector, CSOs/NGOs

## Inaugural Session



The inaugural session set a strong intellectual and policy-oriented foundation for the Summit, framing Artificial Intelligence not merely as a technological advancement, but as a critical enabler for transforming agricultural decision-making systems in India.

Aleen Mukherjee, Director, Farm, ACCESS Development Services, in his welcome address, greeted the diverse group of stakeholders convened around the shared vision of making AI meaningful and accessible for agriculture, particularly for those who depend on it the most. He set the context by reflecting on both the opportunities and challenges of integrating AI within the broader agricultural ecosystem, emphasising the need for alignment with existing technologies, farmer engagement, and scalable delivery models. He further outlined the need for AI solutions to be anchored in field realities and opened the floor for a day of focused deliberations



The AI in Indian Agriculture Report 2026 was released during the session by the chief dignitaries including Vipin Sharma, CEO, ACCESS Development Services, Shri Manoj Kumar Singh, CEO, Uttar Pradesh State Transformation Commission and Prof. Ramesh Chand, Member, NITI Aayog. Author and the editor of the Report, Ramesh S Arunachalam, Co-founder, CTO and Intelligence Architect, SERPICO Advanced Neural Technologies and Research Association, Switzerland presented the key findings during the session. The Report presents a comprehensive and deeply analytical assessment of India's journey in deploying artificial intelligence across agriculture over the past decade and establishes, with clarity and evidence, over some of the most extensive and sophisticated agricultural AI ecosystems developed in India, both in scale and diversity, while also identifying the next frontier for transformation.

Shri Manoj Kumar Singh, CEO, Uttar Pradesh State Transformation Commission, in his special address pointed out that over 40 AI-based applications are currently being implemented across various states, reflecting the rapid expansion of AI within the agricultural ecosystem. He emphasised that agriculture is fundamentally influenced by two key factors—weather and pricing, and noted that while significant attention has been given to weather intelligence, pricing mechanisms, particularly in relation to export markets, require greater strategic focus. He further underscored the importance of developing an integrated agricultural value chain spanning production, processing, cold storage, and exports. In this context, he highlighted the role of AI in enabling more informed decision-making for farmers—particularly in determining what to produce and where—thereby addressing critical productivity and market linkage challenges.



Additionally, he drew attention to the need to equip farmers with advanced tools and technologies such as laser land levelling, scientific sowing practices, proper labelling, and soil sensors. He noted that the convergence of such interventions with AI integration holds significant potential to enhance productivity, improve farmer incomes, and strengthen overall food security.

Prof. Ramesh Chand, Member, NITI Aayog, in his keynote address indicated that the future of Indian agriculture depends on effectively integrating accurate weather intelligence with market signals beyond MSP, as both directly influence farmers' decisions and incomes. He described AI as a critical enabler in bridging this gap, while emphasising that its effectiveness will ultimately depend on its ability to deliver practical, reliable, and actionable insights at the farm level.



He also highlighted that agricultural growth in India has remained in the range of 4–4.5 percent over the past decade, pointing to the need for strengthening the overall system through enhanced research, robust extension services, and more efficient use of resources. In this context, he underscored the importance of shifting the focus from merely increasing output to improving productivity and efficiency.

Prof. Chand further articulated the growing role of AI in areas such as yield estimation, loss identification, and improved data coordination, describing it as the next phase of transformation in Indian agriculture following the Green Revolution. However, he noted that while data availability has significantly improved, the ability to convert it into timely, localised, and actionable advisories for farmers remains limited. Addressing this gap, he indicated, will be critical to unlocking the real impact of AI in agriculture.

## Fireside Chat I- AI as Agriculture Intelligence – Advancing Viksit Krishi in India



### Speakers

- Ajith Radhakrishnan, Country Coordinator, Water Resources Group, The World Bank
- Devdutt Dalal, Co-founder, MittiLabs



### Host

Ramesh Srivatsava Arunachalam, Co-founder, CTO and Intelligence Architect, SERPICO Advanced Neural Technologies and Research Association, Switzerland

The Fireside Chat explored the shift from predictive AI systems to actionable agricultural intelligence for farmers. Hosted by Ramesh Srivatsava Arunachalam, the discussion brought together Ajith Radhakrishnan and Devdutt Dalal to reflect on the evolving role of AI in agriculture. Ajith Radhakrishnan highlighted that current AI applications remain largely predictive, with limited translation into hyperlocal, context-specific advisories that can inform farm-level decisions. Devdutt Dalal emphasised that such gaps, if unaddressed, can lead to inaccurate recommendations, posing direct risks to farmer livelihoods and underscoring the need for explainable and reliable AI systems.

The discussion further underscored the importance of institutional accountability, with speakers pointing to the role of agencies such as IMD and KVKs in validating and standing behind AI-driven advisories. Associated risks around farmer data governance were also raised, particularly the need for clear frameworks to ensure data protection, prevent misuse, and enable equitable value sharing. The fireside chat concluded by reinforcing that localisation, accountability, and trust will be central to advancing AI adoption at scale in agriculture.

## Key Takeaways

- AI must move from prediction to hyperlocal, actionable advisories
- Incorrect recommendations carry direct livelihood risks, necessitating reliable and explainable systems
- Institutional accountability (IMD, KVKs) is essential for validation and trust
- Strong farmer data governance frameworks required to ensure protection and equitable value sharing
- Localisation and trust-building will be crucial for scaling AI and navigate towards Viksit Krishi



## Session I- Strengthening Agriculture Data Foundations - Unlocking AI for Scalable Impact



### Speakers

- Dr Pushendra Pal Singh, Project Director of ANNAM.AI and iHub-AWaDH, Dean, Corporate, Alumni, Placements & Strategies, IIT Ropar
- Prakash Jayaram, Partner, Technology Consulting, Ernst & Young LLP, India
- Rashmit Singh Sukhmani, Co-Founder and Chief Technology Officer, SatSure



### Moderator

Ravishankar Mantha, Founder & Director, AgRisk Data Analytics, AI Advisor, Kovidara.ai

Data systems emerged as the backbone of scalable AI in agriculture, with the session discourse revolving around quality, interoperability, and governance as critical enablers. The session focused on the foundational role of data systems in enabling scalable and effective AI applications in agriculture. Moderated by Ravishankar Mantha, the discussion brought together Dr Pushendra Pal Singh, Prakash Jayaram, and Rashmit Singh Sukhmani to examine critical gaps in data quality, access, and usability.

Dr Pushendra Pal Singh pointed out that despite the growing availability of agricultural datasets, much of the data lacks time-stamps and geo-referencing, limiting its utility for hyperlocal and real-time decision-making. Prakash Jayaram highlighted the challenges of fragmentation, noting that data remains siloed across platforms with varying structures and state-specific APIs, making interoperability and standardisation a persistent bottleneck. Rashmit Singh Sukhmani drew attention to the evolving role of Digital Public Infrastructure (DPI), emphasising its potential to unify access to farmer data across states, with increasing participation through state-level integrations.

The discussion also explored the integration of satellite data and digitised land and revenue records as promising developments, while underscoring that the real value lies in how such data is interpreted, governed, and applied for farmer benefit. The session concluded by calling for strengthening data

architecture, ensuring interoperability, and building robust governance frameworks to enabling scalable, context-aware AI solutions in agriculture.

### Key Takeaways

- Large volumes of data remain non-actionable due to lack of time and location tagging
- Fragmented data ecosystems and non-uniform APIs hinder interoperability and standardisation
- Digital Public Infrastructure (DPI) is emerging as a key enabler for unified data access across states
- Integration of satellite and land records data holds strong potential, but requires effective interpretation and governance
- Strengthening data architecture and governance frameworks is essential for scaling AI in agriculture



## Session II- AI as Agricultural Interface – Enabling Localisation and Real-World Adoption



### Speakers

- Amith Agarwal, Co-founder, CEO, StarAgri and Agribazaar
- Dr Malvika Chaudhary, PlantwisePlus - Global Team Leader - Digital Product Usage, CABI
- Deo Datt Singh, Director, Operations, People's Action for National Integration (PANI)



### Moderator

Shadma Shaikh, Independent Journalist, Co-founder, FactorDaily, Long Form Columnist, Livemint

The potential impact of AI in agriculture depends as much on model capability as on how effectively it reaches and serves users at the last mile. Building on this, the session explored the role of AI as an interface between technology and end-users, focusing on the challenges of localisation, access, and real-world adoption. Moderated by Shadma Shaikh, the discussion brought together Amith Agarwal, Dr Malvika Chaudhary, and Deo Datt Singh to reflect on the barriers that limit the effective use of AI at the farm level. The speakers emphasised that access remains a fundamental constraint, with disparities in connectivity, language, and device availability continuing to restrict the usability of AI tools. Amith Agarwal pointed out that while technological capabilities have advanced, translating these into actionable insights at the last mile remains a significant challenge, with many solutions failing to sustain beyond controlled environments. Dr Malvika Chaudhary highlighted that agricultural data often fails to capture hyperlocal variability, resulting in outputs that do not fully reflect on-ground realities.

The discussion further underscored that trust and behavioural factors play a decisive role in adoption, with farmers often relying on familiar intermediaries such as input dealers and community networks over digital systems. Deo Datt Singh emphasised that AI must be supported through human-mediated delivery models, particularly in contexts where extension systems remain overstretched. The importance of interface design

was also highlighted, noting that voice-based, vernacular, and intuitive user experiences can significantly improve engagement and usability.

The session also reflected on structural challenges, including the gap between advisory and execution, where factors such as credit, supply chains, and labour constraints limit the translation of insights into action. It concluded by outlining the need for designing AI systems that are accessible, trusted, behaviourally aligned, and supported by strong last-mile delivery mechanisms to enable meaningful adoption.

## Key Takeaways

- Access in agriculture is still the bottleneck- AI must be supported by improvements in connectivity, language, and device reach
- The last mile is where good technology goes to die- Translating insights into timely, usable actions on the ground remains the core challenge
- Data reflects power- AI systems need to reflect India's fragmented, hyperlocal agricultural realities
- Trust drives adoption- Local networks and intermediaries play a central role in uptake
- Interfaces unlock scale- Voice, vernacular, and intuitive design can drive wider adoption
- Users extend beyond farmers- aggregators, platforms, retailers often act as primary users and enablers
- Climate volatility is breaking our assumptions- AI must evolve and updated with varying patterns



## Session III- Innovating Finance – Unlocking AI for Smallholder Farmers



### Speakers

- Nikhilesh Kumar, Co-founder, CEO, Vassar Labs
- Ramesh Sharma, Senior Vice President, National Accounts Head, Government, PSU, Defense and PMS, Axis Bank
- Dr. Nandini Ghoshe, General Manager, NABARD



### Moderator

- Vivek Sinha, Senior Vice President, GAP Fund, ACCESS Development Services, Former CGM, NABARD

Finance emerged as a defining lever for translating AI potential into scalable agricultural outcomes, with the session centring on credit access, risk assessment, and investment pathways for smallholder farmers' ecosystem. Moderated by Vivek Sinha, the discussion brought together Nikhilesh Kumar, Ramesh Sharma, and Dr. Nandini Ghoshe to reflect on the structural gaps constraining capital flows into Agri-AI.

Ramesh Sharma pointed to the disconnect between ambitious credit targets and actual disbursement, noting that limited visibility on farmer-level data, repayment behaviour, and scalability continues to restrict lending. Nikhilesh Kumar drew attention to the role of AI-enabled traceability and livestock data systems in building credible data trails, enabling more informed credit decisions and expanding financing possibilities. Dr. Nandini Ghoshe outlined NABARD's multi-channel approach, spanning direct farmer and FPO support, investments in digital infrastructure, and the promotion of blended and impact financing models. The discussion also recognised that while Agri-tech innovations are expanding, their scale remains constrained by high delivery costs, uneven adoption, and limited viability beyond specific crop segments.

The session concluded with a clear direction towards strengthening data-backed financing ecosystems, leveraging blended capital, and building institutional mechanisms that can support the scale-up of AI-driven solutions across diverse agricultural contexts

## Key Takeaways

- Credit gaps persist despite high disbursement - limited farmer-level data constrains lending decisions
- Data can unlock finance with improved traceability and creditworthiness.
- Scaling remains uneven - many solutions struggle to move beyond pilots
- Cost is a key barrier - hyperlocal delivery models require catalytic and blended funding
- Adoption varies by crop systems - stronger traction in high-value crops than staples
- Blended capital is essential - public, private, and CSR funding must converge for scale



## Presentation on AI Safety Index Framework

As AI systems expand across agriculture and financial inclusion, safety, fairness, and accountability become as critical as performance. Building on this, the presentation by Ramesh Srivatsava Arunachalam, Co-founder, CTO and Intelligence Architect, SERPICO Advanced Neural Technologies and Research Association, Switzerland, introduced the Composite AI Safety Index (CAISI) as a structured framework to assess and strengthen the safety of AI systems deployed in agriculture and financial inclusion.

The framework positioned AI safety as a mission-critical requirement, particularly in high-stakes contexts where inaccurate advisories or biased decisions can directly impact farmer livelihoods and access to credit. CAISI adopts a multidimensional approach, covering key risk pathways including explainability, fairness, auditability, and community impact. The framework uses a weighted scoring mechanism to ensure that critical failures in any one dimension cannot be offset by strengths in others, thereby prioritising systemic reliability over isolated performance. It also integrates sector-specific benchmarks, drawing from agricultural data standards and financial regulatory norms, to ensure contextual relevance.

The presentation outlined the need for embedding safety within system design, including proactive proxy variable audits, institutional accountability through designated AI safety roles, continuous monitoring integrated with field operations, and community-driven grievance mechanisms. It underscored that explainability and auditability are not only technical features, but essential safeguards for ensuring trust, accountability, and equitable outcomes.

### Key Takeaways

- AI safety is mission-critical - systemic risks in agriculture and finance have direct livelihood consequences
- Key safety indicators - Fairness, explainability, auditability, and impact
- Contextual benchmarks matter - Frameworks must align with sector-specific standards and realities
- Accountability must be institutionalised - Dedicated roles and governance mechanisms are necessary
- Monitoring must be continuous - Safety tracking should integrate with both technical systems and field operations
- Grievance and audit systems build trust - Community-level access and redressal are essential for responsible deployment

## **Innovation Pods**



Innovation Pods are dynamic spaces for startups, technology providers, and innovators to demonstrate practical AI solutions that are shaping the future of agriculture. Designed as interactive demonstration zones rather than static exhibits, these pods will enable participants to experience live use cases, from AI-driven crop advisory, precision farming, and climate intelligence to supply chain optimisation, market linkages, and financial inclusion tools.

The pods highlighted not just the technology, but its on-ground applicability, scalability, and impact on farmer livelihoods, offering a platform for solution providers to present pilots, knowledge products, and cutting-edge research.

## **Summary of Deliberations and Vote of Thanks**

The Summit concluded with a synthesis of key discussions presented by Sarthak Luthra, Vice President, ACCESS Development Services, bringing together sharp insights from across the sessions into a coherent reflection on the opportunities, challenges, and pathways for advancing AI in agriculture. The summary reiterated that while technological capabilities are evolving rapidly, the real value of AI lies in its ability to deliver contextual, reliable, and actionable solutions for farmers. Overall, the deliberations converged on four key pillars - strengthening data systems, improving last-mile delivery, enabling trust through accountable institutions, and unlocking appropriate financing mechanisms, and proffered clear directions for scaling AI in agriculture in India.

The Summit closed with a vote of thanks delivered by Chhitiz Kumar, Manager, Livelihoods India, ACCESS Development Services, who expressed sincere appreciation to all speakers, partners, and participants for contributing to a day of focused discussions and knowledge exchange. He extended gratitude to Vipin Sharma, CEO, ACCESS Development Services, whose idea and vision led to the Summit in motion. He also acknowledged Puja Gour, Vice President, ACCESS Development Services, Aleen Mukherjee, Director, Farm, ACCESS Development Services and the larger ACCESS team for bringing the Summit together within a short timeframe.

