



## A. SAMARTH-24 – ‘Empowering the Incubators’ Workshop: 20th to 22nd February 2024

Our flagship event "SAMARTH 2024 – Empowering the Incubators" was organized by PUSA Krishi at the NASC Complex, Pusa Campus, from 20th to 22nd February 2024. SAMARTH is PUSA Krishi's initiative to nurture the 29 KPs & RABIs, which are the agri-incubators spread across India under the RKVY – RAFTAAR scheme. This incubator management program focuses on building capacity and developing the skills of budding incubation managers and their incubation centers.

Shri. Ashish Kumar Srivastava, Joint Secretary, Ministry of Agriculture & Farmers' Welfare, along with Dr. Viswanathan Chinnusamy, Joint Director at IARI and Dr. Akriti Sharma, CEO of PUSA Krishi, led the inauguration on 22nd February 2024. The workshop kicked off with Dr. Akriti Sharma providing an in-depth introduction to SAMARTH '24, outlining its mission, objectives and stressing the value of partnership within the agricultural startup sector. This was followed by Dr. Viswanathan Chinnusamy's talk on the pivotal impact of startups and incubators in driving innovation, highlighting the essential role incubators have in supporting emerging entrepreneurs, cultivating innovative ideas, and promoting the advancement of agricultural startups.



## Highlights

- SAMARTH-24
- IP Management
- ITMC Meeting
- Tech Commercialization
- Incubation Programs (Beej & Shitij)
- ADPs
- Enabling Startup Ecosystem
- Meetings/Visits
- Representing Pusa Krishi
- News & Awards

Soon after, Chief Guest, Shri. Ashish Kumar Srivastava highlighted government's initiatives for entrepreneurship and innovation in agriculture. He said that the revised guidelines of the RKVY-RAFTAAR scheme are inclusive and flexible, designed to reduce the ministry's involvement and empower KPs and RABIs with greater authority.



Spanning three days, the event immersed participants in a series of thought-provoking sessions and interactive exchanges, emceed by Manisha Mani, PUSA Krishi. The first day, dubbed 'Panel Discussion Day', focused on incubation excellence with Dr. Akriti Sharma delineating top incubator practices, followed by vibrant discussions about nurturing partnerships across government and non-government sectors, with esteemed panelists. The 'Progress Discussion Day' marked the event's second day. It chronicled the milestones and on-the-ground progress presented by all the 5 KPs and their respective RABIs.

The event ended with 'Investors Connect and Open Session on the third day, that bridged the gap between vibrant agri-startups and astute investors, fostering potential investment opportunities. These insightful discussions were further complemented by meaningful interactions with officials from the Ministry of Agriculture & Farmers' Welfare, led by Shri. Ashish Kumar Srivastava.



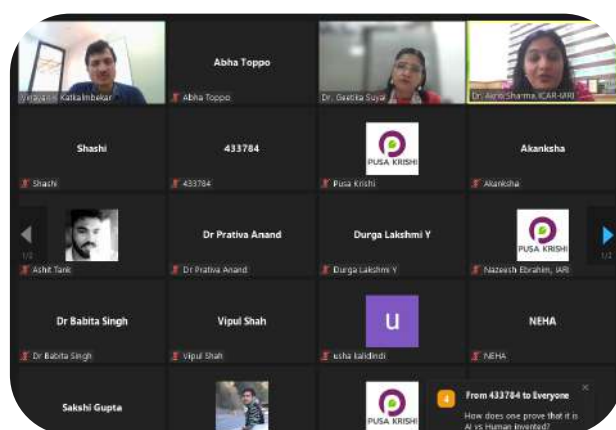
## B. IP MANAGEMENT

Pusa Krishi plays an active role in Intellectual Property Management of ICAR-IARI. The details of patents, copyrights and trademarks filed, renewed and approved from January to March 2024 are as follows:

IPRs	Application No	Name of Innovation	Date	Status
Patents (1)	202411000969	Field performance measuring instrument for farm implement	05.01.2024	Filed
Trademarks (6)	6354486	PUSABEEJ-wordmark class 31	19.03.2024	Filed
	6354486	PUSABEEJ-wordmark class 35	19.03.2024	Filed
	6354486	PUSABEEJ- wordmark class 42	19.03.2024	Filed
	6354487	PUSABEEJ-Devicemark class 31	19.03.2024	Filed
	6354487	PUSABEEJ- Devicemark class 35	19.03.2024	Filed
	6354487	PUSABEEJ- Devicemark class 42	19.03.2024	Filed
	Copyrights (1)	4410/2024-CO/L	Cradling Sustainable Agricultural Innovation	08.02.2024

## 1. Organized a webinar on Crossroads of Intellectual Property & Artificial Intelligence

A thought-provoking webinar addressing the interplay of Intellectual Property (IP) and Artificial Intelligence (AI) was organized during 19th & 20th March 2024. Set against the backdrop of rapid technological evolution, this webinar explored a plethora of subjects, from the ethical implications embedded in the swiftly changing IP and AI landscape to the legal and patent challenges faced by innovators. The webinar covered a broad range of topics, offering attendees insights into the ethical considerations surrounding AI advancements and navigating the legal intricacies associated with intellectual property rights.



Moreover, participants gained a substantial understanding of the hurdles and opportunities arising from the convergence of artificial intelligence and intellectual property. Renowned experts including Mr. Vinayak K Katkalmbekar, Lead - Intellectual Property Attorney & Head IPR, Tata Motors Ltd., Mr. Nishant Sharma, Lead Counsel, Dolby Laboratories; Mr. Rahul Bagga, Founder & Managing Director, Aumirah; Mr. Subhash Bhutoria Founder and Principal LAW SB shared their insights, fostering a deeper comprehension of this dynamic intersection. The sessions led by these esteemed speakers provided clarity on the pressing issues and future direction of intellectual property in the technological era, arming participants with the knowledge to navigate the impending challenges and opportunities in the field of IP. This webinar served as a crucial forum for unraveling the complexities and igniting forward-thinking in the crucial network of intellectual property rights.

## C. ITMC MEETING

The Institute Technology Management Committee (ITMC) meetings are organized to evaluate research outcomes, manage intellectual property portfolios, identify inventions that require protection under intellectual property rights (IPR) and set terms and conditions for the commercialization of new technologies as well as varieties developed by IARI. In the past three months, one ITMC meeting was held on 22nd March 2024 wherein 13 technologies for IP Protection and 33 technologies for commercialization were approved to move forward.



## D. TECHNOLOGY COMMERCIALIZATION

Tech commercialization plays an important role in making the technologies reach to the end users in an effective and faster way. ICAR-IARI develops technologies with substantial commercial potential that are ready to use by businesses. During the period from January to March 2024, under the Lab to Land Initiative, ICAR-IARI successfully commercialized nine (9) technologies to six (6) industry partners.

## CORPORATE MEMBERSHIP

In the first quarter, the Unit enrolled five (5) new industry partners for membership and renewed the membership of three (3) existing industry partner.

## E. INCUBATION PROGRAMS

### 1. BEEJ 2024

BEEJ, a groundbreaking online pre-incubation initiative of PUSA Krishi, has been designed to nurture and support emerging entrepreneurs and budding startups within India's thriving agriculture & allied sectors. The registration phase, which took place from 02nd to 31st December 2023, successfully drew in 102 applications, with 72 energetic participants joining from diverse regions including Delhi, Uttar Pradesh, Tamil Nadu, Maharashtra and Madhya Pradesh.

Over the course of two weeks, from 2nd to 12th January 2024, BEEJ offered a series of expert-driven online workshops. The curriculum spanned a range of pertinent subjects, from cutting-edge agricultural innovation and strategic planning for startups to in-depth market research and protecting intellectual property rights. The sessions enabled participants to gain valuable knowledge and strategies pivotal for navigating the agricultural sector, effectively seeding the potential for their future successes in their respective domains.





## F. AGRIPRENEURSHIP DEVELOPMENT PROGRAMS (ADPs)

Agripreneurship development programs (ADPs) play an important role in fostering innovation and sustainable practices within the agriculture sector. By equipping individuals with entrepreneurial skills, these programs contribute to the economic growth of rural areas, empower farmers to diversify their income sources and enhance overall agricultural productivity. In the last three months 2 ADPs were conducted on various topics:

### 1. ADP on Novel Processing Techniques for Horticultural & Arable Crops

The ADP, conducted from January 15th to 20th, 2024, aimed to enhance the skills and knowledge of agripreneurs in processing horticultural and arable crops. This intensive six-day training covered a range of topics including innovative processing techniques, basic optimization methods, reverse formulations, FSSAI regulations, quality assurance, and standards. Participants learned the procedures for obtaining necessary licenses and certifications, as well as packaging requirements.

The training offered hands-on experience with various processing techniques and products, providing a practical understanding of the subject matter. Additionally, participants visited a production site for industrial exposure, gaining insight into the layout and operations of a manufacturing plant.

By diversifying their product range and improving the quality of existing products, the training aimed to boost participants' confidence in becoming more competitive in the nutritional and functional products industry. Equipped with both theoretical knowledge and practical skills, participants left the program ready to innovate and implement advanced techniques in their agricultural ventures. This comprehensive program was designed to empower agripreneurs to navigate regulatory frameworks efficiently, ensuring compliance while maximizing productivity and quality in their processing efforts.



## 2. ADP on Entrepreneurship opportunities for management of food loss and waste in agricultural and industrial sectors for environmental sustainability

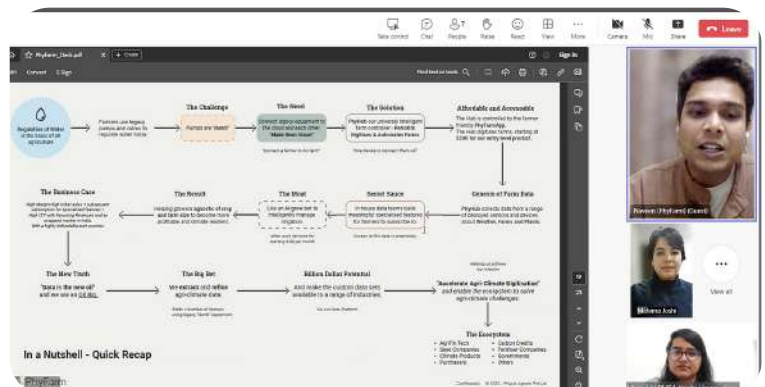


This ADP was held from 22nd to 31st January 2024 with the objective to strengthen the skills and knowledge of agri based stakeholders towards food loss and waste management, to understand the critical points and basic problems in waste management at field level and develop & explore entrepreneurship opportunities. The participants not only received hands-on experience on approaches towards management of food loss, biomass utilization, mushroom production, management of field residue for compost production, use of PUSA decomposer for rapid composting, use of agricultural and horticultural waste for pest/disease management, production of bioactive compounds from waste products, utilization of waste from sugar and molasses industry and biofuel as promising option from waste material but also learnt about licensing of technology. The 10-days helped participants learn about different prospective for waste management generated from agriculture and allied sector activities and from industrial waste/by products. Participants emerged from the training equipped to tackle food loss and waste with a blend of practical skills and entrepreneurial spirit. From learning about biomass utilization to exploring biofuel options from waste materials, they gained insights into sustainable practices that bridge agricultural and industrial sectors.

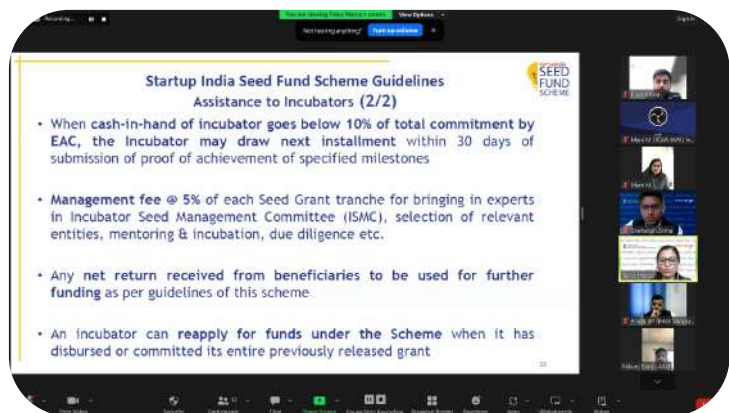
## G. ENABLING STARTUP ECOSYSTEM

### 1. Startup Scale-Up with Social Alpha

Pusa Krishi recently facilitated pivotal "Startup Scale-Up" series on 17th Jan, 19th Jan and 12th Feb 2024, fostering collaboration between its handpicked innovative startups and Social Alpha, being PUSA Krishi's Co-Incubation Ecosystem Partner. Social Alpha launched 'Tectonic Innovations in Agritech' under their India Agritech Incubation Network (IAIN) 2.0 program, with PUSA Krishi being a part. This strategic initiative aimed to bridge the gap between agri startups and financial support, opening avenues for growth and development in the agriculture sector. The virtual gathering provided a platform for 18 startups to pitch their ideas and projects, creating opportunities for potential funding from Social Alpha.



## 2. PUSA Krishi forges new pathways for RABIs with Startup India Seed Fund (SISFS)



On 7th March 2024, Pusa Krishi held a collaborative meeting with the team behind the Startup India Seed Fund Scheme, with the focus on bolstering the endeavors of PUSA Krishi's nine affiliated RABIs. This initiative was driven by a vision to accelerate the growth and advancement of these RABIs by tapping into the support and means available under the Seed Fund Scheme. The interaction was emblematic of PUSA Krishi's unwavering dedication to nurturing agricultural innovation and entrepreneurship to driving innovation and fostering entrepreneurial ventures in agriculture, creating a dynamic and supportive environment where agri-business initiatives can prosper.

## 3. Hosted Evergreen Innovation Platform (EIP) Program Session for Startups

Pusa Krishi, in collaboration with the Evergreen Innovation Platform (EIP), conducted the EIP Program Sessions held from March 4th to 7th, 2024. Among the 31 selected startups for the 2023-24 Cohort, 19 were chosen to participate in these sessions, with screening for the subsequent round currently underway.

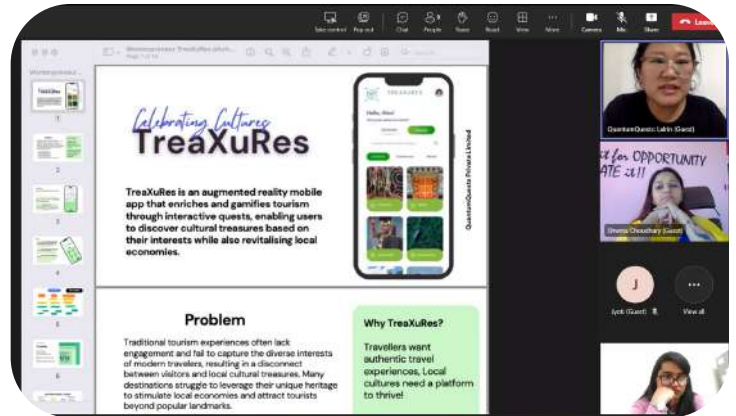


Startup Name	Focus Area	Tech Brief
Dhi Sathi Robotics Private Limited	Farm Mechanization	Has developed a Fully Electric Semi-Autonomous Robots that reduces agricultural weed & pest management expenses by 50%.
Pg Agri Infra Private Limited	Farm Mechanization	Has introduced FARM BUG-e, a ride-on 4-wheel ultra-narrow electric (battery-powered) farm multi-utility vehicle.
Human First Global Ventures Pvt Ltd	Supply chain & agriculture logistics.	Has developed a blockchain-powered traceability ecosystem that provides access to accurate satellite data/insights, crop guidance, market linkage.
Upjao Agrotech LLP	Precision agriculture	Upjao, a cutting-edge AI platform revolutionizing the quality analysis of grains uses patent neural network UpjaoNet™ to assess 10+ physical quality parameters of grains in less than 30 seconds.
InQube Technologies Pvt. Limited	Supply Chain & Agriculture Logistics	Has created a Farm-to-table ERP platform.

Startup Name	Focus Area	Tech Brief
Fruvetech Pvt Ltd	Post-Harvest, Food Technology & Value Addition	Has developed an innovative formulation, Fruvefresh, which suppresses ethylene production to increase longevity of fruits and vegetables.
Rural Agricultural Dvpt. Technology and Research	Supply Chain & Agriculture Logistics	Has developed a pioneering tech platform 'Jackfruitworld' that leverages advanced technology and innovation, addresses wastage, enhances quality & unlocks the latent export potential of the Jackfruit industry.
Compositech Greensol Private Limited	Waste to Wealth & Green Energy	Company fabricates granules in their products using processed cellulosic fibers/fillers from agricultural waste in thermoplastic polymers.
Agri Super Private Limited	Precision Agriculture	Utilizes IoT for live soil health checks, providing valuable information on soil pH, EC & NPK with precise GPS, along with crop-wise fertilizer recommendations using an e-calculator.
Caliche Inventions Private Limited	supply Chain & Agriculture Logistics	Caliche Inventions' innovation comprises a centralized database & mobile application connecting unorganized agricultural laborers with farmers.
Jya Infotech Llp	Farm Mechanization	Specializes in EV AgriBoT, an Agriculture-specific Robot mechanism that performs multiple field operations like ploughing, sowing, levelling, watering, and fertilizing simultaneously.
Navork Innovations Private Limited	Post-Harvest, Food Technology & Value Addition	Has introduced Navgri - smart mushroom protect that increases the shelf life of mushroom and maintains their quality for a longer time.
Digicrop Agriculture Solutions Pvt Ltd	Precision agriculture	Has launched a Mobile App & IoT device to capture real-time environmental and cultivation processes, supporting data-driven decision-making.
Biofound Biotech	Waste-to-wealth and green energy	Specializes in metabolic engineering to increase ethanol yield with the same input feedstock for sugarcane molasses
Sahyadri Aerospace Pvt Ltd	Farm Mechanization	Has developed a tractor-mounted electrostatic charge spraying system technology, which sprays negative charge droplets, providing 100% coverage and 360-degree reach.
Udyogyantra Technologies Pvt Ltd	Supply chain & agriculture logistics	Digitizes farm produce data via IoT & AI for quality traceability, enabling real-time trading for spot purchases.
Fawdastar Agrisolutions Private Limited	Agriculture, extension and education	Has designed FAWDA Android app to seamlessly connect and aggregate farmers, agri-machinery owners, and agri-labourers.
Bio-Mat Innovations Pvt Ltd	Agricultural inputs & biotechnology	Specializes in amphiphilic coating for a broad range of applications, comprising an organic microscopic porous matrix with functional groups for efficient bio-absorption and selective cross-linking.
Grainanalyser	Precision agriculture	Have developed a pre-harvest technology that assists the seed breeding and allied value-chain in the Maize crop.

## 4. Empowering Women Entrepreneurs: PUSA Krishi join hands with PIEDS, BITS Pilani

The Piloni Innovation and Entrepreneurship Development Society (PIEDS) at BITS Pilani hosted an Evaluation Committee Meeting for the "Womenpreneur for Bharat 1.0" initiative, supported by Aditya Birla Capital Foundation, Women Entrepreneurship Platform (WEP), and PIEDS. Manisha Mani, PUSA Krishi's Innovation Lead, played a pivotal role as an evaluator, showcasing collaboration between PIEDS and PUSA Krishi. Out of 250 applicants, 19 startups were selected and 15 endorsed for potential grant assistance across various sectors.



The shortlisted enterprises span an impressive range of fields, including technology, agriculture, healthcare, and sustainability, congruent with the objectives of the program. Remarkably, two of the chosen startups for the "Womenpreneur for Bharat 1.0" grants are products of our joint endeavors: Haryana's F2DF and Assam's Kirat Biotech, which are at the forefront of boosting agricultural productivity along the value chain, demonstrates the program's goal to strengthen female entrepreneurship in rural communities. These achievements demonstrate the impactful results of our collaborative efforts in nurturing innovative ventures and empowering entrepreneurs.

## 5. PUSA Krishi Launches Advanced Hub for Agri-Startup Excellence

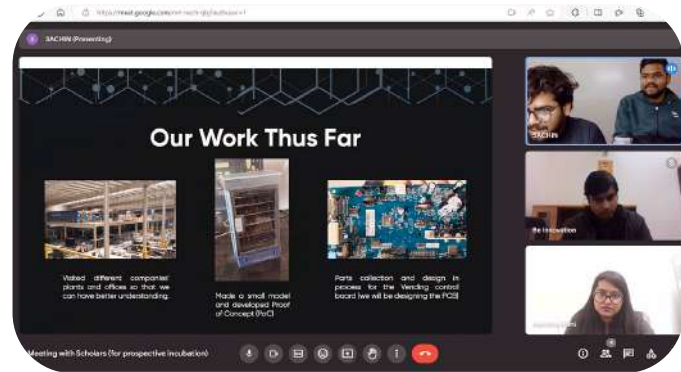
In a decisive move to advance agricultural innovation and entrepreneurship, PUSA Krishi has proudly launched a new, top-tier facility designed to provide exceptional office and operational areas for its associate startups. This development is a proof about our commitment to create a dynamic and supportive ecosystem that encourages advancements in the agricultural startup ecosystem. The innovatively designed space comes fully equipped with the latest in technology and amenities to foster a culture of collaboration and heightened productivity. By establishing this facility, PUSA Krishi aspires to craft a nexus for the exchange of ideas and sharing of resources, positioning its startups for enduring growth. This initiative shows our dedication to weaving together a tight-knit network of support for startups to flourish and our efforts in launching this modern workspace anticipate a bright future for agri-tech innovation within the region. To date, MoUs have been signed with four promising ventures: Navork Innovations, Aqua Doctor, Pure Wash and Skysight.AI, marking the beginning of a new chapter in agricultural entrepreneurship.





## 6. Student Entrepreneurs Handholding

PUSA Krishi organized a Student Entrepreneur Handholding Meet on 12th Feb 2024 aimed at nurturing and empowering aspiring student entrepreneurs. Through this platform, Pusa Krishi offers comprehensive guidance, support, and required assistance to students eager to embark on their entrepreneurial journey and establish their own startup. With a focus on fostering innovation and sustainable agricultural practices, Pusa Krishi equips students with the necessary tools and resources to transform their ideas into successful enterprises, contributing to the advancement of the agricultural sector.



## 7. Startup One to One Mentoring and Assistance

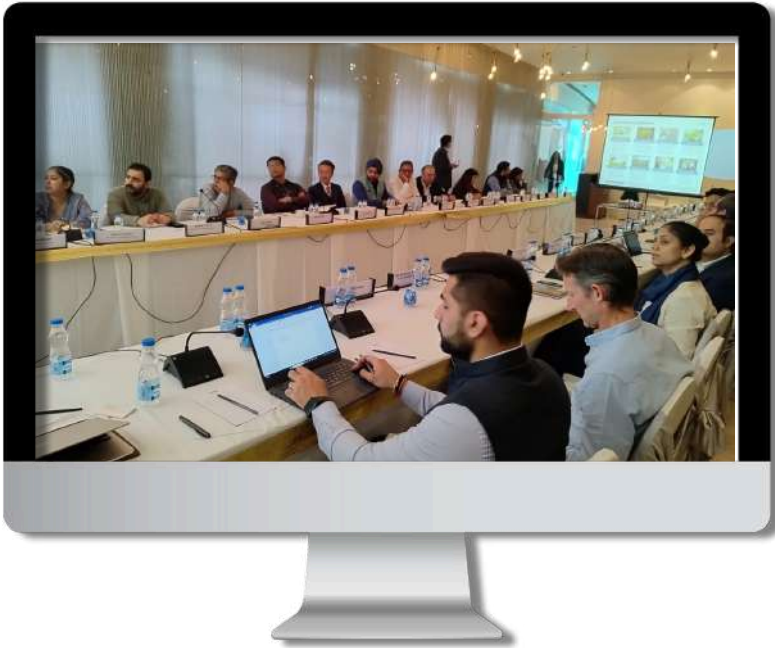
At Pusa Krishi, we are dedicated to nurturing the growth and success of agricultural startups through our One to One Mentoring and Assistance program. This initiative provides tailored guidance and support to address the specific needs and challenges of each startup. Our team helps startups navigate the complexities of market entry, product development, and regulatory compliance. Through these one-to-one sessions, we offer strategic advice on business planning, practical insights into sustainable farming practices, and connections with potential investors and partners. This focused support empowers startups to innovate, scale their operations, and achieve measurable, sustainable impact in the agricultural sector. In the last quarter alone, we have mentored 10 promising startups, including Krishi Vikas, Climagro, Mad over Millets, and Shroomi, helping them to overcome challenges and achieve significant milestones.





## I. REPRESENTING PUSA KRISHI

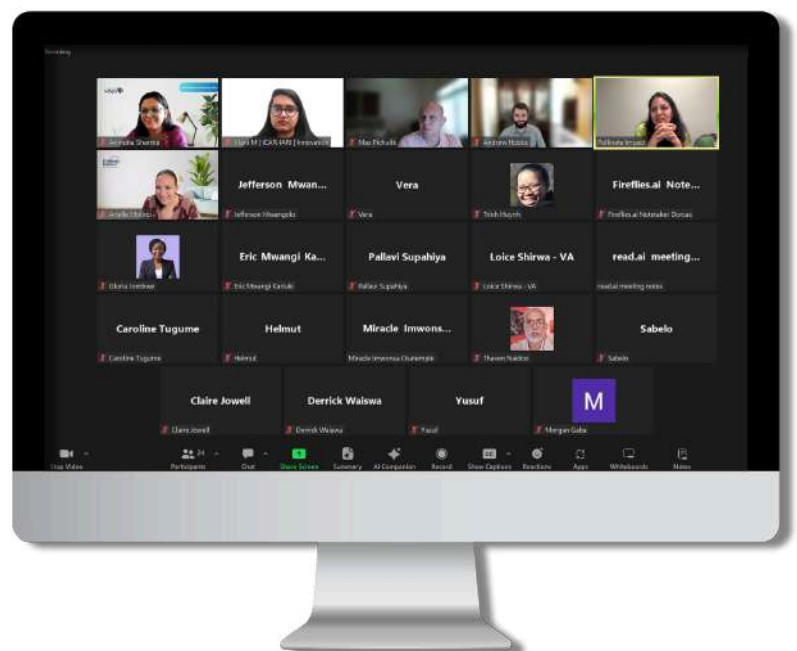
### Participated in a Roundtable on "Harnessing Cross-Border Knowledge and Tech Transfer" hosted by ThinkAg



ThinkAg hosted a Roundtable on "Harnessing Cross-Border Knowledge and Tech Transfer" at The Park Hotel New Delhi on 15th March 2024 that was attended by 25 organizations including British High Commission, Austrade, Netherland Embassy, World Bank, FAO, IFC, UNDP, Invest India. The event also witnessed interesting presentations by 5 domestic and international AgTech startups, sharing their cross-border journeys, which was followed by a Roundtable deliberation.

### Meeting with Pollinate Impact

On 14th March 2024, PUSA Krishi actively participated in the "Pollinate Impact's Investment Readiness Tools" demonstration. Recognizing that the true mark of an incubator's triumph lies in its entrepreneurs successfully securing funding, PUSA Krishi seized the opportunity to enhance the capabilities of its startups. The challenge of achieving and showcasing "investment readiness" looms large, and the Tool Library demo addressed this by presenting two valuable resources. We learned how to refine our evaluation process for investment preparedness and gained insights into cutting-edge tools that streamline the funding journey.



## 14. NEWS & AWARDS

The awards section is to celebrate the achievements and recognition garnered by our dynamic startups. From industry accolades to community honors, our startups continue to make waves and distinguish themselves in their respective fields.



Ms. Aastha Singh, CEO & Founder of Gramshree Agri Services Pvt. Ltd., received the prestigious Women-Led Startup Award from Hon'ble Industry Minister, Sameer Kumar Mahaseth, on National Startup Day, January 16th, 2024. Among 83 women-led startups and a total of 554 remarkable startups, Ms. Singh's Gramshree Kisan stood out as the top women-led startup. Additionally, she was recognized by the PHD Chamber of Commerce and Industry at Chandragupt Institute of Management Patna (CIMP) for her outstanding contributions to the agriculture allied sector through Gramshree Kisan.



Chimertech Private Limited has been honored with the prestigious Aavishkaar Kisan Samarthan Award, alongwith a cash prize of Rs. 1 lakh, at the Agritech Pavilion during Startup Mahakumbh held from 18th to 20th March 2024 at Bharat Mandapam, New Delhi. This recognition highlights Chimertech's dedication and commitment to innovation in the agriculture sector.



Dr. Debtanu Barman, founder of Aqua Doctor Solutions, one of our stellar incubated startups received the prestigious 'Social Entrepreneurship Award 2024' from the Calcutta Management Association in collaboration with MSME, Government of India. Besides this, the startup was also selected as one of the top-performing startups in the North East Entrepreneurship Development Programme (NEEDP) held at Hotel Vivanta in Guwahati.



Jaivikalpa Private Limited clinched the Startup India Seed Fund grant of 6.5 lack from ACIC RISE Association, Chandigarh Engineering College - CGC, Landran, Mohali. Startup India Seed Fund scheme aims to support early-stage startups in India to foster innovation and entrepreneurship. Jaivikalpa Private Limited is working on developing novel solutions for the agriculture sector using artificial intelligence and machine learning. They are working on creating a one stop solution for Organic Farmers through an AI Based learning platform Jaivik Sarathi, integrated with an e-commerce platform Organic Thela.



Aumsat Technologies, Mumbai, Maharashtra was conferred with the National Startup Awards - NSA 2023 under 'Impact in Rural Areas' category. Founder, Riddhish Soni received the award from Union Minister of Commerce and Industry, Shri Piyush Goyal during an event held in New Delhi on National Startup Day 2024. National Startup Awards recognizes, rewards, promotes and offers exclusive handholding support to a diverse set of startups.



## From the Editor's Desk



**Dr. Akriti Sharma**  
CEO  
Pusa Krishi, ICAR –IARI

Welcome to the latest edition of Taksay – Taknique se Vyavsay. I am delighted to share with our readers the impressive achievements of Pusa Krishi, IARI during the first quarter (January to March), marked by significant progress in pre incubation and incubation activities, IP management, and technology commercialization. As a distinguished Knowledge Partner and incubator, we are fully committed to enhancing the capabilities of other incubators and supporting agri startups under the RKVY-RAFTAAR scheme through our special incubation programs – UPJA & ARISE.

SAMARTH '24, our flagship initiative is dedicated to empowering all 29 of RKVY RAFTAAR supported incubation centers including the KPs, with unparalleled opportunities for growth, collaboration, and innovation. Additionally, our year-long incubation program, SHITIJ, supported by the Department of Science & Technology, is nurturing innovation and entrepreneurship in agriculture while BEEJ is empowering young entrepreneurs and early-stage startups to ideate, develop, and scale their startup ideas. We are proud to have provided comprehensive incubation support to numerous agri startups and incubators, offering holistic mentoring and training. Our commitment to knowledge dissemination is highlighted by two successful ADPs focusing on Novel Processing Techniques for Horticultural & Arable Crops and Entrepreneurship opportunities for managing food loss and waste in agricultural and industrial sectors for environmental sustainability. Moreover, under our 'Lab to Land' Initiative, we have successfully commercialized 9 technologies of IARI.

Presenting the latest edition of Taksay, I extend my warm wishes to the entire agricultural fraternity in India. This edition showcases our continuous efforts in inspiring, mentoring, and supporting agri-startups & incubators under the RKVY-RAFTAAR scheme. At PUSA Krishi, our dedication to fostering entrepreneurial opportunities through industry leadership and collaborative partnerships remains steadfast.



**From the House of :**

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