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e-NEWSLETTER
INDIAN SOCIETY OF AGRICULTURAL ENGINEERS

..... Connecting Engineers in Agriculture

Jan. - Feb. 2026

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INDIAN SOCIETY OF AGRICULTURAL ENGINEERS

Message From The President

My Dear stakeholders! The year 2026 started with very good note. *The two months for the Indian Society of Agricultural Engineers (ISAE) was full of activities. We had two executive committee meeting, one meeting with Springer, Signing MoUs, meetings with state Government officials etc.*

Dear members*! Our ISAE is getting recognition worldwide as well as at National level. We signed MoU with Korean Society of Agricultural Mechanization upon their request and also signed MoU with APEDA in January. We organized online lecture in collaboration of ASABE upon their request and two lectures one from me and other from prof. Saraswat were delivered. Large number of people both members and non-members attended the same. In last two EC meeting we took several decisions important of them are setting of an overseas chapter of ISAE, organizing lectures and training for our members, updating the memberships database, approaching springers for co-publishing our journal JAEI etc. to further raise the bar of standard and functioning of the society.*

Dear ISAEians! *We approached springer once again a fresh for co-publishing JAEI and we had a long meeting for tentative terms and conditions and our requirements. The citations of our journal JAEI is rocking. Citations in 2025 went up as high as 647 as on 27 Feb 2026. EBSCO also approached us to modify the agreement for allowing them to use our publications for Large Language Modelling for training Artificial Intelligence models on mutually agreed payment basis. This also sows that our journal has really become a truly International journal.*

Friends! *We have started preparing for CIGR 2028 conference. It is being advertised through various media. Request you all kindly to visit its website www.cigr2028.org regularly to make it more popular so that participation from world over should be maximized.*

Dear Agineers! *Efforts for establishing directorate/Department of Agricultural Engineering is progressing. I met Secretary (Agriculture), Odisha twice, a letter to HCM Odisha to reconsider in establishing Directorate, met HAM of Gujarat with another letter and also influential MP of Andhra Pradesh for accelerating the efforts for establishing Directorate. A comprehensive progress level was also made and sent to Telangana chapter. I also pursued many other states for accelerating the process.*

Friends! The society's *progress depends on your contributions. Persuasion for Directorate at local level, timely and quality review of research papers, contributions of articles in our publications, gathering advertisements for AET and e-newsletter, conducting workshops/seminars using ISAE banners are some of continuous activities where your participations are essential to progress the society to a newer height. Society is of you, for you and by you. Come forward and help us to improve it to further newer heights.*

S N Jha
President, ISAE

From the Editor-in-Chief's Desk

It is pleasing to note that The Indian Society of Agricultural Engineers (ISAE) has moved to a new phase of its development, with several steps taken by the EC for betterment of the Society and expanded the activities. The Indian Society of Agricultural Engineers (ISAE) worked hard in year 2025, and will continuously work hard for betterment of agriculture profession, growing reputation and reach to Agricultural Engineering professionals/ Agrineers within the country and at international level in the coming year.

This newsletter is featured with glimpses of efforts made through activities and advancement in the field of agricultural engineering conducted during this period of Jan. - Feb. 2026, across the country by various agricultural engineering institutes for dissemination of knowhow to all stakeholders.

I hope the content on various technologies through this e-newsletter will give takeaways on latest technologies to Agricultural Engineering professionals in introducing and implementing the same.

Your suggestions, feedback are also solicited for further improvement of this mouthpiece of ISAE.

Chandra Shekhar
Chief Editor

✍ e-Newsletter Editorial Board ✍

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10th ISAE Executive Committee meeting held on January 26, 2026

The ISAE Executive Committee meeting was held on January 26, 2026 in Zoom platform. The meeting commenced with the Secretary General welcoming all members of the Executive Committee. The President, ISAE briefly explained the developments in the ISAE related activities including interacting with Bihar Govt. officials regarding follow up on creation of separate directorate for Agricultural Engineering; mentioned about the status of views and downloads regarding JAE(I) and appreciated the efforts of editorial team. President ISAE emphasized the continued importance of following up on previous commitments and stressed the responsibility of the current leadership in ensuring the ongoing execution of initiatives. The Secretary General provided a comprehensive briefing on the Action Taken Report regarding the discussions and decisions made during the previous Executive Committee meeting. The following points were discussed.

1. Signing of MoU with the Korean Society for Agricultural Machinery – The Secretary General informed the Committee about the proposed schedule for signing the Memorandum of Understanding (MoU) with the Korean Society of Agricultural Machinery which was earlier circulated through WhatsApp group. Minor suggestions received on the draft MoU from Executive committee member would be duly incorporated. The MoU was approved by the EC. The President expressed his inability to be present on the scheduled date because of his official engagement out of Delhi and requested the Secretary General to proceed with the signing formalities on behalf of the Society.

2. Revision of printing charges for Journal – The EC considered the quotation received from the printer for revision of printing charges. In view of the increased number of manuscripts per issue and the fact that the rates had not been revised for the past several years, the EC approved an increase in printing charges as per the quotation, subject to a maximum limit of 15%, whichever is lower.

3. ISAE Overseas Chapter – The President proposed the establishment of ISAE overseas chapter. The EC agreed to the proposal in principle and decided to explore the feasibility of forming such chapter in accordance with the chapter guidelines stipulated in the ISAE By-laws.

4. Meeting with APEDA – In continuation of the MoU signed with APEDA, the President proposed the formation of a committee to coordinate activities with APEDA and to prepare a structured work plan. It was emphasized that this matter should be taken up on priority so that data could be included starting from the forthcoming issue of Agricultural Engineering Today (AET).

5. Functioning of various committees formed by the EC – The President urged the concerned EC members to actively follow up on the committees constituted for election reforms, development of standards, and a working group for irrigation & drainage engineering. He suggested that reconstitution of the committees may be considered, if necessary, to expedite completion of the assigned tasks. Dr. S. Manivannan, Vice-President (Activity Council), informed the EC that the Committee on Development of Standards had finalized its recommendations and would submit the same to ISAE at the earliest. It

ISAE Happenings

10th ISAE Executive Committee meeting held on January 26, 2026

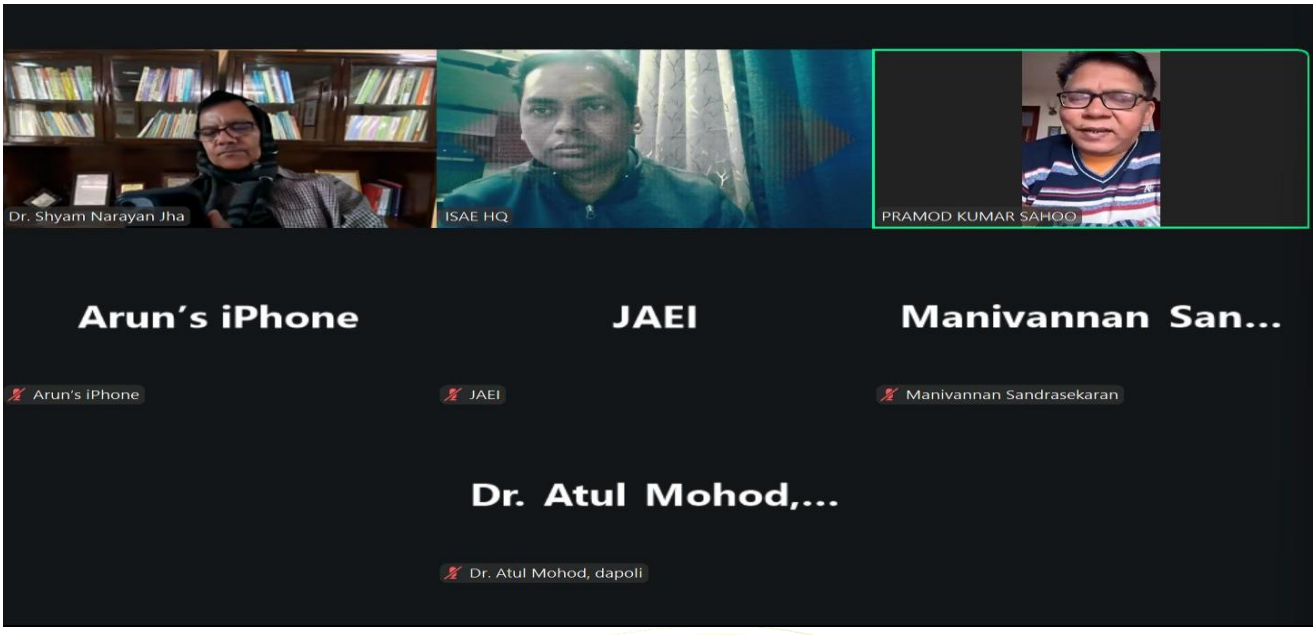
was proposed and approved that Dr. D. K. Singh, Ex-Professor, Division of Agricultural Engineering, ICAR–IARI, New Delhi, be appointed as Chairman of the Committee on Irrigation and Drainage Engineering. The committee was reconstituted accordingly, with the Vice-President (Activity Council) designated as the Convener.

6. Publication of JAE(I) through Spinger – The President informed the EC that preliminary journal information had been submitted to Springer, which is currently reviewing Journal of Agricultural Engineering (India) for possible publication. He sought suggestions and approval from the EC to negotiate the terms and conditions, if matter progress further. EC authorized the President understanding that ISAE would NOT make any financial commitment rather give some amount of royalty.

7. Revision in the JAE(I) sub themes – Dr. Adlul Islam informed the EC that following the inclusion of JAE(I) in Scopus, the journal has been receiving an increased number of manuscript submissions. He further noted a rise in out-of-scope submissions due to the broad sub-theme titled "Energy and Other Areas." He proposed renaming the sub-theme as "Energy in Agriculture" to better align it with the scope of Agricultural Engineering. The EC accepted the proposal and approved the necessary revisions in the journal information page of website.

8. Pending special issue in JAE(I) – The EC was informed about a pending special issue related to "Energy and Other Areas." As CLARIVATE discourage any special issue and the same is too late, the EC decided not to print the special issue and selected papers may be published in regular issues giving some priority after taking the consent of author. A letter to guest editors with thanks may be written by the chief guest.

The meeting concluded with a formal vote of thanks to the Chair and Committee Members



ISAE Happenings

11th ISAE Executive Committee meeting held on 14th Feb., 2026

The meeting commenced with the Secretary General welcoming all members of the Executive Committee. The Secretary General provided a comprehensive briefing on the Action Taken Report regarding the discussions and decisions made during the previous Executive Committee meeting. The following points were discussed.

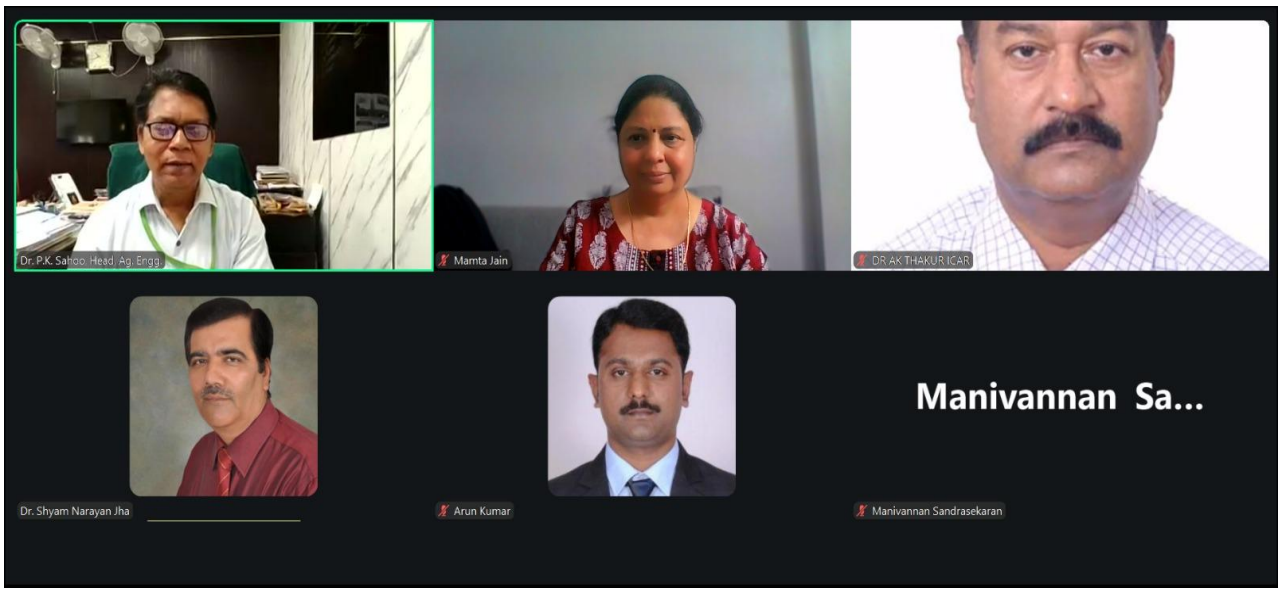
1. **Co-publishing JAEI with Springer–** The President informed the EC that a springer officers handling the journal visited to me and had meetings for about two hours. Dr. Thakur, Dr. Dhingra and Dr. Adlul also joined the meeting. Various terms and conditions were discussed. ISAE clearly stated that it will not commit any financial contribution. Springer gave idea of paying 10% royalty, while we expected more than that. Paper acceptances, editing etc. responsibilities will remain with the ISAE Editorial Board appointed by the ISAE. Marketing and distribution will be handled by Springer. If everything go well, MoU may be signed possibly w.e.f. 2027 issues onward. Further action President is authorized to take further action and complete the negotiation to fulfill the most desired things by all members of ISAE
2. **Revision of printing charges for Journal** – The Secretary General briefed the EC regarding the discussions held with the printer. Changes in printing charges were discussed. The revised rates will be reviewed and finalized after further negotiation. Inclusion of a Booklet Category was proposed (approximately 100 pages, limited to not more than 50 copies). The terms may be negotiated further before finalization. The EC authorized Secretary general and Treasurer to negotiate and finalize.
3. **ISAE Overseas Chapter –** Dr. Manivannan informed the EC that he contacted known overseas members and Dr. Manickavasagan Annamalai, Prof., University of Guelph, Ontario, Canada expressed willingness to coordinate and serve as Chairperson of the Overseas Chapter. The EC resolved that: a comprehensive list of overseas members shall be prepared from the existing ISAE database and formal steps will be initiated to establish and operationalize the Overseas Chapter
4. **EBSCO Proposal –** It was informed by the chief editor that EBSCO host has reached to incorporate some modification in our agreement to allow the EBSCO to negotiate and sign an agreement with third party for allowing contents of JAEI for LLM to be used by Artificial Intelligence and such prediction modeling, in lieu of that they will pay ISAE on mutually agreed amount. The revised addendum of that Agreement had been circulated earlier to all EC members and they have agreed and approved to sign the addendum/changes in the agreement. The EC approved the proposal and authorized the Secretary General to sign the said document
5. **Editorial Board JAEI** – The proposal sent by the editor-in-chief for changing the editors of Farm Machinery & Power and Processing, dairy & Food Engineering divisions as current editors are over-busy in official engagements. The EC discussed the matter in detail and approved as proposed as: Dr. R. Machivaram, Associate Professor, IIT Kharagpur for Farm Machinery & Power (FMP) and Dr. S. K. Giri, HoD at ICAR-NISA Ranchi for Processing, Dairy & Food Engineering (PFE).

ISAE Happenings

11th ISAE Executive Committee meeting held on 14th Feb., 2026

6. **ASABE Conference** – The President informed the EC that he received an invitation to attend the upcoming conference of American Society of Agricultural and Biological Engineers (ASABE). He invited EC members to express their interest in attending. In the absence of other nominations, the President proposed to represent ISAE. The EC unanimously agreed: The President shall represent ISAE at the ASABE Conference. Financial provisions shall be extended as per ISAE bylaws
7. **ISAE Srinagar Conference** – It was resolved that: The organizer of the proposed Srinagar Conference shall be invited to the next EC meeting. The theme and tentative dates will be finalized after detailed discussion
8. **Maintenance of ISAE flats in Ranjeet Nagar** – The EC discussed the regular maintenance requirements of the ISAE residence and demand raised by the RWA. Detailed expenditure statements shall be obtained and an amount of Rs. 50,000/- as per demand was approved towards payments of maintenance charges
9. Disposal of old issues of JAEI and AET were discussed as approved in earlier meeting and was requested to complete this task as soon as possible.
10. Issue of updating of contact details of large number of members were discussed and decided to make a separate list of them and try to find out their details through contacting old members, chapters concerned etc.
11. **Review of Committed and Pending Works** – The President emphasized the need to review all previous proceedings and identify uncompleted works. All pending matters shall be segregated and prioritized. A 12-month review mechanism shall be implemented to ensure completion of pending assignments

The meeting concluded with a formal vote of thanks to the Chair and Committee Members



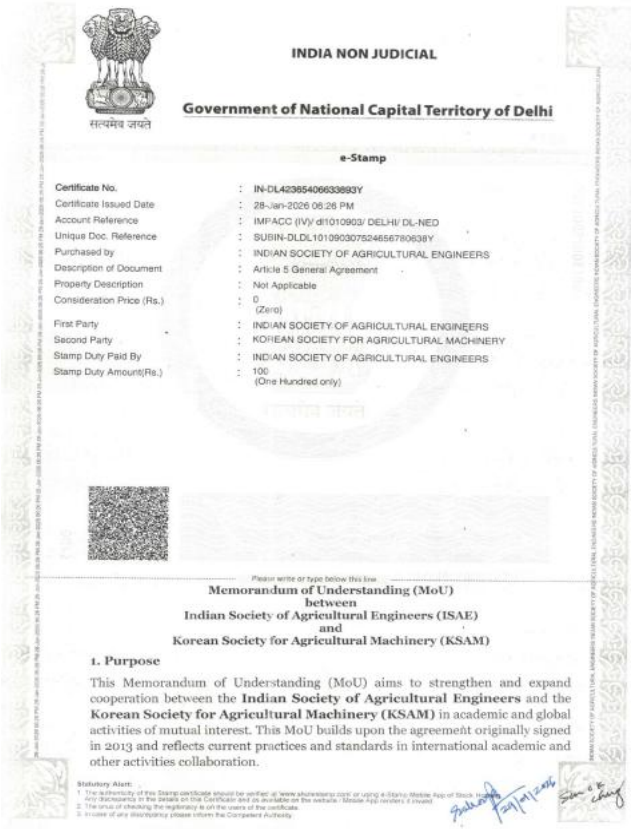
ISAE Happenings

Indian Society of Agricultural Engineers (ISAE) signed MoU with the Korean Society for Agricultural Machinery (KSAM)

This Memorandum of Understanding (MoU), signed on January 29, 2026, establishes a formal framework for cooperation between the Indian Society of Agricultural Engineers (ISAE) and the Korean Society for Agricultural Machinery (KSAM).

The key Highlights of the Agreement are :

- To strengthen academic and global collaboration, building upon a previous agreement from 2013.
- Academic Exchange: Sharing information and organizing online lectures.
- Membership Benefits: Exploring reciprocal memberships and fee reductions.
- Publications: Facilitating joint journal publications and potentially reducing article processing charges.
- Events: Encouraging participation in international conferences and collaborative research projects with discounted registration for invited members.
- Participating members or their respective societies generally bear their own expenses.
- The MoU is non-binding and does not create legal obligations under international or domestic law.



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Memorandum of Understanding (MoU)
between
Indian Society of Agricultural Engineers (ISAE)
and
Korean Society for Agricultural Machinery (KSAM)

1. Purpose

This Memorandum of Understanding (MoU) aims to strengthen and expand cooperation between the **Indian Society of Agricultural Engineers** and the **Korean Society for Agricultural Machinery (KSAM)** in academic and global activities of mutual interest. This MoU builds upon the agreement originally signed in 2013 and reflects current practices and standards in international academic and other activities collaboration.

Statutory Alert:

The agreement is valid for five years and can be terminated by either party with a 90-day written notice. The document was signed by Dr. Pramod Kumar Sahoo (Secretary General, ISAE) and Prof. Dr. Sun-Ok Chung (President, KSAM).

ISAE Happenings

Special Lecture Delivered at Banaras Hindu University-

A special lecture on **"Runoff Prediction in Ungauged Watershed: Challenges and Research Avenue"** was delivered by **Prof. R. Subbaiah**, Dean of **Dr. Rajendra Prasad Central Agricultural University**, on 3rd February 2026 at the Department of Agricultural Engineering, Institute of Agricultural Sciences, **Banaras Hindu University**, Varanasi. The lecture provided critical insights into emerging issues in water resources and agricultural engineering and attracted faculty members, postgraduate students, research scholars, and professionals from related fields.

Prof. Subbaiah emphasized the increasing scientific importance of reliable runoff estimation in ungauged watersheds, particularly in the context of climate variability, water scarcity, and sustainable watershed management. He discussed key methodological challenges, including limited hydrological observations, spatial variability of rainfall, parameter uncertainty in hydrological models, and the need to integrate remote sensing, geospatial technologies, and data-driven modeling approaches. Highlighting the importance of interdisciplinary collaboration, he encouraged young researchers to blend conventional hydrological principles with advanced computational tools, machine learning techniques, and rigorous field validation to enhance prediction accuracy and support informed watershed planning.

The lecture also showcased recent national and international research trends, relevant case studies, and practical applications in agricultural water management, flood assessment, and soil and water conservation. An interactive discussion session followed, during which participants raised thoughtful queries regarding model selection, data limitations, uncertainty analysis, and future research directions. Prof. Subbaiah responded comprehensively and offered valuable academic and professional guidance to students and early-career researchers.

The program concluded with a formal vote of thanks delivered by the Head of the Department, expressing sincere gratitude to the distinguished speaker for sharing his expertise and inspiring the academic community.

ISAE Happenings

Alumni Meet Organized at the College of Agricultural Engineering and Technology, Dr. PDKV Akola

The College of Agricultural Engineering and Technology (CAET), established in 1970 under Dr. Panjabrao Deshmukh Krushi Vidyapeeth (PDKV), Akola, successfully organized a two-day Alumni Meet on December 12 and 13, 2025. The event brought together alumni spanning 55 years of the institution's academic legacy, representing diverse sectors including academia, government services, industry, entrepreneurship, research, and agri-based enterprises. The meet served as an effective platform for strengthening alumni–institution relations and facilitating knowledge exchange between past and present students. The inaugural session was presided over by the Hon'ble Vice-Chancellor of PDKV, Akola, Dr. Sharad Gadakh, lending institutional significance to the programme. The event was graced by Mrs. Anita Meshram, Chief Executive Officer, Zilla Parishad, Akola, and eminent alumnus and a business man Mr. Ganesh Deshmukh.

In the welcome address, Dr. Surendra Kalbande, Dean, CAET, outlined the objectives of the Alumni Meet and highlighted the recent academic and infrastructural developments of the college. He emphasized the integration of digital learning platforms, establishment of state-of-the-art laboratories, modernization of teaching and research infrastructure, and the sustained academic growth of the institution. On this occasion, the Agricultural Engineering Souvenir–2025 was released. Homage was paid to departed faculty members, and retired professors were felicitated for their lifelong contributions to agricultural engineering education.

Addressing the gathering, Mr. Ganesh Deshmukh emphasized the global relevance and multidisciplinary scope of agricultural engineering and encouraged students to pursue professional excellence with confidence. Mrs. Anita Meshram highlighted the importance of alumni–student interaction in identifying emerging opportunities in smart farming, drone-based agriculture, climate-resilient technologies, and rural development. She also shared insights into Zilla Parishad initiatives for women self-help groups, particularly the "Drone Didi" programme.

Presiding over the session, Dr. Sharad Gadakh underscored the critical role of agricultural engineering in enhancing farm productivity and increasing farmers' income. He elaborated on contributions from key disciplines such as Farm Power and Machinery, Agricultural Processing, Irrigation Engineering, Watershed Management, Agricultural Structures, and Renewable Energy. He also informed participants about university initiatives related to competitive examinations, entrepreneurship development, and hi-tech agriculture.

The programme featured interactive sessions and panel discussions, where alumni shared professional experiences and provided career guidance to students. Alumni expressed their willingness to support the institution through mentoring, guest lectures, internships, and collaborative activities.

The Alumni Meet strengthened alumni–institution linkages, enhanced career guidance and networking opportunities for students, and generated commitments from alumni for active involvement in academic and professional development activities. The meet concluded with a resolution to organize alumni interactions regularly and foster sustained collaboration for institutional growth.

ISAE Happenings

ISAE Delhi Chapter organized : Online Workshop on "Solving Agricultural Engineering Problems Using Technical Computing Softwares"

ISAE Delhi Chapter, Organizing an **Online Workshop on "Solving Agricultural Engineering Problems Using Technical Computing Software"**, on **Date:** 02 February 2026.

The workshop aims to familiarize participants with the application of modern technical computing softwares for solving real-world problems in Agricultural Engineering. It will provide practical insights into modeling, data analysis, simulation, and decision-making tools that are increasingly important in teaching, research, and professional practice.

This program was highly beneficial for **undergraduate and postgraduate students, research scholars, faculty members, and professionals**, helping them enhance their analytical and computational skills in the field of agricultural engineering.

E-certificates of participation was also awarded to all participants who attend the workshop.

Announcement of 7th CIGR International Conference 2028

The **7th CIGR International Conference, scheduled for 3rd – 7th October 2028 in New Delhi, India**. It will be jointly organized by the CIGR International Commission of Agricultural and Biosystems Engineering, the Indian Society of Agricultural Engineers (ISAE), and the Indian Council of Agricultural Research (ICAR). The event aims to highlight transformative engineering innovations that empower smallholder farms and contribute to global food security and sustainability.

The conference, themed "Engineering Innovations in Small Farms for Food-Secure Future," will address a comprehensive range of topics including land and water engineering, automation, AI in agriculture, crop production technologies, post-harvest processing, farm energy solutions, and modern system management. **ISAE is going to organise this event.**

TECHNICAL SESSIONS (WITH BROAD AREAS/TOPICS)

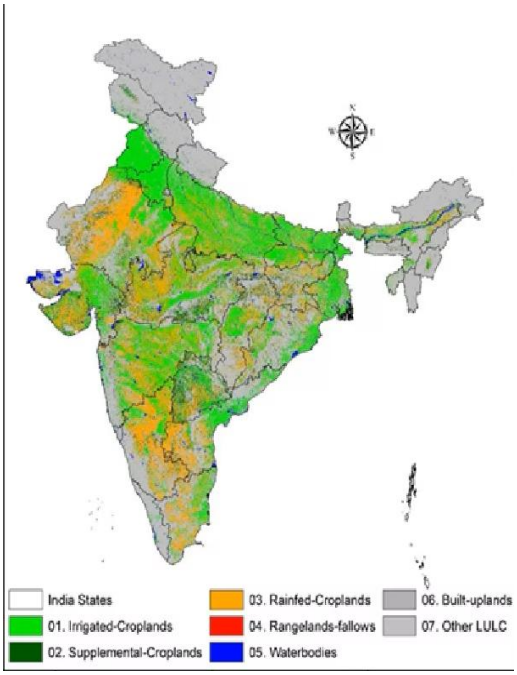
The conference will host an extensive range of technical sessions and thematic tracks under the following seven broad areas:

Section I: Land and Water
Section II: Structures and Environment
Section III: Plant Production
Section IV: Energy in Agriculture
Section V: System Management
Section VI: Bioprocesses
Section VII: Information Technology

In addition to scientific discussions, the conference will feature: Plenary Sessions by global experts; Student Competitions (elocution, design contests); Startup Showcases and live technology demos; Use Case Presentations, exhibitions, and field visits; Cultural tours to explore the heritage of New Delhi

ICRISAT Unveils High-Resolution Irrigated– Rainfed Cropland Map to Strengthen National Policy Decisions

Agriculture in India is defined by a simple but decisive divide: irrigated and rainfed. This divide shapes cropping patterns, water use, yields, drought vulnerability and more. Yet most national agricultural datasets available to decision-makers are too coarse to show what is happening at the field level. As a result, planners, researchers and agencies often work without a clear picture of where irrigation sustains production and where farmers remain exposed to rainfall variability.



With climate extremes intensifying and water demand rising, there is a pressing need for a high-resolution, reliable map that captures irrigation dependence across the country with real spatial detail. To address this gap, a team of researchers at ICRISAT has produced a **10-meter irrigated and rainfed cropland map of India for 2024–25**, using dense Sentinel-2 time-series data, field observations and seasonal behaviour analysis. Previous to this development, the team published multiple agricultural cropland products of South Asia using Landsat-8 (30m) and MODIS (250m) data.

"As India is making steady progress towards sustainable water use under the schemes such as the National Water Mission and More Crop Per Drop, water budgeting for agriculture is imminent. This map is a valuable resource for decision-makers and for guiding policy interventions," said Dr Himanshu Pathak, Director General, ICRISAT.

The dataset achieves around 90% accuracy in mapping cropland and nearly 70% accuracy in distinguishing irrigated from rainfed systems. Its high level of detail reveals true field boundaries, mixed management and transitions that are not visible in coarser national data layers.

"As an international not-for-profit organization, we at ICRISAT anticipate this dataset will empower decision-makers at every level, from village panchayats to central government agencies, to better understand India's semi-arid and irrigated landscapes and design targeted strategies for improving water-use efficiency," said Dr Stanford Blade, Deputy Director General–Research & Innovation, ICRISAT.

These maps are accessible through a simple, user-friendly Google Earth Engine application that allows users to view the map at district level, explore class-wise statistics and interact with the data without needing specialized processing skills. The new map delivers a clear, high-resolution picture of India's agricultural water dependence, paired with an accessible tool that makes this information easier to use for planning, research and operational decision-making.

Source : **ICRISAT**

ICRISAT's Solar-Powered Water Hyacinth Harvester Recognized Among India's Top 100 Innovations of 2025

ICRISAT is restoring freshwater ecosystems using its solar-powered water hyacinth harvester. The recognition of this harvester as one of India's Top 100 Innovations of 2025 was announced during the launch of the book *Top 100 Indian Innovations 2025* at the India International Innovation and Invention Expo (INEX India) on 13 November 2025 in Goa. It highlights the significance of ICRISAT's solar-driven, eco-friendly solution in combating water hyacinth infestation, a persistent problem affecting millions of people and water systems across Asia, Africa, and Latin America.

Designed and invented in-house, the harvester provides a sustainable alternative to conventional mechanical weed removal systems. It utilizes solar energy to enable rural communities to clear waterways, improve water flow in tanks and reservoirs, and repurpose the collected biomass for composting, biogas generation, or other value-added uses.

ICRISAT secured its first industrial design registration in India in 2024, followed by an IP licensing agreement with Eco-Paryavaran in 2025. The technology is now listed among the Top 100 innovations of 2025. Speaking on the innovation, Director General of ICRISAT, Dr Himanshu Pathak, said as the world confronts the evolving challenges of climate change, innovations like this redefine what is possible for sustainable ecosystem restoration.

"*In some Indian wetlands, water hyacinth biomass can soar to an astonishing 408 tons per hectare. These dense floating mats shut out sunlight, drain dissolved oxygen, and ultimately suffocate fish and other aquatic life. Their explosive growth not only devastates biodiversity but also degrades water quality. Our solar-powered harvester provides a practical and sustainable solution for clearing this invasive weed and revitalizing stressed ecosystems. This innovation honors the communities we work with and reflects ICRISAT's 50-year tradition of designing solutions with and for those who rely on resilient ecosystems*," said Dr Pathak.

Conventional weed-removal systems are costly to operate and maintain, often straining the budgets of rural communities and local agencies. ICRISAT's solar-powered water hyacinth harvester presents a transformative, low-cost alternative. By pairing ecological restoration with economic opportunities, the initiative is transforming a major environmental challenge into a catalyst for rural livelihoods.

"*This is a standout example of lab-to-field translation. The Government of Odisha, Eco-Paryavaran, and our in-house multidisciplinary team have together delivered a solution that offers 50–60% savings in time, labor, and running costs, providing communities with a sustainable and affordable option for restoring water bodies and gaining an economic benefit*," said Dr Stanford Blade, Deputy Director General – Research and Innovation at ICRISAT

ICRISAT's Solar-Powered Water Hyacinth Harvester Recognized Among India's Top 100 Innovations of 2025

Solar powered water hyacinth harvester, Dr Aviraj Datta, ICRISAT

Dr. Aviraj Datta is scientist working at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) for more than a decade. He is working in the broad domain of 'waste to wealth initiatives' focusing on rural wastewater management, safe reuse of wastewater in agriculture and agro-waste valorisation through aerobic composting. He has done his M. Tech in Environmental Science & Engineering from Birla Institute of Technology, Mesra and his PhD in Environmental Engineering from the Indian Institute of Technology, Madras. A GATE scholar and recipient of DAAD fellowship, Dr. Datta's PhD thesis received GE-Ecomagination Excellence Award in the 51st convocation of IIT Madras in 2014 for being the Best Green PhD thesis. Presently, he is based in Bhubaneswar coordinating ICRISAT project activities in Odisha.

Technology

Water hyacinth (Pontederia crassipes) is an aquatic weed native to Amazonia which was introduced to many parts of the world during the 1890s or later as an ornamental plant without realizing its weed potential. In absence of any natural predator this fast-growing aquatic weed, rapidly infested eutrophicated surface water bodies in the tropical and sub-tropical regions out competing native aquatic plants for both nutrients and sunlight. Control of water hyacinth using chemicals such as glyphosate is not feasible considering adverse environmental consequences. Biological control of this weed infestation using weevils has thus far showed limited often site-specific success which often becomes difficult to replicate elsewhere. Physical removal of water hyacinth mat is generally undertaken periodically as an abatement strategy.

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Developed under the project "Sustainable Valorisation of Water Hyacinth Biomass through Aerobic Composting as a Rural Enterprise—A Waste to Wealth Initiative," supported under the Innovative Scheme (State Plan) by the Department of Agriculture and Farmers' Empowerment, Government of Odisha, India, the innovation delivers benefits that extend well beyond cleaning water bodies.

"At the field level, we go beyond just harvesting the invasive weed. We train communities on how to convert this harvested water hyacinth biomass into high-quality compost, bio-fertilizers and other value-added products that support circular, community-driven economies," explained Dr Aviraj Datta, Scientist - Wastewater Management at ICRISAT.

The solar-powered water hyacinth harvester can be accessed through multiple government rural development schemes, making it easier for communities to adopt.

Source : ICRISAT

Union Budget 2026–27 historic and unprecedented": Shri Shivraj Singh Chouhan

Union Minister for Rural Development, and Agriculture & Farmers' Welfare, Shri Shivraj Singh Chouhan described the Union Budget 2026–27 as "historic" and "unprecedented", saying that it lays a strong foundation for a developed and self-reliant India under the leadership of Prime Minister Shri Narendra Modi. Shri Chouhan said the Budget has been presented for the 12th time under Prime Minister Modi's leadership and that Smt. Nirmala Sitharaman has become the first woman Finance Minister to present the Union Budget for the ninth consecutive time, which he said is a matter of immense pride for the country.

"This Union Budget is an epic that will realise the dream of a Developed India (Viksit Bharat). It is a Budget for social prosperity and fulfilment of national resolve. It is a dynamic Budget for a Developed India. Inspired by the Prime Minister's foresight and vision, this Budget is laying a strong foundation for a self-reliant, empowered and prosperous India by 2047. This Budget is writing a new chapter by bringing about transformative change in the lives of farmers, youth, women and the poor — the four pillars of the nation," Shri Chouhan said.

A budget for villages, the poor, farmers, youth and women

The Union Minister said the Budget has been framed keeping in mind villages, the poor, farmers, youth and women. He said poverty has been steadily declining due to schemes being implemented under Prime Minister Modi's leadership and that this Union Budget is extremely important from the perspective of making the poor self-reliant.

'Lakhpati Didi' and 'SHE-Mart': A major step towards making rural women entrepreneurs

Shri Chouhan said that taking forward the success of the 'Lakhpati Didi' scheme, the Union Budget has made provisions for Self-Help Entrepreneurs through 'SHE-Mart'. Under this initiative, community-owned retail outlets will be established in every district as a platform to sell products made by women, where items produced by Self-Help Groups and rural women will get access to new markets. He said women engaged in animal husbandry, agriculture-related activities and other occupations will no longer remain limited to subsistence livelihoods but will move forward as entrepreneurs, which is the core objective of this initiative.

21% increase in Rural Development budget

The Union Minister said the budget of the Rural Development Ministry has been increased by 21 per cent this year. He stated that when the budgets of the rural development and agriculture departments are viewed together, the combined budget of the Rural Development and Agriculture ministries has now crossed ₹4,35,779 crore, reflecting the government's commitment to villages and farmers.

Union Budget 2026–27 historic and unprecedented": Shri Shivraj Singh Chouhan

Shri Chouhan said that within the overall Rural Development budget, a provision of over ₹1.51 lakh crore, including states' contributions, has been made for the 'Viksit Bharat G Ram G' scheme alone. Speaking about MGNREGA, he said that earlier the overall MGNREGA budget was around ₹86,000 crore, while this time the Centre's share alone has been increased to more than ₹95,692 crore. With the addition of the states' share, the total allocation will exceed ₹1.51 lakh crore, which he described as "historic and unprecedented".

Double direct assistance to panchayats, a major step towards developed and self-reliant villages

Shri Chouhan said that under the latest decision of the 16th Finance Commission, more than ₹55,900 crore will be transferred directly to panchayats. Drawing a comparison, the Union Minister said that during the earlier five years, panchayats had received around ₹2.36 lakh crore directly, which has now increased to about ₹4.35 lakh crore — almost double.

The Minister expressed confidence that the ₹1.51 lakh crore allocation under the 'Viksit Bharat G Ram G' scheme, together with ₹55,900 crore to be received under the Finance Commission, will play an unprecedented role in building developed, self-reliant, employment-oriented and poverty-free villages.

Significant rise in agriculture budget, strong focus on research and affordable fertilisers

Speaking on the agriculture sector, Union Minister Shri Shivraj Singh Chouhan said the agriculture department's budget has been increased to ₹1,32,561 crore this year. He said a provision of ₹9,967 crore has been made for agricultural education and research, particularly for the Indian Council of Agricultural Research (ICAR), which will strengthen research and innovation. On fertiliser subsidy, he said that to ensure the availability of affordable fertilisers, a subsidy of ₹1,70,944 crore has been provided so that production costs are reduced and farmers get relief.

Direct benefits to farmers through National Fibre Scheme and medicinal plants

Shri Shivraj Singh Chouhan said that under the National Fibre Scheme, focus has been placed on fibres such as silk, wool and jute, which will provide direct benefits to farmers associated with these sectors. He also said that provisions related to the certification and export of medicinal plants under the Ministry of AYUSH will help increase the income of farmers cultivating medicinal plants.

The Union Minister said that along with traditional crops, clear provisions have been made for high-value crops such as coconut, cocoa, cashew and sandalwood. Arrangements have been made in the Budget for the rejuvenation of old coconut plantations and for planting new orchards. Shri Chouhan added that separate provisions have been made to increase the production of fruits and vegetables and to ensure their easy movement to consumers, so that farmers get better prices and consumers get easier access.

Source : https://www.pib.gov.in/PressReleasePage.aspx?PRID=2221794&reg=3&lang=2

Women-Led Integrated Farming: From Subsistence to a Thriving Agri-Enterprise in Chhattisgarh

Smt. Lekesh Bai, a progressive woman farmer from Village Thanabodi, Block Narharpur, District Kanker, Chhattisgarh, stands as a powerful example of women-led agricultural transformation through the adoption of an Integrated Farming System (IFS). With primary education and strong determination, she has successfully converted subsistence agriculture into a sustainable, diversified, and market-oriented farming enterprise.

Before institutional intervention, Smt. Lekesh Bai practiced traditional rainfed agriculture, cultivating paddy and maize on about four acres of land. Her farming system was characterized by low productivity, lack of diversification, and high climatic risk, which restricted livelihood security and resulted in an annual net income of nearly ₹2.0 lakh.

Her transformation began in 2012 after establishing contact with Krishi Vigyan Kendra (KVK), Kanker. Through skill-oriented trainings, demonstrations, and continuous technical guidance, she gradually shifted from mono-cropping to diversified farming. Support from the Agriculture Department enabled the construction of a tube well, while assistance from the Horticulture Department facilitated the adoption of drip irrigation. These interventions converted her rainfed land into an assured irrigated system and laid a strong foundation for the adoption of an Integrated Farming System.

At present, Smt. Lekesh Bai manages 17 acres under a comprehensive IFS model. This includes commercial vegetable cultivation under drip irrigation on 12 acres, fodder crops on three acres, fish farming integrated with duck rearing on 0.5 acre, goat rearing on 0.5 acre, poultry farming on 0.1 acre, and an improved dairy enterprise with 40 cattle. Value addition through processing of milk into paneer and ghee, efficient recycling of farm resources, and strong market linkages ensure year-round income generation and employment opportunities.

Women-Led Integrated Farming: From Subsistence to a Thriving Agri-Enterprise in Chhattisgarh

As a result of these interventions, her annual net income increased dramatically from ₹2.0 lakh in 2012 to nearly ₹40.0 lakh in 2025, clearly demonstrating the economic viability, resilience, and sustainability of integrated farming systems. Her success highlights the potential of diversification and convergence-based interventions in enhancing farm income and reducing risk.

In recognition of her outstanding contributions to agriculture, Smt. Lekesh Bai has received several prestigious awards, including the Farmer Fellowship Award in 2016 from IGKV Raipur, the Innovative Farmer Award in 2018 from ICAR Patna, the Pt. Deendayal Upadhyay Krishi Antyodaya Puruskar (Zonal) in 2019, and the Best Farmer Award in 2025 from ICAR–NAARM.

Notably, on 16 July 2019, she was conferred the Pandit Deendayal Upadhyay Antyodaya Krishi Puraskar (2018) by the Union Agriculture Minister, Shri Narendra Singh Tomar, along with a citation and a cash prize of ₹50,000. Today, Smt. Lekesh Bai's farm functions as a live demonstration unit, attracting around 850 farmers and farm women annually who visit to learn about integrated farming, diversification, and sustainable livelihood practices.

Her journey underscores the critical role of KVKs, institutional convergence, and women farmers in promoting climate-resilient, income-enhancing agricultural systems and serves as an inspiring model for rural transformation.

Source : https://icar.org.in/en/women-led-integrated-farming-subsistence-thriving-agri-enterprise-chhattisgarh

Circular Economy in Agriculture: Waste to Wealth

The growing scale of waste generation has emerged as a critical environmental challenge with substantial economic implications. In India, as agriculture plays a pivotal role in ensuring **food and nutritional security,** it also generates significant waste during cultivation, harvesting, and processing. Inadequate management of agricultural waste has become a substantial source of environmental contamination affecting **air, soil, and water.** The country generates an estimated **350 million tonnes of agricultural waste annually,** comprising crop residues, husk, straw, and by-products from food processing activities. According to the Ministry of New and Renewable Energy, India's agricultural residues have the potential to generate over **18,000 MW of power annually**. In addition to energy generation, these residues can be used to produce **nutrient-rich organic fertilisers**. Such fertilisers help **enhance soil health** and **reduce dependence on chemical inputs** in agriculture.

In addition, globally, an estimated 1.3 billion tonnes of food produced for human consumption are wasted annually, while nearly one-third of biodegradable municipal solid waste is generated in household kitchens. When organic waste, such as food waste, agricultural residues, and other biodegradable municipal waste, is inadequately managed, it decomposes in landfills, releasing methane and other greenhouse gases. This contributes to air and groundwater pollution, generates noxious odours, and accelerates environmental degradation, thereby intensifying the impacts of climate change. Therefore, land use, resource utilization, and sustainable waste management solutions have become both environmental priorities and economic necessities.

Building a Circular Economy to Balance Growth and Sustainability

The importance of adopting a **"waste-to-wealth"** approach lies in reimagining waste as a valuable resource rather than an economic burden and environmental issue. It necessitates a rethinking of material flows within the economy, emphasizing the recovery, reuse, and reintegration of value. The circular economy has emerged as the most comprehensive and scalable approach for enhancing resource efficiency across the full lifecycle of products and processes.

At its core, **circularity** represents a systemic transformation in production and consumption patterns, aimed at minimizing the extraction of raw materials, water, and energy, while eliminating waste at every stage. This approach is guided by the principles of **the six Rs- Reduce, Reuse, Recycle, Refurbish, Recover, and Repair,** ensuring that materials remain in productive use for extended periods. A defining feature of this model is **"true recycling**," in which waste is converted back to its original form without compromising quality, enabling higher-value recovery and avoiding the losses associated with downcycling.

Circular Economy in Agriculture: Waste to Wealth

Understanding Agricultural Waste from Production to Consumption

Agricultural waste is generated throughout the journey from farm to food plate. It includes crop residues, animal manure, processing by-products, and effluents produced during crop cultivation, livestock rearing, post-harvest handling, and the processing of grains, fruits, vegetables, sugarcane, oilseeds, and dairy products.

Crop Residues / Stubble: The agricultural waste cycle begins at the post-harvest stage, when crops leave behind residues such as stalks, straw, and stubble. A substantial proportion of this biomass is productively utilized as cattle feed, compost, biogas, mulch, or fuel. However, a significant share is still burned in situ to facilitate rapid land preparation for subsequent cropping cycles. Residue burning leads to the depletion of soil nutrients, degradation of soil health, and the emission of greenhouse gases.

Animal Manure, By-products, and Carcasses: Livestock farming constitutes a significant source of agricultural waste, particularly in India, where large animal populations generate enormous quantities of dung and bedding waste. In the case of a disease outbreak, the safe and timely disposal of animal carcasses is essential to prevent the transmission of infectious and zoonotic diseases. Therefore, proper carcass management underscores the importance of expanding infrastructure, financing, and technical capacity to ensure environmentally sound and public health-safe disposal practices.

Post-Harvest Losses: Post-harvest losses refer to measurable reductions in both quantity and quality of a product. These losses can occur at any stage of the post-harvest system. Food losses may be quantitative, such as a decrease in weight or volume, or qualitative, including loss of nutrients and undesirable changes in taste, colour, texture, or appearance. Better post-harvest supply chain management would minimize waste, increase real consumption, and enhance income across the economy.

Food waste: Food waste occurs later in the value chain, including markets, retail outlets, and households, where edible food is discarded. Such wastage contributes significantly to greenhouse gas emissions. However, emerging technologies are increasingly converting food waste into value-added products, such as engineered biochar, which has the potential to sequester carbon, enhance soil health, and remove environmental contaminants. By transforming waste into a resource, food waste management is evolving into a crucial pillar of circularity within the agriculture and food systems.

Circular Economy in Agriculture: Waste to Wealth

Government Initiatives Driving Circularity in Agriculture

The government is implementing various policies to promote circularity in agriculture and allied sectors by converting waste into valuable resources. Initiatives such as **Galvanising Organic Bio-Agro Resources Dhan (GOBARdhan)** and **Crop Residue Management** are transforming agricultural, animal, and food waste into organic manure. Complementing these schemes, the Agriculture Infrastructure Fund (AIF) and Animal Husbandry Infrastructure Development Fund (AHIDF) support the development of infrastructure to convert agricultural waste into value. Additionally, the Jal Shakti Mission encourages the reuse of domestic and industrial wastewater for non-potable purposes, including agriculture, landscaping, and horticulture. All these initiatives are working towards the 'waste-to-wealth' approach by promoting resource recovery, reuse, and value addition across the agriculture and allied sectors.

Transforming Crop Residues and Biomass into Resources

Galvanizing Organic Bio-Agro Resources Dhan (GOBARdhan): The scheme brings together multiple ministries to **convert cattle dung, crop residues, and food waste into compressed biogas (CBG) and organic manure.** In 2023, the government launched the **Unified GOBARdhan Portal** to enhance transparency and functionality. By **14th January 2026**, the scheme covered **51.4%** of India's districts and had **979 operational biogas plants**, indicating substantial progress in sustainable waste management. Additionally, the Indian Council of Agricultural Research (ICAR) has developed **crop-specific guidelines** to help **farmers use biogas** slurry to enhance soil health.

Additionally, the government has eased regulations and introduced targeted incentives to enhance the scheme's impact. The inclusion of compressed biogas (CBG) in carbon credit trading, tax relief on CBG-blended fuels, and simplified norms for organic manure under the Fertilizer Control Order have accelerated biogas adoption, attracted private investment, and strengthened the national waste-to-wealth ecosystem.

Crop Residue Management (CRM): The CRM initiative aims to reduce the open burning of crop residues by promoting **in-situ management**, where residues are directly incorporated into the soil or used as mulch, and **ex-situ management**, where residues are collected for composting, biogas production, or bioenergy. These practices help improve soil health, enhance farm productivity, and promote effective waste management. During this period, the states have set up over **42,000 Custom Hiring Centres (CHCs)** for crop residue management machines, and more than **3.24 lakh machines** have been supplied to these CHCs and individual farmers.

Circular Economy in Agriculture: Waste to Wealth

Building Infrastructure to Convert Agricultural Waste into Value

Agriculture Infrastructure Fund (AIF): The AIF plays a key role in strengthening the agricultural value chains, including those involved in organic agriculture. Organic farmers, Farmer Producer Organizations (FPOs), Primary Agricultural Credit Societies (PACS), and agri-entrepreneurs have leveraged **AIF support to establish warehouses, cold storage facilities, sorting and grading units, and primary processing centres.** Launched in **2020-21**, the AIF provides medium to long-term institutional credit for the development of post-harvest infrastructure and farm-level assets.

Animal Husbandry Infrastructure Development Fund (AHIDF): Launched in 2020, the Government has introduced the **AHIDF.** under the *Atmanirbhar Bharat Abhiyan*, with a corpus of ₹ **15,000 crore** to strengthen infrastructure across the livestock value chain. The fund is designed to catalyse private and cooperative investments in meat and dairy processing, animal feed manufacturing, and waste-to-wealth management, thereby enhancing value addition, efficiency, and resilience in the animal husbandry sector. To embed sustainability and circularity into the dairy ecosystem, the government has initiated the formation of three **exclusive Multi-State Cooperative Societies (MSCS)** with specific objectives: -

- To supply cattle feed, mineral mixtures, and **technical inputs that enhance livestock productivity.**
- To promote organic manure production and sustainable waste utilization through cooperative models, **converting cow dung and agricultural waste into organic fertilizers and biogas**.
- To facilitate scientific management of hides, bones, and horns of fallen animals, **ensuring responsible disposal while creating additional value streams** within the livestock sector.

This approach supports natural farming practices, promotes circularity by minimizing waste, and addresses the rising demand for environmentally sustainable soil inputs, thereby enhancing the resilience and long-term sustainability of the livestock sector.

India's shift towards a circular economy in agriculture demonstrates that environmental sustainability and economic growth can be mutually reinforcing. While the scale of agricultural and food waste poses a significant concern, targeted policies, strategic infrastructure investments, and coordinated institutional action are increasingly converting waste into energy, organic inputs, water resources, and livelihood opportunities.

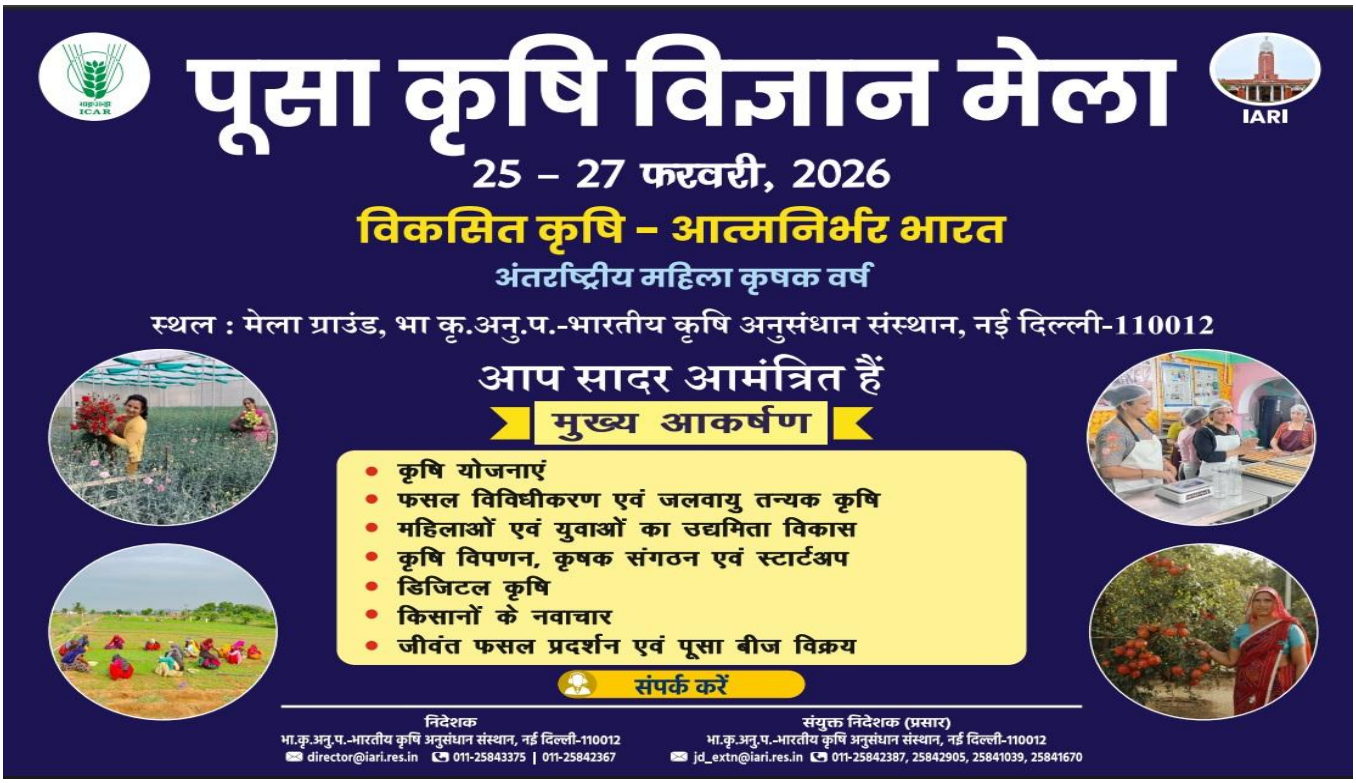
Flagship initiatives such as **GOBARdhan, crop residue management programmes, the Agriculture Infrastructure Fund (AIF),** and the **Animal Husbandry Infrastructure Development Fund (AHIDF)** represent the potential of circular agriculture to enhance soil fertility and water security, and to strengthen farm resilience. By scaling proven interventions, strengthening local institutions, and aligning economic incentives with ecological outcomes, circular agriculture can play a pivotal role in ensuring long-term food security, climate resilience, and inclusive rural development, turning agricultural waste into a cornerstone of sustainable prosperity.

Source : https://www.pib.gov.in/PressNoteDetails.aspx?id=157409&NoteId=157409&ModuleId=3&reg=3&lang=2

Pusa Krishi Vigyan Mela 2026

The ICAR- Indian Agricultural Research Institute (ICAR- IARI), New Delhi, successfully organized the Pusa Krishi Vigyan Mela 2026 from 25-27 February 2026 at Mela ground, drawing scientists, policymakers, extension personnel, agri-entrepreneurs, progressive farmers, women farmers, rural youth, students and stakeholders from across the country. The three-day mega event served as a vibrant platform for showcasing innovative agricultural technologies, strengthening research-extension-farmer linkages, and promoting agri-entrepreneurship, particularly among women and youth.

A key highlight of the final day was the Technical Session on "Entrepreneurship Development of Women and Youth," chaired by Dr. N. P. Singh, President, ASEED-IDMAT, Noida, with Dr. Anupama Singh, Dean & Joint Director (Education), IARI, as Co-Chairperson. Experts delivered lectures on diversified enterprise opportunities, including vertical farming and hydroponics, floriculture and landscaping, mushroom cultivation, apiculture, dairy enterprises, and value addition and food processing. The session concluded with an interactive discussion, encouraging aspiring entrepreneurs to adopt innovative, technology-driven enterprises for sustainable income enhancement. The next technical session on Innovative Farmers' Meet was chaired by Dr. Ch. Srinivasa Rao, Director, ICAR-IARI, with Dr. R. K. Singh, ADG (Extension), ICAR, as Co-Chairman. PadmaShri awardee Shri Bharat Bhushan Tyagi attended as Guest of Honour. Innovative farmers shared their success stories, highlighting adoption of IARI technologies, productivity enhancement, and income growth. Speakers encouraged farmers to embrace scientific practices and continue grassroots innovation.



Pusa Krishi Vigyan Mela 2026

The Valedictory Function marked the successful culmination of the mela, featuring addresses by eminent dignitaries, distribution of awards, release of publications, and concluding remarks. The function was graced by Dr. R. S. Paroda, Chairman, Trust for Advancement of Agricultural Sciences (TAAS), along with the Director and Joint Director (Extension) of ICAR- Indian Agricultural Research Institute, and the awardee farmers. On this occasion, a total of 36 farmers were conferred the IARI Innovative Farmers Award, one farmer was recognized as the IARI Young Innovative Farmer and seven distinguished farmers were awarded with IARI Fellow Farmers, representing 25 states. On the occasion, three publications were released. Dr. R.S. Paroda appreciated IARI for developing improved crop varieties, climate-resilient technologies, and promoting diversification in farming systems. He noted that these efforts have helped transform India from an import-dependent nation to an export-oriented country, securing leading positions in several agricultural commodities and contributing to enhanced farmers' incomes. Dr. Paroda also highlighted that agricultural research is truly meaningful only when it is practically applicable to local field conditions.

He urged farmers to take full advantage of IARI's handholding support to further improve their income and livelihoods. Emphasizing that India is an agriculture-centric economy, he stated that farmers must remain at the centre of the vision for Viksit Bharat.

The Institute's Director, Dr. Ch. Srinivasa Rao, stated that this year the number of stalls and participating organizations was higher than before. On the occasion of International Women's Year, a special technical session was organized for women. The three-day fair was successful for farmers, attracting over 100,000 visitors. Key highlights included live demonstrations of improved crop varieties, display and sale of advanced seeds and plants by Pusa and other companies, stalls showcasing new technologies from government and private companies, exhibitions and sales of products, special displays for FPOs and startups, free soil and water testing, farmer consultancy services, technical sessions and evening cultural programme by All India Radio. The mela reaffirmed ICAR-IARI's commitment to transforming Indian agriculture through science-led innovation, entrepreneurship development, and inclusive growth

Source : https://iari.res.in/files/PKVM-26/Press_Note_3rd_day_Hindi_27022026.pdf

Industry Meet 2026 Organized to Strengthen Research–Industry Collaboration

ICAR–Indian Agricultural Research Institute organized the Industry Meet 2026 today with the objective of strengthening partnerships between research institutions and industry, particularly in the crop and horticultural sectors, to accelerate agricultural innovation and technology commercialization.

In his address, the Chief Guest, Dr. R. S. Paroda, Chairman, Trust for Advancement of Agricultural Sciences (TAAS) and former Director General (ICAR), underscored the importance of innovation-driven, sustainable agricultural systems. He emphasized the need for environmental safeguarding alongside productivity enhancement, strengthening public–private partnerships, and resolving issues related to IPR, licensing, and legal frameworks to facilitate smoother collaborations. He also highlighted the importance of inclusive regional growth, scaling of technologies, and enabling policies to support start-ups and industry engagement.

Dr. M. L. Jat, Secretary (DARE) & Director General, ICAR, emphasized that ICAR is a human-driven, science-based organization, and that close collaboration with industry is essential for translating research into tangible impact. He complimented ICAR-IARI for successfully bringing industry and academia onto a common platform, noting that such initiatives are vital for building human capital for Viksit Bharat, not only within academia but for the nation as a whole. Dr. Jat highlighted the need for stronger partnerships to bridge gaps in human capital, accelerate upscaling of promising technologies, and acknowledged the growing willingness of industry to support agricultural research through CSR funding.

Dr. D. K. Yadava, Deputy Director General (Crop Science), ICAR, emphasized the need for trait-based breeding approaches and effective utilization of germplasm resources to address current and future agricultural challenges. He underscored that breeding consortia must be strengthened.

Dr. Trilochan Mohapatra, Chairman, Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), New Delhi, highlighted the critical industry requirements in research, education, and extension. He emphasized that actionable outcomes from such industry–academia interactions should benefit all stakeholders — from students and scientists to farmers, consumers, and industry partners.

Industry Meet 2026 Organized to Strengthen Research–Industry Collaboration

Dr. Ch. Srinivasa Rao, Director, ICAR-IARI, in his address, highlighted key industry requirements and emphasized the need for aligning institutional research priorities with market and societal demands. He outlined strategic approaches to address mega challenges in agriculture. He advocated for the development of industry-driven joint programmes to ensure effective translation of research into impact-oriented solutions. Dr Rao informed that this Industry Meet is the second in a planned series of thematic industry–academia interactions being initiated by the Institute. He informed that earlier ICAR–IARI organized the first Industry Meet with Plant Protection industries, which received encouraging response from stakeholders. Building on that experience, the present meet has been organized with crop improvement, seed and basic sciences industries. He further added that ICAR–IARI will continue organizing similar focused industry meets in future to promote innovation-led sustainable agriculture.

Mr. R. M. Prabhakar Rao, Representing Nuziveedu Seeds Ltd., highlighted the need to simplify and make MoU processes more practical and flexible to facilitate effective research–industry collaboration. During the interaction sessions, industry representatives shared their perspectives on MoU execution, compliance requirements, access to IPR, CSR funding, technology scaling, and commercialization pathways.

The Industry Meet provided a robust platform for dialogue, networking, and partnership building, reaffirming ICAR-IARI's commitment to working closely with industry to deliver sustainable, scalable, and farmer-centric solutions for Indian agriculture.

The meet witnessed the presence of Joint Directors, Heads of Divisions, scientists of ICAR-IARI, representatives from industry, and other stakeholders.

(Source: ICAR–Indian Agricultural Research Institute, New Delhi)

ICAR Sponsored Winter School on 'AI-Driven Spectroscopic and Vision-Based Approaches for Automation in Pre- and Post-Production Agri-Food Systems' Concludes at ICAR-CIAE, Bhopal

ICAR-Central Institute of Agricultural Engineering organized a 21-day ICAR-Sponsored Winter School on "AI-Driven Spectroscopic and Vision-Based Approaches for Automation in Pre- and Post-Production Agri-Food Systems" from 10 February to 2 March, 2026. The program aimed to strengthen the competencies of scientists, researchers, and extension specialists in advanced sensing technologies, spectroscopy, and AI-driven tools for agriculture. The course focused on electronic instrumentation, machine learning, deep learning, and algorithm development using MATLAB and Python for spectral and image analysis. Participants were trained in AI applications across pre- and post-production agriculture, including smart irrigation systems, nutrient management, crop stress detection, and automated grading systems. The integration of these cutting-edge technologies is expected to transform traditional farming practices by enhancing efficiency, precision, and sustainability.

The inaugural session was held on February 10, 2026, in the presence of Dr. A. K. Singh, Former Deputy Director General (Natural Resource Management) and Former Vice-Chancellor, RVSKVV, Gwalior. In his address, he highlighted the emergence and growing significance of spectroscopy and precision farming in Indian agriculture to ensure accurate and efficient input application. Throughout the Winter School, expert sessions covered spectroscopy, precision agriculture, artificial intelligence, and machine learning. Participants also engaged in hands-on training involving sensor integration with microcontrollers and programming using MATLAB and Python. An institutional visit to the Central Farm Machinery Training and Testing Institute, Budni, was organized to provide practical exposure.

The valedictory function was held on March 02, 2026, and was chaired by Dr. Monoranjan Mohanty, Director, ICAR-Indian Institute of Soil Science, Bhopal. He emphasized that spectroscopy- and vision-based precision technologies are highly relevant to Indian farming systems. He encouraged participants to apply the knowledge gained during the training to further develop their expertise in precision agriculture and contribute toward reducing cultivation costs for Indian farmers.

Dr. C. R. Mehta, Director, ICAR-CIAE, highlighted the importance of spectroscopy and precision agriculture in both production and post-production systems to ensure precise input management using advanced tools and technologies. The participants shared positive feedback about the training program, following which certificates were distributed during the valedictory session. A total of 19 participants from 10 states and 12 different universities/institutions attended the Winter School.

Source : https://icar.org.in/en/icar-sponsored-winter-school-ai-driven-spectroscopic-and-vision-based-approaches-automation-pre-and

Completed Events

AABFEIO

ASABE
Engineering a Sustainable Future

Cultivating the Future: How AI and Automation are Transforming Agriculture in the USA and India

Join us for an engaging expert talk with **Dr. Shyam Narayan Jha**, Deputy Director General (Engineering) at the Indian Council of Agricultural Research & President Indian Society of Agricultural Engineers, and **Dr. Dharmendra Saraswat**, Professor of Agricultural and Biological Engineering at Purdue University and a leading researcher advancing AI, automation, and innovation in agriculture. The session will explore the adoption of precision agriculture in the USA and India, highlighting emerging opportunities, real-world challenges, and future directions shaping the modern farming systems. Through research-driven perspectives and practical insights, participants will gain valuable insight into the current state and ongoing efforts to transform agriculture through data, automation, and decision-support technologies.

Unlocking Precision Agriculture: Innovation, Challenges, and the AI-Enabled Future of U.S. Farming

Dr. Dharmendra Saraswat
Professor of Agricultural & Biological Engineering
Purdue University, USA

Key Takeways:
- ✅ Precision agriculture adoption trends, challenges, and regional disparities in the USA
- ✅ Role of AI-driven robotics and decision-support platforms in farming
- ✅ Insights from USDA, GAO, Purdue, FAO, and McKinsey reports
- ✅ Future pathways through innovation, research, and collaborative policy frameworks

Automation, AI, and the Startup Landscape in Indian Agriculture

Dr. Shyam Narayan Jha
Deputy Director General (Agricultural Engineering),
Indian Council of Agricultural Research, New Delhi, India

Key Takeways:
- ✅ India's agricultural evolution through technology-driven, incremental transformation
- ✅ AI, automation, and robotics embedding into agricultural infrastructure
- ✅ Insights from India's agritech startups and government AI initiatives
- ✅ Future directions for resilient and efficient Indian agriculture systems

Date
February 7, 2026

Time
9:30 AM - 11:00 AM (EST)
8:00 PM - 9:30 PM (IST)

Meeting Link

New Members

Life Members

Membership No.	Name of Members
LM-14350	Dr Sundaramoorthy Chandrasekaran
LM-14351	Er Anurag Chivilkar
LM-14352	Er Rohit Ghosare
LM-14353	Er Harshavardhan Patil
LM-14354	Dr Ajinath Dukare
LM-14355	Dr Nitin Khade
LM-14356	Er Bhimrao Gokhe
LM-14357	Dr Manoj Puniya
LM-14358	Dr Ravishankar Bhat
LM-14359	Er Sudarshan Ghorpade
LM-14360	Dr Ponnuchakkammal P
LM-14361	Shri Rajendra Kolhe
LM-14362	Dr Altaf Ahmad Balkhi
LM-14363	Er Kailas Bhonde
LM-14364	Er. Haneena Nargees
LM-14365	Dr Supriya Kusale
LM-14366	Dr GTV Prabu
LM-14367	Er Amey Naik
LM-14368	Dr Geeta Patel
LM-14369	Dr Archana Mahajan
LM-14370	Er Priyam Goswami
LM-14371	Dr Lakshmi Jayachandran
LM-14372	Er Hariram Thavil
LM-14373	Shree Pankaj Mepani
LM-14374	Er Spandana B M
LM-14375	Er Preeti Prakash Chandkavate
LM-14376	Dr Shweta Manik

New Members

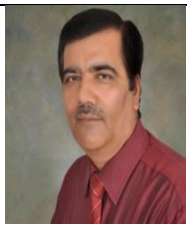
Life Members

Membership No.	Name of Members
LM-14377	Dr Dharmender .
LM-14378	Er Jarapla Prashanth
LM-14379	Er Shraddha Sethi
LM-14380	Er V Balaji
LM-14381	Er Kota Spandana
LM-14382	Dr Venkateshwari T
LM-14383	Dr Navneet Kumar Dhruwe
LM-14384	Dr Vinay Kumar Gautam
LM-14385	Dr Gauri Athawale
LM-14386	Dr Vithu Prabha
LM-14387	Dr Mukund Adsul
LM-14388	Er Milan Sojitra
LM-14389	Dr Meenakshi P
LM-14390	Dr Urmila Gupta

Intuitional Members

Membership No.	Name of Members
IM-43	Director ICAR-IASRI, Library avenue New Delhi -110012

ISAE Executive Committee

Name	Position	Email	Photo
Dr. S. N. Jha	President Deputy Director General (Agricultural Engineering) ICAR, KAB-II, Pusa, New Delhi	president@isae.in snjha_ciphet@yahoo.co.in	
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