

# ISARC Cultivate

IRRI's hub for South-South Cooperation on Rice Research

ISARC  
IRRI South Asia Regional Centre



International  
Rice Research  
Institute



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## Mitigation strategies to address rice residue burning in Punjab discussed at ISARC



*Key officials of ISARC, Punjab Agriculture and Farmers' Welfare Department, and Punjab Agriculture University came together to plan collaborative strategies for the reduction of rice residue burning in Punjab. The discussions revolved around the inclusion of IRRI's innovative technologies to efficiently address the issue.*

### Varanasi, India (May 21, 2024)

The International Rice Research Institute (IRRI) South Asia Regional Centre (ISARC) hosted a high-level brainstorming session today, focusing on collaborative strategies to reduce rice residue burning in Punjab. The workshop brought together key stakeholders and experts from the Department of Agriculture and Farmers Welfare and Punjab Agricultural University.

The session aimed to explore and develop sustainable solutions to tackle the persistent challenge of rice

residue burning, which significantly contributes to the region's air pollution and health problems. By leveraging the expertise and commitment of the participants, the workshop sought to devise innovative and practical strategies to address this pressing issue. Special Chief Secretary, Department of Agriculture and Farmers' Welfare (DoA&FW), Govt. of Punjab Shri. K A P Sinha, Commissioner DoA&FW, Govt. of Punjab Smt. Neelima, Punjab Agriculture University Vice-Chancellor Dr. Satbir Singh Gosal, Director DoA&FW, Govt. of Punjab Mr. S. Jaswant Singh, and



senior scientists from Punjab Agriculture University attended the event.

Slow progress towards no-burn agriculture in Punjab can be attributed to several factors such as narrow crop window between rice and wheat, high production of crop residue, shortage of storage facilities, large areas under longer duration variety like Pusa 44 (155-160 days), poor planning based on burning patterns, lack of a systematic approach starting from the rice phase, unattractive business models for service providers, inefficient stakeholder coordination, and farmers' preference for burn residue due to its lack of monetary value.



Addressing the event, Department of Agriculture & Farmers' Welfare, Govt. of Punjab, Special Chief Secretary Mr. K.A.P. Sinha said, "Although there are several in-situ and ex-situ residue management technological options that have been developed and promoted by both state and central governments with huge investments, the scale of adoption of these options are low. Through this brainstorming today, we expect to churn out measures such as short-duration crop varieties such as CR Dhan 318, PR 126, and BINA Dhan 11, sustainable rice residue management technologies, and tailored agronomic practices such as DSR, AWD, Zero till wheat, etc. that can help address the issue of residue burning in Punjab keeping in the operational constant in sight". He also pointed out

some other areas of collaboration that can be carried out with ISARC such as soil spectroscopy, heavy metal detection testing study, entrepreneurship development, capacity development initiatives such as digital knowledge sharing, etc.

Welcoming the delegates to the event, ISARC Director Dr. Sudhanshu Singh gave an overview of the recent advancements in the rice-based agrifood systems by the center.

The session furthered with a series of presentations by lead ISARC scientists in which they proposed several strategies, technological solutions, and innovative approaches that can increase the adoption of residue management and provide the farmers with viable alternatives to burning.

Punjab Agricultural University Vice Chancellor Dr. Gosal appreciated the accomplishments and state-of-art facilities at ISARC and proposed added collaborations with IRRI & ISARC on water management, rice residue management, climate change, new insect pest & disease management, focus on root traits breeding, dwarfing gene work, triple dwarf rice, grain quality, and Artificial Intelligence.



Delegates toured state-of-the-art laboratories, the Speed Breed facility, and other farm facilities. They also sampled high-value, gluten and additive-free rice products developed by ISARC scientists such as Kalanamak rice cookies, muesli, and instant upma piquing their special interest.

# IRRI and HSBC Bank Collaborate to Boost Rice Productivity and Resilience in the Haor Region of Bangladesh



*IRRI and HSBC Bank have joined hands for a three-year project from 2024 to 2027 to build climate-smart rice value chains in Bangladesh's Haor regions. The project will implement interventions in two districts. The project aims to increase the productivity, profitability, and resilience of the rice value chains in the Haor ecosystem through increased adoption of improved and climate-smart rice varieties, seed systems, mechanization, local capacity building of rice-based innovations, and development of agri-entrepreneurs.*

## Dhaka, Bangladesh (June 03, 2024)

The International Rice Research Institute (IRRI) has launched a three-year project with HSBC Bank to transform the rice value chain in Bangladesh's Haor Region. The project was launched in Dhaka, with IRRI and HSBC Bank co-organizing an inception workshop. The project seeks to develop efficient, inclusive, resilient, and sustainable rice value chains in the Haor Region by adopting improved technologies and innovations, addressing critical challenges faced by the region's rice farming communities.

The Haor Region heavily relies on agriculture and aquaculture, with 55% of the population depending on these activities for their livelihood. A Haor is a wetland ecosystem in the northeastern part of Bangladesh with unique biophysical, hydrological, ecological, agricultural, and economic characteristics. During monsoon season, Haors receive surface runoff water from rivers and canals, which becomes vast stretches of turbulent water. The Haor Region comprises seven districts (Sunamganj, Habiganj, Moulvibazar, Sylhet, Netrakona, Kishoreganj, and Brahmanbaria), and there are 373 Haors (0.87 million ha) in these seven districts, which accounts for 53% of the total area of the Haor Region.

The total cultivated area in the Haor Region is 1.26 million hectares, of which 66% is under Haors, where farmers can grow only one crop in a year, which is Boro rice from November to May; the land is under deep water for the remaining five to six months of the year. Accounting for 16% of the country's total Boro rice production, sustainable and resilient rice production in the Haor Region is crucial for regional and national food and nutrition security and sustainable livelihoods.



The region's farmers, who primarily cultivate Boro rice and practice aquaculture, face numerous challenges, including poverty, food insecurity, and limited resource access. While climate change poses a significant threat to rice production, recurrent flash



floods, low adoption of improved technologies, and inefficient market systems contribute to low productivity and profitability. Overcoming these challenges and building climate-resilient rice value chains is crucial for improving the region's food and nutrition security and overall economic development.

Congratulating IRRI and HSBC Bank on this partnership, Dr. Sheikh Mohammad Bokhtiar, Executive Chairman of Bangladesh Agricultural Research Council said, "As we gather here today, let us recognize that the sustainability and resilience of rice production in the Haor Region are not just local concerns; they are integral to our national food security and economic prosperity. Boro rice, the main crop in the region, demands our attention due to the extreme climate change in the region. By investing in innovative technologies, empowering farmers, and fortifying our market systems, we can transform these challenges into opportunities, ensuring the sustenance of our communities."

The Climate-Smart Rice Value Chain in the Haor Region (CS-RVC) project aims to address the challenges farmers face. The project's main action areas during implementation will include promoting improved rice varieties, sustainable and climate-smart practices, strengthening rice seed systems, increasing mechanization in the rice production system, raising awareness and knowledge about rice-based innovations, and developing agri-entrepreneurs with a focus on women, youth, and ethnic minorities.

The project is anticipated to benefit 10,000 rice value chain actors within three years, from 2024 to 2027. The inception workshop kicked off the project, which will be implemented in five upazilas of Sunamganj and Kishoreganj districts. Activities to be undertaken during project implementation include piloting new rice varieties, improved crop management practices, and community-based seed banks. IRRI's digital tools, such as Rice Crop Manager (RCM) and Rice Doctor, will be deployed to aid farmers in informed decision-making on nutrient management, and local capacity-building efforts will be intensified to ensure the sustainable adoption of new technologies. The project will be implemented in collaboration with public and private sector organizations, universities, and NGOs working on agricultural research and development.

Speaking on the importance of developing rice value chains in the Haor Region, Ms. Syeda Afzalun Nessa, Head of Corporate Sustainability, HSBC Bangladesh, "HSBC's core focus for philanthropy has been climate adaptation and mitigation and as Haor region is one of the climate hotspots of Bangladesh, we have collaborated with IRRI to boost the productivity of the region and improve the climate-resilient rice value chain."

Present at the event were dignitaries from different government departments. Around 60 experts and practitioners from different government and non-government organizations congregated at this workshop.



In his opening remarks, the Country Representative for IRRI in Bangladesh, Dr. Humnath Bhandari said, "I am glad that we could partner with HSBC for the implementation of this project. By enhancing rice productivity, resilience, and sustainability in the Haor region, we also intend to increase the overall production of rice-based agri-food systems in Bangladesh, thereby ensuring food security for the nation and contributing towards strengthening the economy and achieving the United Nations SDGs. I thank HSBC Bank for supporting us to implement this project." He also emphasized some of the project's outcomes, which include increased livelihood options, poverty reduction, improved environmental health and biodiversity, gender equality and youth empowerment, social inclusion, and climate resilience in the region.



# Making Rice-Cultivation Water-Efficient and Sustainable for Haryana



*Growing rice, a crop that demands huge amounts of water, results in significant groundwater depletion across the rice-producing areas of Haryana in India. To reverse this, IRRI is building capacities and encouraging farmers to adopt water use efficiency and crop diversification.*

## Haryana, India (June 07-14, 2024)

In the 1960s, Punjab and Haryana were central to India's Green Revolution, and today they continue to play a crucial role in the nation's food security, producing above-average volumes of rice and wheat—approximately 4.8 tonnes and 6.5 tonnes per hectare, respectively. However, the intensive rice-wheat cropping system has led to significant environmental issues, including reduced soil fertility, biodiversity loss, and severe groundwater depletion. From 2000 to 2021, groundwater levels in Haryana's rice-producing districts have dropped by 13 meters.

Aimed at helping the communities boost water productivity for various agricultural systems across landscapes, IRRI held workshops from 7-14 June 2024 in Haryana, involving 50 farmers and 20 KVK scientists. The sessions focused on reducing water use by adopting short-duration rice varieties, dividing farms into smaller plots, and diversifying crops like kharif maize and mung beans.

Highlights of the sessions include water management expert and postdoctoral fellow Dr. Proloy Deb from IRRI presenting the case for shifting to direct seeded rice (DSR) from the conventional puddled transplanted rice (PTR). Dr. Deb also recommended splitting the farm into smaller subplots of 0.5 acres to aid in eliminating repeated irrigation, which is

attributed to frequent power cut issues in the region.

Senior specialist Dr. Swatantra Dubey advised transitioning from the traditional rice-wheat system to a short-duration maize-wheat-mung bean system to reduce groundwater withdrawals. This intervention reportedly increased farm income by up to 57%.

Evidence from Dr. Deb's study suggests that shifting to DSR and adopting these short-duration varieties can lead to 40% savings in water use, thereby boosting irrigation water productivity.

Following the training workshops at each KVK, Mr. Jasbir Singh, agriculture research and development specialist at IRRI, facilitated interactive sessions with the participants. These sessions aimed to understand the farmers' perspectives on irrigation water application under DSR and PTR establishments and their barriers to diversifying from the traditional rice-wheat system. A comparison of the pre-and post-training results by the participants suggested that the farmers had gained significant knowledge about both interventions.

These capacity-building sessions align with IRRI's global contribution to the work package (WP2) by the CGIAR Initiative on NEXUS Gains, which focuses on boosting water productivity and integrated storage management at the basin scale.

# ARIAS Society, IRRI plan sustainable rice farming future in Assam post-APART



*With the APART's closure approaching, IRRI and partners are starting to discuss a comprehensive exit strategy that will ensure the continuation and sustainability of the technologies and practices introduced by the project for the rice value chain in Assam.*

## Guwahati, Assam (June 12, 2024)

The Assam Agribusiness and Rural Transformation Project (APART) will conclude in 2024. To ensure the continuity of its impact, the Assam Rural Infrastructure and Agricultural Services (ARIAS) Society and the International Rice Research Institute (IRRI) are collaborating on a transition plan that focuses on ensuring the long-term viability of advancements in rice production and value chains across the region.

APART, funded by the World Bank, has been instrumental in promoting climate-resilient agriculture and enhancing regional rice productivity. Key to its success has been the introduction of stress-tolerant rice varieties (STRVs) that benefited more than 400,000 farmers in Assam. These varieties, engineered to withstand floods, droughts, and other stressors, provided agricultural resilience, promoted mechanized farming practices, and improved labor productivity and efficiency.

Through APART, over 4,500 training programs were conducted for nearly 160,000 farmers, 32% of whom were women. These programs empowered the learners to adopt modern agricultural technologies, such as mechanized direct seeding of rice, mechanical transplanting, harvesting through reapers and combine harvesters, and using axial flow and open drum threshers for threshing, which encouraged the project's sustainability.

Through the project, IRRI also developed a Web-GIS Portal and the Rice-based Cropping System Knowledge Bank, offering valuable resources for informed decision-making and knowledge sharing.

Strategies to ensure the continuation of these achievements were discussed in a meeting co-organized by the ARIAS Society and IRRI. Senior officials from various government departments participated.

In her address, Ms. Aruna Rajoria, Agriculture Production Commissioner to the Government of Assam, highlighted the need for integrating government schemes to support the project's long-term sustainability. She said, "Collaboration between the state government, Assam Agricultural University (AAU), other state agencies, and IRRI is critical to maintain the momentum of technology adoption and ensure the sustainability of activities initiated as part of this project."

As ARIAS Society and IRRI work towards the transition, the emphasis remains on advancing agricultural transformation within Assam's rice-based agri-food systems, highlighting the role of innovative technologies and collaborative efforts in fostering progress and development.



# IRRI develops agro advisory app prototype to empower farmers with precision agriculture



*Under the EiA initiative, IRRI has developed an agro-advisory application to provide farmers with precise planting date recommendations. Supported by Bihar Agriculture University(BAU) and JEEVIKA-Bihar, the application is being introduced in pilot mode across six districts of Bihar.*

## Patna, India (June 14, 2024)

In a significant move towards revolutionizing agriculture in the Eastern Gangetic Plain (EGP), the International Rice Research Institute (IRRI) organized a one-day training and capacity-building program on “Dynamic Agro Advisory Application” held in Patna today. This program, aimed to introduce a groundbreaking digital agricultural advisory service prototype, developed by IRRI under the Excellence in Agronomy (EiA) initiative by One CGIAR. The training was attended by scientists and officials from JEEVIKA, Bihar Agriculture University (BAU), CIMMYT, IFFCO, and Krishi Vigyan Kendras (KVKs).

The EGP, encompassing regions such as the Terai of Nepal, Bangladesh, and Eastern Indian states like Bihar, Uttar Pradesh, and West Bengal, faces high levels of poverty, agricultural dependency, and frequent climate extremes. Research by CGIAR experts and local partners emphasizes that timely planting is crucial for ensuring food security in this region.

The EiA initiative is currently validating a data-driven API and mobile application designed to provide farmers with precise recommendations on optimal planting dates, particularly for rice cultivation. This innovative tool, developed by IRRI and supported by BAU and JEEVIKA, takes into account various factors including irrigation availability, investment costs, risks,

and weather forecasts, helping farmers make informed decisions on planting to enhance productivity in Bihar.

The program commenced with opening remarks from Mr. Rajesh Kumar, Joint Secretary cum OSD-Jeevika, who highlighted the growing concerns in agriculture due to climate change. He assured Jeevika's support for farmers' successful development and adoption of the app, marking a significant step towards modernizing agricultural practices in Bihar. He encouraged the women community members attending the training to absorb the learnings of the training so that they could help scale the application to a wider mass.

The tailored advisory system, currently focused on the EGP within Bihar, is expected to empower farmers with accurate planting schedules, thereby enhancing overall system productivity. This initiative aligns with ongoing efforts to integrate dynamic agricultural advisory services into the Convergence Platform and participatory planting dates activities involving on-field farmers.

This training session marks a critical milestone in the ongoing collaboration between IRRI, Jeevika, Bihar Agriculture University, and the EiA initiative, paving the way for a more resilient and productive agricultural future in the EGP region.

# IRRI attends the 21<sup>st</sup> National Rice Day of Nepal



*IRRI joined Nepal in its celebration of the 21<sup>st</sup> National Rice Day. Strengthening the ties between Nepal and IRRI, the celebration opens up new avenues for collaboration and knowledge exchange, crucial in addressing challenges faced by farmers in the region.*

## Chitwan, Nepal (June 29, 2024)

The International Rice Research Institute (IRRI) is proud to announce the participation of Dr. Ajay Kohli, DDG-Research, and Dr. Sudhanshu Singh, Director of the IRRI South Asia Regional Centre (ISARC), Varanasi, in “Nepal's 21<sup>st</sup> National Rice Day and Rice Transplanting Festival 2024” on June 29, 2024. The prestigious event, held in Nepal, saw the esteemed presence of the Hon'ble Prime Minister of Nepal Pushpa Kamal Dahal (Prachanda) as the Chief Guest and the Hon'ble Minister of Agriculture & Livestock Development, Jwala Kumari Sah, as the Chairperson.

The event aimed to celebrate and promote rice cultivation, a staple crop essential to the region's food security and agricultural economy. With the slogan ‘climate-friendly agriculture, increase in paddy production’ for this year, the event brought together policymakers, researchers, and farmers to discuss advancements and strategies in rice farming. Addressing the event organized in Chitwan, Prime Minister Pushpa Kamal Dahal (Prachanda) expressed the commitment of his government to promote the adoption of climate-resilient agriculture technologies for enhancing the production and productivity of the region.

Dr. Kohli presented on IRRI's extensive experience in rice research and development, emphasizing the institute's commitment to innovative agricultural

practices. He highlighted several ongoing and potential areas of collaboration between IRRI and Nepal, aiming to enhance rice productivity and sustainability in the region.

In another engagement organized under the same theme in Khumaltar, Dr. Singh spoke about the ongoing rice research and development initiatives across South Asia, particularly focusing on how Nepal can benefit from the resources and expertise available at ISARC, Varanasi. His address underscored the importance of regional cooperation in advancing agricultural research and ensuring food security.

Aligned with the Nepal Prime Minister's vision for sustainable and climate-friendly agriculture, Dr. Singh showcased cutting-edge technologies that ISARC offers. He shared success stories of ISARC's interventions, emphasizing the impact of stress-tolerant rice varieties (STRVs) and Green Super Rice (GSR) in combating climate challenges.

The participation of Dr. Kohli and Dr. Singh in this event marks a significant milestone in strengthening the ties between IRRI and Nepal. It opens up new avenues for collaboration and knowledge exchange, which are crucial for addressing the challenges faced by rice farmers in the region.



## Partners review progress of the MFS initiative in Bangladesh



Bangladesh, where agriculture forms the backbone of livelihoods, the One CGIAR initiative on Mixed-Farming Systems (MFS) stands as a beacon of innovation and progress. Recently, a team comprising representatives from IRRI Bangladesh, Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), and CIMMYT Bangladesh embarked on a comprehensive visit to observe the impact of MFS in Kishoregonj and Nilphamari Sadar districts. Led by Dr. Humnath Bhandari, Country Representative of IRRI Bangladesh and MFS Country Focal Person, the team engaged directly with beneficiaries to understand the initiative's multifaceted activities and their implications on the ground.

This CGIAR global initiative is currently being implemented in Bangladesh by IRRI and CIMMYT with the collaboration of BARI, BRRI, Bangladesh Livestock Research Institute (BLRI), and Department of Agricultural Extension (DAE), aiming to enhance farmers' livelihoods, ensure family food security, promote environmental health and biodiversity conservation, and intensify and diversify agricultural production. Currently, the initiative is working on several innovations such as crop intensification and diversification, homestead gardening, organic manure production, crop-livestock integration, and mechanization services.

The team's visit provided a firsthand glimpse into the transformative effects of MFS on rural communities. Dr. Debasish Sarker, Director General of BARI, Gazipur, lauded the initiative's efforts in promoting year-round homestead-based vegetable and fruit production, a model pioneered by BARI to ensure family nutrition. He highlighted the innovative collaboration between BARI and IRRI in introducing special seed packets for homestead vegetable production, enabling farmers to access quality seeds at affordable prices.

Dr. Md. Shahjahan Kabir, Director General of BRRI, Gazipur, emphasized the importance of crop diversification and the introduction of short-duration, high-yielding rice varieties. He underscored BRRI's contributions in releasing varieties like BRRI dhan75 and BRRI dhan87, designed to optimize cropping patterns and enhance agricultural productivity. Dr. Kabir commended SI-MFS for its integrated approach toward increasing farmers' household income and promoting sustainable agricultural systems. He also empathized with rice mechanization and mentioned mechanized DSR can save labor, and water and reduce environmental footprint. For mechanized DSR we have to long way to go.

During the visit, Dr. Bhandari said, "Through MFS initiative, we are developing local service providers and

linking them with respective government/private organizations to ensure quality service to the villagers, as well as establishing ‘MFS’ agricultural learning centers in the working villages for integrated information dissemination after the end of the initiative phase.”

In addition, Dr. Sharif Ahmed, a Post-doctoral Fellow from the IRRI Bangladesh Office, and Dr. Zannatul Ferdous, a Senior Scientific Officer (SSO) from OFRD (BARI) Rangpur, provided a comprehensive overview of the various activities conducted by MFS. The program has significantly expanded its activities, reaching 15 villages and covering 3,060 farmers’ households across Northern Bangladesh.



One of the notable achievements highlighted during the discussions was the extensive training provided to farmers. A total of 930 farmers have undergone training sessions on various topics crucial for sustainable agricultural practices. These sessions covered Homestead-based gardening, compost/vermi-compost production, intensified and diversified crop production, as well as fodder and improved livestock production. The emphasis on holistic training reflects MFS’ commitment to equipping farmers with the knowledge and skills necessary to enhance their agricultural practices.

The collaboration between MFS, IRRI Rangpur, and BARI, BLRI and BRRI has facilitated the provision of essential agricultural machinery to local entrepreneurs. Thirty Straw and Fodder chopper Machines, four Mini rice husking mills, one PTOS machine, two Maize Shellers, and one mini

power tiller have been distributed among young entrepreneurs in MFS villages. This initiative not only promotes entrepreneurship but also enhances agricultural productivity by providing access to modern machinery. Additionally, the distribution of fodder-cutting among 1150 beneficiaries underscores MFS’ commitment to improving livestock production and fodder management.

The team’s field visits and discussions with beneficiaries provided valuable insights into the impact of these interventions on rural communities. Farmers expressed gratitude for the training and support received, highlighting the positive changes in their agricultural practices and livelihoods. The collaborative efforts between research institutions, government agencies, and local communities are driving meaningful change, empowering farmers to adopt sustainable agricultural practices and improve their overall well-being.

The visit also provided an opportunity to interact with beneficiaries whose lives have been positively impacted by the MFS initiative. A 28-year-old farmer, Akhi Moni, a member of the SI-MFS household-based farmer group in Khamergram, shared her journey from dependence on market vegetables to cultivating diverse crops in her homestead, thanks to initiative training and support. Similarly, Fatema Begum, from the same village, narrated how cultivating short-duration Aman rice varieties led to early harvesting, enabling subsequent Rabi crop cultivation, and enhancing overall farm productivity.

Amidst changing climatic conditions and labor shortages, MFS has introduced Direct Seeded Rice (DSR) as a climate-smart alternative to traditional transplanting methods. Dr. Mahesh Gathala from CIMMYT Bangladesh highlighted the advantages of DSR in mitigating water scarcity and reducing labor costs. Farmers like Rafiqul Islam and Masiur shared their positive experiences with DSR, expressing optimism about its potential for widespread adoption and impact. The majority of farmers have agreed to continue using this particular method in the upcoming season.



## ACTIVITIES AT A GLANCE

Under the project 'dynAg-An AI-Based Digital Extension Platform to Promote Peer-to-Peer Exchange and Deliver Dynamic Advisory to Smallholders,' a pilot test of the AI tool was conducted with a group of farmers. Discussions with male and female farmers covered agro-advisories, current agricultural practices, issues in agriculture and livestock, and familiarity with digital solutions. The AI-based tool was tested for usability, and feedback was gathered from project partners to enhance its functionality. Topics included the addition of pause and play buttons, search options, language and gender settings, symbolic alignment, catchy icons, answer categorization, and switching OTP logins to automated calls.



Gaya, Bihar (May 13-15, 2024)



Bhubaneshwar, Odisha (May 16, 2024)

A workshop titled “Strategic Pathways Development for Sustainable Scaling of Mechanized Direct Seeded Rice and its Ecosystem in Odisha” was organized to discuss sustainable scaling strategies for direct seeding in rice-based systems. With key partners, including government officials, sector experts, NGOs, and Agro Service Centres, the workshop finalized a participatory scaling strategy and M&E framework using CGIAR's Innovation Packaging and Scaling Readiness tool. Evidence from surveys and interviews with farmers, agriculture officers, and service providers validated the feasibility of identified enablers. The final output was a strategic log frame detailing activities, impacts, success indicators, and responsible actors.

Under the CORE project, a training on "AWD, DSR, Biochar, and Gender Sensitization in Rice Farming" was conducted. It included 44 Community Resource Persons (CRPs), Master Trainers (MTs), and 5 professionals from PRADAN, representing Mandla, Balaghat, Dindori, and Betul districts. This training equipped CRPs with the skills to conduct cascade training, raising awareness of sustainable rice cultivation practices among farmers.



Mandla, Madhya Pradesh (June 5-6, 2024)





Mahapur, Puri, Odisha (June 21, 2024)

The IRRI-DSR-Odisha Project organized several activities to promote Direct Seeded Rice (DSR) and improve agricultural practices. A strategy design workshop involving 21 stakeholders was held on May 16 in Bhubaneswar. District-level planning meetings took place at OUAT-KVK in Bhadrak and Puri, with 93 participants, including CDAO officers and KVK scientists. A public harvest event for mechanized seeded groundnut on May 23 in Bargarh saw 45 participants. Hands-on training sessions on mechanized DSR and rice seeding were conducted in Bargarh and Puri, respectively. A training on rice production and an exposure visit for 40 progressive farmers from Bihar were also held at ISARC, Varanasi in June.

A three-day Scale Direct DSR baseline survey training program was held at ISARC, Varanasi. The program aimed to equip nine data enumerators for a large-scale survey of smallholder farmers in Chhattisgarh and Uttar Pradesh, under the Scale Direct project across Southeast Asia and Africa. The training covered key areas such as DSR technique benefits, survey software use, field interview techniques, and ethical considerations. Enumerators, trained by Donald Villanueva and Justin Dela Rueda from IRRI, are now prepared to conduct surveys in Varanasi, Kaushambi, Chandauli, Gorakhpur, Mahasamund, and Kabeerdham, enhancing agricultural practices and sustainability.



Varanasi, Uttar Pradesh (June 25-28, 2024)



May-June, 2024

A series of extensive agricultural trials and seed distribution initiatives were carried out across multiple Indian states. A total of 180 on-farm trials were conducted to evaluate 46 inbreds and hybrids in Uttar Pradesh, Chhattisgarh, Jharkhand, and Odisha, with seeds distributed to trial collaborators. Additionally, 12 crop cafeteria trials have been set in six states, including Uttar Pradesh, Odisha, Jharkhand, West Bengal, Chhattisgarh, and Telangana. For early-generation seed production, 3 metric tonnes of breeder seeds have been distributed to FPOs, FPCs, SHGs, and private seed companies. Further, cluster demonstrations under dry DSR conditions will be conducted on 180 hectares across several states, with specific efforts to involve women farmers in Varanasi, Uttar Pradesh.



Under the initiative to promote new rice varieties across South Asia, the Robust Seed Systems unit at ISARC supplied certified seeds of the aromatic rice variety Chhattisgarh Devbhog to farmers in Harinarayanpur village, Bhadohi, Uttar Pradesh. In collaboration with Jaya Seed Producer Company, an FPC in Jayapur, Varanasi, this effort enabled cultivation across 10 hectares. The initiative, which also includes new varieties like Swarna Samriddhi, BINA Dhan 11, and Swarna Shreya, aims to strengthen decentralized seed systems, enhance farmers' market influence, and ensure high-quality rice production. This marks a significant step towards empowering local farmers and improving rice yield and quality in the region.



May-June, 2024



May-June, 2024

Two training programs were conducted in Patiala, Punjab, in collaboration with Thapar Institute of Engineering and Technology, Patiala, and Tel Aviv University, Israel. These programs aimed to train master trainers and farmers in scaling Alternate Wetting and Drying (AWD) for paddy cultivation. The first phase involved explaining AWD principles and on-farm demonstrations of its implementation. Sponsored by Tel Aviv University, with IRRI as a technical partner, the initiative seeks to generate evidence of AWD's effectiveness in Punjab.

The participatory evaluation of multi-location trials (MLT) of rice varieties for 2023-24, led by Assam Agricultural University (AAU) with technical support from the IRRI under the Assam Agribusiness and Rural Transformation Project (APART) project, was conducted at AAU-ARRI, Titabar, Zonal Research Station, Kokrajhar, and Zonal Research Station, Lakhimpur. These trials aimed to determine the most suitable rice varieties for various agro-climatic zones in Assam. Farmers, millers, researchers, and scientists participated in the evaluations. Key preferences included CR 310, BRRI 69, DRR Dhan, and BRR Dhan 44 at AAU-ARRI, Titabar; CR Dhan 310, DRR Dhan 44, BRRI Dhan 69, and DRR Dhan 55 at Zonal Research Station, Kokrajhar; and CR Dhan 311, BRRI Dhan 69, and CR Dhan 310 at Zonal Research Station, Lakhimpur.



May-June, 2024



## VISITS AT ISARC



May 21, 2024: Visit of the Punjab government included the Special Chief Secretary, DA&FW, Sh. K A P Sinha and delegation from Punjab Agricultural University (PAU)



June 21, 2024: Visit of Agriculture/Horticulture Development Officers (AHO) of Odisha at ISARC



June 27, 2024: Visit of the CGIAR Breeding Research Services (BRS) Platform Team



June 28, 2024: Visit of the delegation from the Punjab Pollution Control Board (PPCB) and the Directorate of Environment and Climate Change (DECC)

## PARTICIPATION IN FARMER'S FARE AND EXHIBITION



Uttar Pradesh Minister of Agriculture, Agriculture Education, and Agriculture Research Shri Surya Pratap Shahi at IRRI exhibition stall in Mandaliya kharif goshthi.

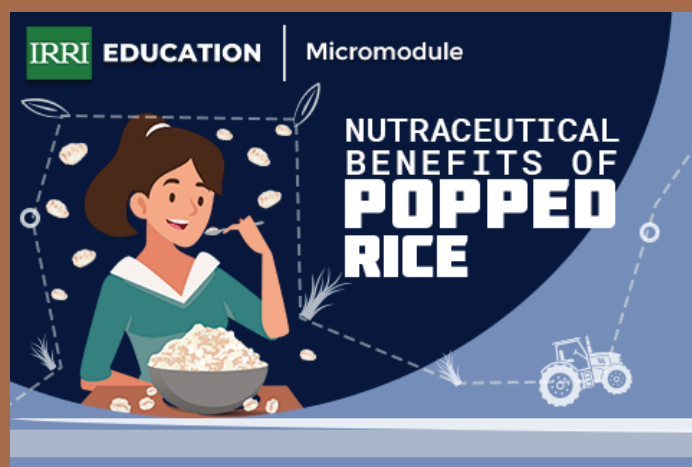


# ANNOUNCEMENTS

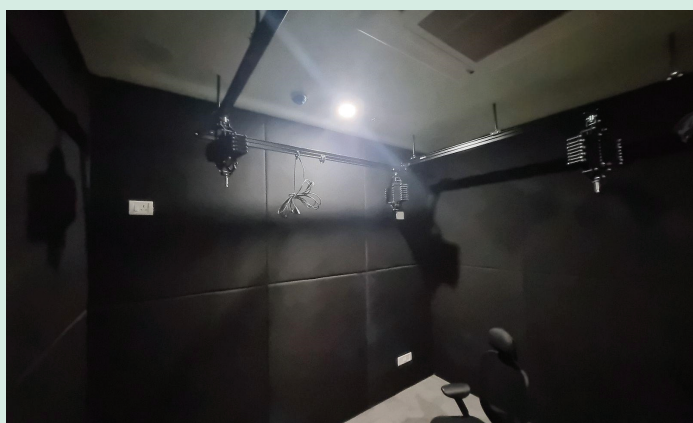
## Launched “Nutraceutical Benefits of Popped Rice” Micromodule in the Rice Based Value Added Products Series:

CEIRD has introduced a detailed micromodule titled “Nutraceutical Benefits of Popped Rice” as part of the Rice-Based Value Added Products Series. This comprehensive course aims to educate learners on the significance of whole-grain rice and the health-promoting compounds found in pigmented rice. It covers the process of popping rice, the physical properties of paddy, de-husked rice, and popped rice, and the instrumental characterization of their mechanical properties.

Explore this course on our Learning Management System: [openlearning.cgiar.org](https://openlearning.cgiar.org).



## Introducing EdTech Studio at ISARC



The Digital Knowledge Sharing Unit of CEIRD is committed to developing learner-centered, expert-designed, and impact-driven online learning courses and knowledge products tailored for food, land, and water systems. Our multidisciplinary team includes content writers, graphic designers, web developers, instructional designers, and software and equipment managers.

To expand reach and impact across various geographies, ISARC plans to establish an EdTech Studio. This collaborative space will enable specialists, developers, and partners to create rich, diverse, and impactful pedagogical experiences. The studio will enhance the capacity-development service portfolio, amplifying the impact of our research and innovations.

# FEATURED PUBLICATIONS

CABI Agriculture and Bioscience volume 5, Article number: 53

**Women-led community institutions as a potential vehicle for the adoption of varieties and improved seed practices: an impact case from India**

*Mosharaf Hossain, Swati Nayak, Subhasmita Mohapatra, Pooja Trivedi & Showkat A. Waza:(2024).*

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Scientific Reports volume 14, Article number: 13836

**Climate-smart rice (*Oryza sativa* L.) genotypes identification using stability analysis, multi-trait selection index, and genotype-environment interaction at different irrigation regimes with adaptation to universal warming.**

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