

ISARC Cultivate

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

ISARC
IRRI South Asia Regional Centre



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In the loving memory of
Dr. Uma Shankar Singh

January 01, 1954 - May 09, 2024

IRRI mourns the passing of its esteemed former and founding South Asia Regional Centre director Dr. Uma Shankar Singh, on May 9, 2024.

Dr. Singh was a luminary in the field of agricultural science, particularly renowned for his expertise in seed management and eco-friendly approaches to plant disease control. His contributions have left an indelible mark on the agricultural landscape in India and beyond.

Dr. Singh's illustrious career spanned pivotal roles in numerous scientific committees. His dedication was evident in his election to several fellowships and serving in various national-level organizations such as the National Academy of Agricultural Sciences, and the Indian Phytopathological Society, among others. In his latest role with IRRI, he also served as an advisor for Asia and Africa.

He played an instrumental role in the establishment and shaping of the IRRI South Asia Regional Centre in Varanasi. Under his leadership, the visionary initiative "Seeds Without Borders" was formalized to accelerate regional cooperation on seed sharing and varietal development without

compromising seed quality, winning him the AAAS David and Betty Hamburg Award for Science Diplomacy in 2023.

Dr Singh introduced many innovations, including targeted dissemination of stress-tolerant rice varieties using GIS and remote sensing, and tracking their diffusion through informal and formal seed sectors and ground surveys. His pre-release varietal seed multiplication initiative, coupled with the promotion and linking of varietal dissemination with mega developmental schemes, improved and speeded-up seed multiplication and the diffusion of stress-tolerant rice varieties in South Asia.

Dr. Singh began his career at G.B. Pant University of Science and Technology where he served for 24 years, including eight as Professor of Pathology.

It was during this period that he won the highest accolades of his profession, including the Pesticide India Award (1982, 1985, 1986, 1987, 1999, 2000, 2004); Professor M.J. Narasimhan Academic Merit Award, 1985; Outstanding Scientist Award of GBPUAT, Pantnagar, 2004; Uttaranchal Ratan, 2005; Sipani Krishi Anusandhan Award, 2005. He served on the advisory bodies of Research Institutions and Universities across India , including the National Centre for Integrated Pest Management and the Indian Agricultural Research Institute, as a member of the Governing Body of the Jharkhand Agriculture Development Council (IADC) Krishi Samridhi Ayog, and the Apex Committee shaping India's pesticide research and development policy.

Dr. Singh's passion for advancing agricultural knowledge transcended borders, as demonstrated by his tenure as a visiting scientist at Rothamsted Research in the UK.

Dr. Ajay Kohli, Deputy Director General for Research at IRRI said, "Dr. Singh's demise is an immense loss to the agricultural research community. He was not just an excellent scientist and an empathetic mentor, but a very able administrator as well. His vision was to take the products of agricultural research to farmers to help alleviate poverty and hunger in South Asia. We have not just lost a visionary researcher, scientist and administrator but I have also lost a dear friend."

Dr. Singh's commitment to food security and agriculture went beyond his passion for rice. Only recently did he begin working for the International Potato Center (CIP), and he quickly helped advance significant efforts around potato and sweet potato production in India and Asia.

"Those of you who knew him will always remember his expertise, energy, and kindness," said Dr. Simon Heck, CIP director general. "I've had the privilege of working with him closely over the past year and witnessed first-hand his positive impact on people wherever we traveled. He could speak with equal ease and respect to Prime Ministers and farmers alike."

Dr. Singh's legacy extends far beyond his professional achievements; he will be remembered for his warmth, mentorship, and unwavering commitment to the betterment of agriculture and the lives it sustains.

Dr. Uma Shankar Singh leaves behind his wife, two daughters and a son.

Government Officials from India, Bangladesh, Sri Lanka, and Nepal gather for the 7th ISARC Coordination Committee Meeting



First row from left to right : IRRI Education Head Dr. Anilyn Maningas ; Govt. of India Deputy Secretary (Seeds) Mr. Moni Sunder Banerjee ; IIVR Director Dr. T.K. Behera ; Govt. of Sri Lanka Regional Rice Research & Development Center Additional Director Ms. R. F. Hafeel ; ICAR DDG (Crop Sciences) Dr. Tilak Raj Sharma ; Govt. of Nepal Secretary (Agriculture Development) Dr. Govinda Prasad Sharma ; Govt. of India Secretary (Agriculture & Farmers Welfare) Mr. Manoj Ahuja ; IRRI Interim DG Dr. Ajay Kohli ; Govt. of Bangladesh Joint Secretary (IC) Mr. Paritosh Hajra ; ISARC Director Dr. Sudhanshu Singh ; SAC Director Dr. Md. Harunur Rashid ; Govt. of India Deputy Commissioner Dr. Dilip Kumar Srivastava.

Varanasi, India (March 28, 2024)

Senior government officials from India, Bangladesh, Sri Lanka, and Nepal from the agricultural departments gathered at ISARC for the 7th ISARC Coordination Committee (ICC) meeting. This meeting was presided over by Dr. Ajay Kohli, interim Director General, IRRI as the Chairperson of the Committee.

The ICC meeting is an annual governance meeting for ISARC to discuss the previous year's work, plan for the upcoming year, and highlight the action points suggested in the previous ICC meetings. Some of the broad areas for actions to be taken during 2023 were :

- Addressing climate change and its challenges by developing climate-resilient and stress tolerant rice varieties and transferring these to the farmers through a robust seed system and extension activities.
- Development and dissemination of nutrition-rich, biofortified with zinc and iron, low and ultra-low glycaemic index (GI) rice varieties in South Asia..
- Developing and scaling up the rice value chain and processing system to support and make commercially viable start-ups.
- The need for interventions in different rice-fallow areas of the region and supporting the exploitation of rice fallow areas by diversifying crops.

- Scaling up the digitalization of agriculture with deeper penetration of applications like Rice Crop Manager (RCM) and Rice Doctor and promoting digital solutions in agriculture like drone-based phenotyping interventions, insect and disease monitoring, precision fertilizer management, use of GIS, remote sensing, big data analysis, etc. Evaluating nano urea for scaling up its use in South Asia.
- Strengthening regenerative agriculture, fertilizer use efficiency, and developing carbon-markets to improve soil health and reduce carbon emission.
- Strengthening and streamlining the hybrid rice development program.
- Expanding the Seeds without Border (SWB) initiative beyond rice and to add more signatories in the agreement.
- Increased engagement with the governments, especially that of Nepal for investment opportunities.

Expressing his gratitude to the CoCo members for being present at this meeting, Dr. Ajay Kohli, said that ISARC is emerging as an evidence-based research hub for all research related to transforming the rice-based agri-food system in the South Asian Region. He said, "ISARC is continuously working in transforming and strengthening the rice-based agri-food system in the South Asia region, working towards development and

dissemination of climate-resilient and stress tolerant, biofortified and nutritious and premium quality rice (PQR) varieties for farmers as well as consumers. Our focus for this year is to work on developing rice varieties with low methane emissions and enhancing the productivity of premium quality nutritious rice. To achieve these goals, we are also working on the propagation of best agronomic and management practices such as Dry Seeded Rice (DSR), Alternate Wet and Drying (AWD), etc.”

DSR is one of the major flagship research programs of IRRI. This technique delivers faster planting and maturing, conserves scarce resources like water and labor, is more conducive to mechanization, and reduces emissions of greenhouse gases that contribute to climate change in comparison to the conventional puddled transplanted rice technique.

Dr. Kohli also thanked the governments in India, Bangladesh, Nepal and Sri Lanka and the NARES partners in each of these countries for extending their support to ISARC.

Mr. Manoj Ahuja, the Co-chairperson of ICC, said, “I am filled with a sense of pride and optimism as we reflect upon the remarkable achievements and strides made by ISARC in the field of rice research and development. ISARC has showcased its capabilities in research, extension, capacity development, and technology dissemination throughout this pivotal year, bringing forth tangible solutions to address the pressing challenges facing our agricultural landscape.” Mentioning a few of the achievements namely, the release of ultra-low Glycemic Index rice varieties, Speed breeding protocol, Direct Seeded rice, Seeds Without Border, he urged the national partners to replicate these innovations in their respective regions through technical support from ISARC.

Highlighting some of the major achievements of ISARC for 2023 Dr. Sudhanshu Singh, Director ISARC said, “Over the past year ISARC has made significant progress in research, extension, technology dissemination and capacity development. We have strengthened our partnerships to forward rice research and development for transforming rice-based agri-food systems in the region. Through Seeds Without Border, ISARC is leading IRRI’s regional cooperation initiative and facilitating the exchange of improved crop varieties between neighboring countries such as Nepal and Bangladesh.”

“We are geared up to combat the impending challenges of climate change. Along with the development and promotion of agronomic practices, ISARC is also working on some shorter-duration varieties helping in the reduction of GHGs emissions. DRR 42, DRR 44, DRR 46, BINA Dhan 11, and Shahbhagi Dhan are some of these shorter duration varieties,” Dr. Singh further added.

The thematic leads of IRRI presented unit-specific progress and plans in front of the ICC members. This was then succeeded with a round of discussion amongst the attendees to plan the strategies for achieving the goals of the upcoming year. The ICC concluded with a vote of thanks from IRRI Asia Regional Director Dr. Jongsoo Shin.

Delegates present at the meeting were Mr. Manoj Ahuja, Secretary, Department of Agriculture & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India (MoA&FW) and the Co-chairperson of ICC; Mr. Paritosh Hajra, Joint Secretary (IC), Ministry of Agriculture, Government of the People's Republic of Bangladesh (representing Ms. Wahida Akter Secretary, Ministry of Agriculture, Government of People’s Republic of Bangladesh) Dr. Govinda Prasad Sharma, Secretary (Agriculture Development), Ministry of Agriculture and Livestock Development, Government of Nepal, Kathmandu; Dr. Md. Harunur Rashid, Director, SAARC Agriculture Centre (SAC); Dr. Tilak Raj Sharma, Deputy Director General (Crop Sciences), Indian Council of Agricultural Research (ICAR), Government of India, New Delhi, India; Dr. M P Yadav, NSRTC (representing Mr. Manoj Kumar, Director, National Seed Research and Training Centre (NSRTC), Varanasi, UP, India; Member, ISARC Coordination Committee); Dr. Sudhanshu Singh, Director, IRRI South Asia Regional Centre, Varanasi, UP, India.

Additional Chief Secretary of Agriculture, Agricultural Education and Research, Agricultural Marketing, International Agricultural Trade and Export Promotion of the Government of Uttar Pradesh, Dr. Devesh Chaturvedi, and IRRI Asia Regional Director Dr. Jongsoo Shin attended the meeting online.

Government of Sri Lanka’s Regional Rice Research & Development Centre Regional Director Ms. R.F. Hafeel; MoA&FW, GoI Deputy Commissioner (Quality Control) Dr. Dilip Kumar Srivastava; and MoA&FW, GoI Deputy Secretary (Seeds) Mr. Moni Sunder Banerjee joined the meeting as special invitees.

IRRI-Government of Odisha partnership to strengthen state's specialty rice segment

Odisha, India (March 16, 2024)

The state of Odisha produced nearly 11 million tons of rice in 2021, considerably contributing to the national food reserve and meeting the staple requirement of around 45 million of its population. The focus of the government has now shifted to diversify the state's food basket to include healthier choices for consumers by mainstreaming nutritious rice varieties with high zinc, iron, protein, and low glycemic index (GI) traits.

These high yielding nutritious rice varieties have great market potential and may be positioned as a premium product segment which could generate higher demand and economic value to producers. Varietal awareness, systematic seed access, a robust supply chain, and adoption in scale will be crucial for the sustenance and uptake of these rice varieties and create economies of scale. The International Rice Research Institute (IRRI) and the Department of Agriculture & Farmers' Empowerment, Government of Odisha, recently signed a Memorandum of Agreement (MoA) to accelerate the production of these varieties and explore its potential to improve consumer health outcomes, strengthen the formal and local seed systems, and create new market linkages for the wide scale production and distribution of new specialty rice varieties in Odisha.

Signed by Shri Prem Chandra Chaudhary, Director of Agriculture and Food Production and IRRI Interim Director General Dr. Ajay Kohli, the three year collaboration will focus on the introduction and scaling of bio-fortified, low glycemic index, and premium quality rice varieties. The project will be implemented under the overall supervision of IRRI Scientist and Principal Investigator, Dr. Swati Nayak, South Asia Lead for Seed Systems.

Speaking on the rising importance of specialty rice in India, Dr. Kohli remarked: "Odisha's revised agriculture agenda calls for a rice sector that is profitable and demand-driven. Rice is no longer just a simple staple. It needs to add more value to farmers and consumers and that can happen through value-added traits for improved nutrition and health benefits. The renewed interest and policy focus of the state government acts as an enabler in the right direction."



Cluster demonstration of specialty rice varieties

In order to generate production at scale, the formal and semi-formal seed system will be strategically supported for institutional engagement and ownership for seed scaling of selected specialty varieties. With evidence generated through season-long on-farm testing of past and ongoing efforts, the key healthier varieties will be mainstreamed with the help of state seed corporations and community-owned seed networks for mass production. Leveraging regional cooperation policies like Seeds Without Borders and partnering with Indian National Breeding Network partners, new and more promising healthier rice varieties will be introduced and scaled through the project.

"Nutrition through popularization of better germplasm and development of robust seed systems can now be achieved. We want to ensure decentralized and localized access to these products through systematic introduction, positioning, and scaling strategies for the best specialty rice varieties. This segment is immensely underexplored, both at producer and consumer levels, and we are grateful to the Government of Odisha for getting behind actionable research and programmatic interventions on this," said Dr. Nayak.

The project will be implemented in the districts of Bhadrak, Mayurbhanj, Ganjam, and Bolangir, with an expected annual direct participation of some 5,000 farmer producers and coverage and production area of 2,000 hectares. At the end of the project cycle, the project will have covered a total of 15,000 farmers and 6,000 hectares and connected with several institutions, channels, and consumer markets.

Faster breeding and addressing climate risks prioritized during the South Asia Advancement meetings



Hyderabad, India (April 02, 2024)

The South Asia Advancement meetings, RBI's annual initiative where scientists come together and select rice lines to be used for recycling as parents or for product development, released one rice line and six others for AICRPR (All India Coordinated Research Project on Rice) testing and amplification in 2024 wet season, respectively, with several more undergoing continuous deliberations for release before the end of April. The advancement of these rice lines will ensure rice production increases in the region at a shorter period tolerant of climate changes.

Through this activity, RBI was able to promote a collaborative means for developing and deploying innovative breeding strategies, tools, and technologies with the NARES partners to sustainably enhance the genetic potential of rice for higher yield and improved traits. Activities for the next period, as in previous years, include continuing trials of rice lines from Stage 1 to Stage 2 and the selection of lines from Stage 2 for improvement and nomination to the AICRPR.

Dr. Hans Bhardwaj, research director and head of RBI, who led a robust team from IRRI Headquarters, congratulated the South Asia regional partners and IRRI-RBI delegation for the successful outcomes of the 2023 undertakings. In particular, he thanked >50 NARES partners joining the meeting either personally or virtually, especially the Indian Institute of Rice Research (IIRR) hosting the event for a great start of the newly launched two new breeding pipelines (LaSF-I and TMeMF-I) to capture the medium/late maturity market segments of South India. With the addition of these breeding pipelines, IRRI's breeding capacity will cover about 60 million hectares of rice globally.

The group of participants from NARES partners from

Bangladesh, Nepal, Sri Lanka, and other parts of India and IRRI teams from these countries received reports of the move from a country-specific advancement meeting to region-specific meetings, for a more enhanced collaboration of the countries in the region and the NARES taking leadership initiatives, according to Dr. Vikas Kumar Singh, IRRI regional breeding lead for the South Asia hub. Dr. Singh thanked the IRRI leadership with the presence of Dr. Ajay Kohli, interim director general (IDG), and the senior national partners from the regions for their continuing strong support and active engagement in these activities.



IRRI Interim DG Dr. Ajay Kohli addressing the event

“Partnerships of IRRI with the ICAR and national partners have come a long way in speeding up efforts in breeding, genomics, agronomy, and all related activities to deliver superior rice varieties to the farmers in the region and worldwide in a short period. As the One IRRI-NARES Breeding Network evolves into an agnostic project, the breeding cycle will continue to focus on early maturity, medium-maturity, and late-maturity rice varieties' advancements coinciding with the AICRPR on the coming years”, said Dr. Sankalp Bhosale, RBI deputy head.

An analytics tool demo/workshop on the Biometrical Genetics Workflow formally began the four-day event. Other activities included progress summaries on ongoing product development and varietal replacement, seed systems, gender intentionality for South Asia, trait deployment and pre-breeding, biotic and abiotic stress updates, grain quality and nutrition, and IRRI regional research on day 2, breeding pipelines/maturity groups' parallel sessions in day 3, and the Hybrid Rice Adoption Strategy workshop in day 4.

Hybrid Rice rises to the challenge of slower adoption by South Asian Farmers



Hyderabad, India (April 05, 2024)

Increase the yield of hybrid rice to 25 percent greater than inbred varieties. This is the challenge that hybrid rice scientists from the International Rice Research Institute (IRRI), its National partners, and the private sector must address for South Asian farmers to adopt rice hybrids. The call emerged during the Hybrid Rice Adoption Strategy Workshop that happened during the South Asia Advancement meetings that the IRRI Rice Breeding Innovations (RBI) Department facilitated. The activity took place in the IIRR campus, a NARES partner of IRRI South Asia under Dr. Vikas Kumar Singh, RBI South Asia Breeding lead.

Following the OneRice Breeding strategy implemented by RBI, farmers prefer a grain yield of greater than 25% from much stable hybrid rice lines compared with their parent lines, with multi-stress breeding more superior than ideal parental lines that match the market needs of high insect pest- and disease-resistance and abiotic stress tolerance. Achieving the genetic gains in the different inbred breeding programs (early, medium, and late maturity) that overlaps with the hybrid rice breeding program can be fully maximized.

The group must consider some critical issues, such as a unified focus of the industry stakeholders, sufficient supply of seeds at reasonable costs, and higher yield advantage over other rice varieties, according to Dr. Hans Bhardwaj, IRRI-RBI research director and head. Addressing these concerns are the chief tasks the working groups will endeavor this year.

Diversification of the rice female parent is also an important issue, Dr. Sankalp Bhosale, IRRI-RBI deputy head, delved into, emphasizing having a better source by developing new CMS lines targeting the important market segments. He also stressed the need to address the issue of heterosis, suggesting the group to have a strategy parallel to assured marketability. Specifically, Bhosale stated having a broad market for hybrid rice,

which should have a greater than 25 percent yield advantage over open-pollinated varieties (OPVs). He encouraged the NARES stakeholders to strongly support the private sector with immense government support, mentioning the Philippines as an example of a robust subsidy program from the government on hybrid rice in-house breeding.

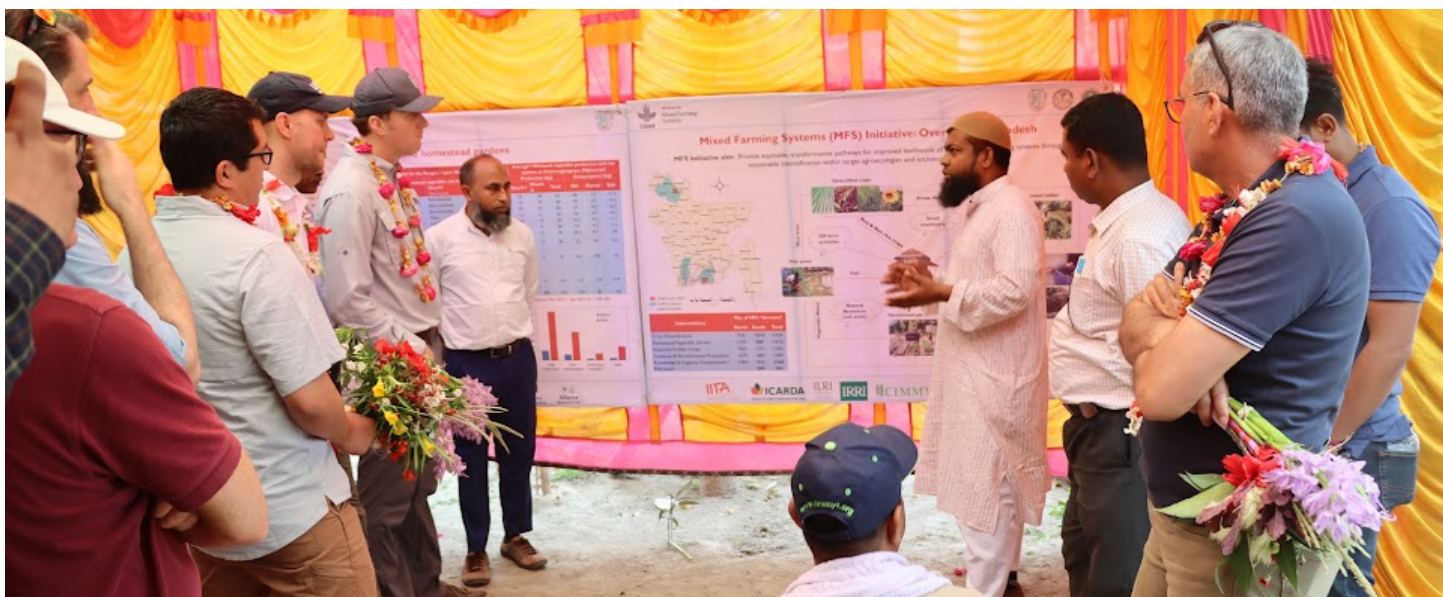
Dr. Jauhar Ali, IRRI-RBI Hybrid Rice lead, updated the group on the accomplished tasks from last year's pilot workshop and created four working groups to develop concrete strategies and action plans to address the key challenges and constraints in the adoption of hybrid rice technology. He tackled issues such as market demands and increasing the area of hybrid rice seed production in the region. He also emphasized developing a road map for the group to deal with all the concerns one step at a time.

Updates on policy, funding, and advocacy came from Dr. Shaik Meera (Director, ICAR-ATARI), who stated a need for a paradigm shift in hybrid rice policy on the federal and national levels. It can be more effective to review successful hybrid rice policies from China, Vietnam, and the Philippines. On subsidy, Dr. Meera encouraged the group to influence policymakers more with strengthened participation of the public and private sectors in policy review or development. "We should move out from the micro and household economic level and look at the macro-economic indicators to have more influence on the policy," he added.

Dr. S. Manonmani, professor and head of the Rice Department of the Center for Plant Breeding and Genetics at Tamil Nadu Agricultural University, discussed the need of capacity building and awareness activities.

As a way forward, the group noted all given recommendations in developing a road map, prioritizing key areas for an 8.5% increase in cultivation area in India, a female parent diversification for productive rice lines, and both the private and public sectors are united in pursuing above recommendations, acquiring massive government support. The group will continuously meet every quarter. The strategies developed from the workshop will be collected, and a booklet will be created to serve as the group's guide.

USAID team lauds PQR value chain process in Bangladesh



Dhaka, Bangladesh (April 18 – 20, 2024)

Recently, a team of experts from the United States Agency for International Development (USAID) visited Bangladesh visiting the Bengal Auto Rice Mills at Pulhat in Dinajpur. The experts lauded the premium quality rice (PQR) value chain process in northern Bangladesh, while exchanging their views with the owners of the rice mills, the PQR farmers, local service providers and traders of PQR products, millers, and marketers.

The International Rice Research Institute (IRRI) and the International Maize and Wheat Improvement Centre (CIMMYT) have actively been engaged in expanding and scaling the PQR value chains since 2016 in the Khulna division and in the Rangpur division of Bangladesh since 2019 as part of the Cereal Systems Initiative for South Asia CSISA-III project with the fund support from USAID.

The visit was undertaken to observe the operations of Auto Rice Mills with a view to gain more insights in the process of milling, sorting and packaging of PQR rice.

Mr. Zahangir Alam, owner of the Bengal Auto Rice Mills said, “We had been sourcing BRRI Dhan50 (Banglamoti) from the southern part (Khulna Division) of Bangladesh, however since establishing connection with the CSISA project in 2019, we have been sourcing 30 – 40% of this demand of our total demand for BRRI Dhan50 from the PQR farmers’ groups associated with the CSISA projects and others locally.

He further highlighted how farmers have benefited from direct paddy purchases from them and obtaining high-quality and admixture-free rice. With the support from the CSISA project Mr. Alam has successfully branded this variety using its original name since 2020. Md. Azad, a progressive farmer at the meeting too expressed his views on the advantages which he has experienced from cultivating the BRRI Dhan50 since his association with the CSISA project. Compared to BRRI Dhan28, the BRRI Dhan50 variety of rice is a high yielding premium quality rice variety. With the affiliation with Bengal Auto Rice Mills, has enabled them to fetch BDT seven to eight per kilogram more compared to the prices of non-PQR varieties.

BRRI Dhan50 is a popular PQR variety with aromatic, long slender grains. It is a high yielding, Boro season rice sold at a higher price. In the 2022-23 season around 15,000 hectares of land in North Bangladesh was cultivated with BRRI Dhan50 as part of the CSISA project. This variety was introduced and popularized in Bangladesh in the second phase of the CSISA project.

Dr. Sharif Ahmed represented IRRI and gave an overview of the PQR activities going on as part of the CSISA project. He also facilitated the tour alongside Md. Alanuzzaman Kurishi, Hub Coordinator at CIMMYT's Dinajpur Field Office and Abdullah Miajy, a Specialist in Agricultural Research and Development at IRRI's Rangpur Hub.

Seed Accelerator Meet at ISARC to strengthen the national seed systems



Varanasi, India (April 22, 2024)

The productivity of major food crops in India faces a significant gap compared to other Asian countries. This challenge can be attributed to the slow varietal turnover and poor seed replacement rate. In addition to this, the farmers have difficulty accessing varietal information and seeds of newer and better varieties.

To invite dialogues on such challenges and topics as on-farm testing, strengthening seed systems, and increasing varietal turnover in rice, IRRI South Asia Regional Centre (ISARC) in collaboration with the National Seed Research and Training Centre (NSRTC) hosted a one-day “Seed Accelerator Meet 2024” in Varanasi.

Advisor to Chief Minister of Bihar Dr. Mangala Rai, ICAR-National Bureau of Plant Genetics Resources Director Dr. Gyanendra Pratap Singh, NSRTC Director Mr. Manoj Kumar, IRRI Rice Breeding Lead Dr. Hansraj Bhardwaj, ISARC Director Dr. Sudhanshu Singh addressed the inaugural session of the event. The program was convened by IRRI Seed Systems South Asia Lead Dr. Swati Nayak and IRRI Regional Breeding Lead-South Asia Dr. Vikas Kumar Singh. Along with this, representatives from Private Seed Companies, Small and Medium Seed Enterprises, Public Seed

Corporations, NSC representatives, alternative seed institution representatives, Farmers’ Producer Organizations, and National One Rice Breeding pipeline-market segment-wise breeding leads participated in this event.



In his address, Dr. Mangala Rai appreciated the advancements made by IRRI in enhancing and scaling market-led newer and better rice varieties. Lauding the work done by IRRI in varietal development and its quick dissemination to the farmers, however, he suggested that the scientific fraternity be critical and analytical while evaluating the pros and cons of their innovations. He also stressed in-depth self-analysis of

existing seed systems and varietal diffusion for better decision-making.

Seconding the appreciative words, Dr. Gyanendra Singh said, “This convention of leading experts, breeders, seed agencies, and representatives of farmers’ producers companies will surely help in the generation and collation of ideas and strategies to understand the needs of diverse stakeholders along the rice value chain.”



Dr. Sudhanshu Singh spoke about the achievements of ISARC in strengthening the IRRI-NARES-led one rice breeding and seed system approach which works towards demand-driven, market segment-based product development, on-farm testing, and scaling process. He further said, “This Seed Accelerate Meet 2024 will formalize and bring together the efforts of key

influencers whom we recognize as seed system accelerators. The platform will provide opportunities for discussions on the latest results of on-farm testing, the current approaches in rice breeding strategy, and, the potential for linkage of NARES/ Public bred varieties.”

This unique and 1.0 version of the comprehensive Seed Accelerator meet in India was conceptualized and convened by the Robust Seed Systems Sub-unit at ISARC. Led by Dr. Swati Nayak this research unit is transforming agriculture in South Asia by rigorously testing new products on farms led by local farmers. With widespread collaboration with stakeholders such as ICAR-SAU- KVK networks, international and national NGOs, the departments of Agriculture, etc, the unit identifies high-performing varieties that enhance productivity and resilience and accelerates the adoption of successful products through seed production and large-scale demonstrations, empowering farmers and driving sustainable development.

Next, a technical session involving four breakout sessions on topics such as accelerating varietal turnover in rice, assessing and strengthening the efficacy of seed delivery systems in India, developing better indicators for assessing actual seed access, and strengthening seed business and enterprise development were carried out. The participants then presented their insights and learnings from the above breakout sessions.



ACTIVITIES AT A GLANCE

The Transforming Agri-Food Systems in South Asia (TAFSSA) workshop was to discuss the ongoing progress and future implementation plan. Various aspects of the project such as checking the indicators of Value Stream Mapping (VSM) and market data collected during the surveys in 2023 in Nalanda, Rajshahi, and Rangpur (Bangladesh) and Banke and Surkhet (Nepal); integration of photovoice and VSM qualitative data, working on research papers and future funding opportunities, etc were discussed.



New Delhi (March 11, 2024)

The Adaptive Agronomy sub-unit of ISARC organized a series of hands-on training, field days cum interactions meetings, seminars, etc. These extension activities based on mechanized DSR and rabi season crops were organized in various districts of Odisha such as Puri, Bhadrak, Ganjam, Mayurbhanj, Bargarh, etc in collaboration with the DSR Odisha/ CSISA project. More than 950 participants gained insights on improved varieties and tailored agronomy from experts of prominent institutes like IRRI, Chaudhary Charan Singh Haryana Agricultural University, etc.



Bhubaneswar, Odisha (March 18 - 19, 2024)



Resinga, Nimapada, Puri (March 23, 2024)



Puri, Odisha (April 12, 2024)



Varanasi (April 02, 2024)

ISARC hosted an educational exposure visit for around 100 students of B. Sc. (Hons.) Horticulture from Banda University of Agriculture & Technology (BUAT), Banda.

This visit was organized under the ICAR Student READY program to give insights on research and development to these young budding minds. Student READY (Rural Entrepreneurship Awareness Development Yojana) program is a new initiative of the Indian Council of Agricultural Research (ICAR) to reorient graduates of Agriculture and allied subjects to ensure and assure employability and developing entrepreneurs for emerging knowledge-intensive agriculture. This program includes five components, i.e., Experiential Learning, Rural Awareness Works Experience, In-Plant Training / Industrial attachment, Hands-on training / Skill development training, and student projects.

An enumerator training was conducted at Punjab Agricultural University (PAU) on the upcoming farm labor survey which aims to assess the effects of Direct Seeded Rice (DSR) on labor displacement, livelihoods, well-being, and the role of women in adoption or disadoption in Punjab. The farm labor survey will involve 840 respondents across five districts of Punjab, ensuring an equal representation of male and female laborers. These districts were selected based on varying levels of DSR adoption—high, medium, and low—to evaluate the impact of DSR adoption on labor displacement and to capture the associated effects (under the PlantDirect project).



Ludhiana, Punjab (April 16-18, 2024)



Bangladesh (April 17, 2024)

IRRI Bangladesh seed system team organized a hands-on training and LSP(local service provider)-farmers on “Mechanical Seed sowing in DSR fields “ at Tanor upzilla, Rajshahi. A total of 25 progressive farmers, including 16 men and 09 women, were trained and educated. Local service providers shared their views with farmers regarding the mechanical sowing challenges, opportunities, and efficiency in DSR fields. IRRI is helping Tanor upzilla farmers specifically women in advancing direct-seeded rice.

IRRI organized a one-day review and planning meeting with faculties and scientists of CCS Haryana Agricultural University (HAU) and Central Soil Salinity Research Institute (CSSRI) at Kaul, Haryana under the NexusGains Initiative. All three institutes presented the findings and challenges encountered in the 2023 Kharif season and planned the forthcoming tasks of the 2024 rice-wheat system. Discussions were made on the importance of DSR and quantification of water productivity from farmers' fields done by IRRI.



Haryana (April 23, 2024)

Training for Master Trainers (MTs) and Community Resource Persons (CRPs) on Alternate Wetting & Drying (AWD), Natural Farming & Gender Sensitization in Rice Farming was organized under the CORE project. The objective was to provide technical training to the first group of CRPs and MTs who will help expand the interventions in the farming communities of Konaseema and West Godavari districts of Andhra Pradesh. 27 CRPs (Male-13, Female-14) of the state, along with the 10 professionals from the collaborating institute, RYSS were trained with the necessary skills to facilitate knowledge sharing and adoption of these techniques in the project areas through a series of cascade training.



Andra Pradesh (April 23-25, 2024)



Rautahat, Nepal (April 25, 2024)

A seed scaling meeting with women groups was organized to discuss the potential and scalable varieties, training needs for quality seed production, early generation seed access, and building a business around seeds. Further plans were also made to capacitate and incubate community-led seed entrepreneurship.

VISITS AT ISARC



April 12, 2024: Visit of Vice Chancellor of Assam Agricultural University (AAU) Dr. Bidyut Chandan Deka and Managing Director of North Eastern Regional Agricultural Marketing Corporation (NERAMAC) Cmde Rajiv Ashok.



April 17-19, 2024: Visit of a delegation from the Research and Innovation Circle of Hyderabad (RICH)


We want to hear from you!

As our valued partner in South Asia, we would like to hear your thoughts about ISARC Cultivate.

Please scan this QR code to give us your feedback on the newsletter.



UPCOMING EVENTS

Save the date! #ICT4Ag is coming to New Delhi! 

Don't miss this opportunity to learn the latest insights on agrifood systems and technology.

Join us to share knowledge, find solutions, and form partnerships to address challenges in agrifood systems through ICT.

Secure your spot today by registering before May 7, 2024, and be part of this transformative journey!

As ICTforAg 2024 quickly approaches, we'd like to send a warm reminder and invite you to apply for in-person attendance at this year's hybrid event, taking place from May 28-30th in five vibrant locations and online.

Event Locations:

- Los Baños, Philippines
- Nairobi, Kenya
- New Delhi, India
- Texcoco, Mexico
- Washington, D.C., USA



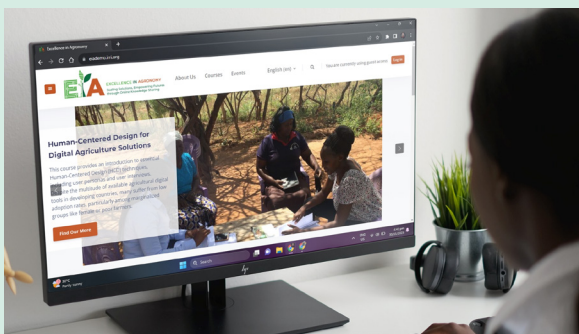
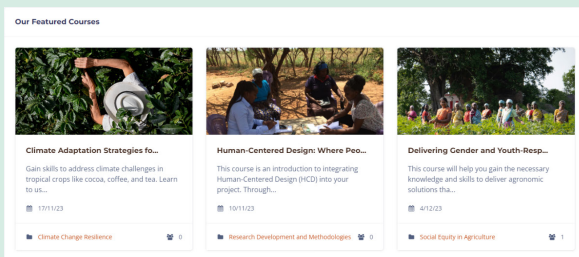
ANNOUNCEMENTS

Micromodule Series Launched on "Rice Disease Management"

CEIRD launched comprehensive Micromodule Series focusing on the "Management of Rice Diseases." Tailored to equip participants with in-depth insights into the ecological management of diseases affecting rice cultivation, this series is a testament to our commitment to advancing sustainable agricultural practices.



CEIRD Spearheads Course Development for “Excellence in Agronomy Initiative”



In pursuit of enhancing agricultural productivity and resilience among smallholder farmers in low- and middle-income countries, the CEIRD team is actively engaged in developing courses for the Excellence in Agronomy Initiative. This initiative is dedicated to strengthening the research and development capabilities of National Agricultural Research Systems (NARES) and other organizations operating within the agricultural sector.

Currently, the team is in the developmental stages of an LMS/platform for EiA, alongside crafting a course on Gender and Youth-Responsive Agronomy & Gender Transformative Agronomy.

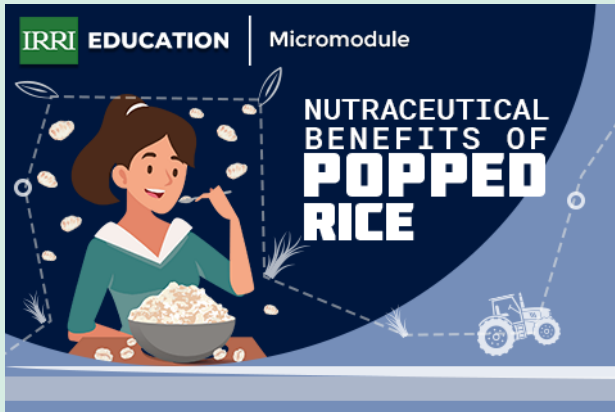
New Micromodules in the “Science Behind Consumable Rice” Series:

In its ongoing commitment to promoting healthier dietary choices, the CEIRD team presents two new Micromodules in the "Science Behind Consumable Rice" series. Designed to deepen understanding and foster appreciation for the nutritional value of rice, these latest additions are titled "Understanding Starch Structure in Rice and Its Health Importance" and "Characterizing Starch Molecular Structure of Rice."

Dedicated to unraveling the intricate relationship between rice consumption and health, this six-module series aims to enlighten readers on the diverse impacts of rice consumption, with a particular emphasis on mitigating the risk of type 2 diabetes and associated ailments. With rice being a global staple, these micromodules serve as essential resources for individuals seeking to make informed dietary decisions.

Highlighting the significance of carbohydrate intake management, especially for those managing diabetes, this initiative places a spotlight on low-GI (Glycemic Index) rice varieties, as well as whole grain and pigmented rice. These alternatives not only offer a rich and flavorful culinary experience but also hold the promise of delivering significant health benefits.

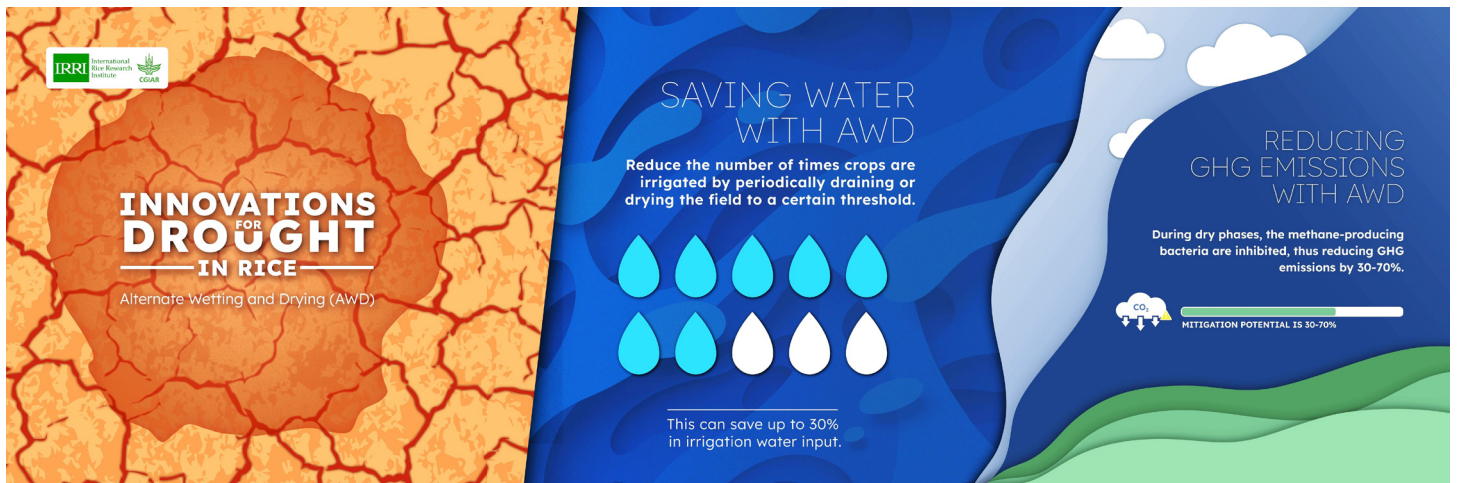




Popped rice, a popular snack in India made by roasting conditioned paddy in high-temperature salt bath in an iron pan until it "pop," is an affordable and ready-to-eat whole grain rice snack ideal for vegetarians, celiac or gluten-sensitive individuals.


CEIRD has developed a Micromodule on the Nutraceutical Benefits of Popped Rice, under experts' review. The course focuses on educating targeted learners to understand the importance of whole-grain rice and gain knowledge about the beneficial compounds found in pigmented rice. It also includes the process of popping rice and the physical properties of paddy, de-husked rice, and popped rice, and Instrumental characterization of mechanical properties.

#DID YOU KNOW



El Niño has affected the tropical Pacific region widely. This phenomenon resulted in massive drought, affecting rainfed and irrigated rice paddies in Asia, and limiting the already scarce water supply.

Addressing the challenges brought about by El Niño is not a one-way street, it involves several facets of interrelated solutions in technology, policy, and research.

Alternate Wetting and Drying (AWD) is one of the water management solutions farmers can adopt. To learn more about it scan the QR code!! 



FEATURED PUBLICATIONS

Regenerative Agriculture, Edition 1 (pp. 210-226)

Regenerative Agriculture Practices for Rice-Based Systems in South Asia

Mishra, A. K., Bhowmick, M. K., Peramaiyan, P., Sharma, S., & Singh, S. (2024).

Springer, Technological Approaches for Climate Smart Agriculture (pp. 41-77)

Soil Management in Sustainable Agriculture: Principles and Techniques

Grover, D., Mishra, A. K., Rani, P., Kalonia, N., Chaudhary, A., & Sharma, S. (2024).

Springer, Technological Approaches for Climate Smart Agriculture (pp. 41-77)

Renovating Conservation Agriculture: Management and Future Prospects

Grover, D., Dahiya, B., Mishra, A. K., Kalonia, N., Rani, P., & Sharma, S. (2024).

CLEAN- Soil, Air and Water Journal, 2300351 (2024)

Univariate versus multivariate flood frequency analysis in tropical region: Employing two classes of hydrological models

Deb, P., Malakar, P., Bora, P.K., Dubey, S.K. (2024).

Journal of Agricultural Economics, Volume 75, Issue 01

Can information constraints explain the low efficiency in premium quality rice cultivation? Evidence from smallholder farmers in Bangladesh.

Kubitza, C., Veetil, P. C., Gupta, I., & Krupnik, T. J. (2024).



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