IRRI International Rice Research Institute

IRRI 2025–2030 Strategy

Driving rice innovations toward food systems transformation

JUNE 2025

IRRI's Next Chapter: Focused. Integrated. Ready.

Dr. Yvonne Pinto - Director General, IRRI

"Our new strategy is about more than what we do—it's about how we do it. IRRI's research will be fully-integrated, demand-driven, impact-oriented, and rooted in co-creation with our partners. As we respond to diverse national needs across Asia and Africa, we will harness our collective knowledge, learn across regions, and lead with purpose. This is IRRI's opportunity to define what we want to be known for in the next era—not just for the breakthroughs of the past, but for how we add value today, together."

Dr. Fayezul Choudhury - Chair, IRRI Board of Trustees

"As stewards of IRRI's mission, the Board views this strategy not just as a roadmap—but as a commitment to coherence, accountability, and relevance in a rapidly changing world. Our role is to ensure that IRRI remains responsive to country-level priorities, agile in a tightening funding landscape, and uncompromising in its pursuit of real-world impact.

This is a decisive moment. We will elevate the way we work—aligning efforts across regions, building enduring partnerships, and positioning IRRI as the go-to knowledge partner for resilient, equitable, rice-based food systems."

IRRI 2025–2030 Strategy: A Bold Vision for Rice-Based Agri-Food Systems

Rice is humanity's most vital food source—feeding over 4 billion people, more than half of the world's population, and supporting 150 million farmers across 100 countries. Since IRRI's founding in 1960, global rice production has tripled to 776 million tonnes annually. Sustaining this growth to meet future demand presents unprecedented challenges.

Despite advancements, rice cultivation continues to contribute 1.5% of global greenhouse gas emissions and consumes 30% of global freshwater. Projected yield losses of 10–15% per 1°C temperature increase, shifting nutritional demands, persistent inequality among smallholder farmers, and evolving partnership landscapes, demand a bold, collaborative transformation of rice-based food systems to ensure they are sustainable, resilient, and equitable for future generations.

Given this new context, IRRI is renewing its mission to transform rice-based agri-food systems to deliver a healthier, more resilient, and inclusive future for people and planet. Building on over 60 years of global leadership, our 2025–2030 strategy addresses today's most urgent challenges.

Rice Revolution: A Global Imperative

Rice feeds the world, fuels economies, and sustains millions.

As global pressures rise, strengthening rice systems is key to meeting future food, climate, and development needs.

Climate Cost of a Staple
Rice farming emits 1.5% of global GHGs, nearly 50% of cropland emissions, and 12% of methane, mainly from flooded fields.

Chemical Impact
Rice farming uses 16% of global nitrogen and 15% of pesticides, polluting soil, water, and air. Runoff and straw burning harm ecosystems and air quality.

A Thirsty Crop
Rice uses 30% of global freshwater and up to 5,000 liters per kg, straining water-stressed regions like India and Pakistan.

Tripled Output Since 1961
Global rice production rose from 216M to 776M tonnes—driven by tech and irrigation, not land expansion.

250–300% Yield Growth
Innovation fueled dramatic gains in rice productivity over six decades.

100+ Countries Grow Rice
Supporting 150M smallholder farmers who rely on it for food and income.

Feeding 4 Billion People
Rice delivers over 50% of daily calories in many Asian countries.

$332 Billion Industry
Rice is the world's 3rd most traded commodity and a growing global market.

Land Pressure
Rice grows on 10% of cropland worldwide—167 million hectares—with expansion threatening fragile ecosystems.

Market trends reshaping rice-based food systems: Implications for IRRI

Rising climate and natural resource risks

Climate change poses a major threat to rice productivity, with the crop facing a dual challenge: adapting to rising climate risks while reducing its environmental footprint. Rice also covers 11% of global arable land but contributes 10% of agricultural emissions—mainly methane from flooded paddies—and uses 40% of the world's irrigation water. With each 1°C temperature rise potentially cutting tropical rice yields by 10–15%, and extreme weather already causing major food losses, **IRRI will lead the shift to climate-smart, nature-positive systems. Solutions include water-saving irrigation systems, stress-tolerant varieties, sustainable incentives, carbon finance, and integrated approaches linking genetics, agronomy, and water management.**

Growing demand for quality nutrition

Shifting consumer preferences and rising disease patterns drive demand for sustainable, nutritious rice options. With a focus on quality over quantity, consumers are seeking specialty, organic, and nutrient-enhanced rice. As malnutrition's triple burden—hidden hunger, overnutrition, and food safety concerns—grows, **IRRI will go beyond calorie provision and prioritize nutrition. Key actions include: biofortifying rice with essential nutrients like zinc and protein, integrating nutrition-sensitive traits, diversifying diets through rice-based systems, reducing heavy metals and mycotoxin risks, and ensuring nutritional retention after processing.**

Expanding global trade

With rice trade increasing from approximately 15 million tons in the 1990s to over 45 million tons today, market dynamics significantly influence national policies and research priorities. trade disruptions, as seen during the 2007–2008 food crisis, the COVID-19 pandemic, and recent export restrictions, highlight the vulnerability of rice-dependent nations to market fluctuations. **IRRI will navigate trade tensions by: forecasting global trade flows with advanced models, supporting regional food priorities, advising on balancing food sovereignty and trade efficiency, developing sustainable rice standards, and helping countries manage rice reserves and trade policies for food security.**

The funding game is changing fast

Traditional official development assistance (ODA) for agricultural research has declined by about 30% in real terms over the past decade. Meanwhile, private sector investment has grown but remains largely focused on high-income countries. These shifts—alongside deeper South-South collaboration and rising venture capital—are reshaping how agricultural innovation is funded and delivered. **IRRI will urgently diversify its income sources—leveraging its position to create South-South pathways and utilizing commercial income streams for public good.**

Persistent inequality

Despite economic growth in many rice-growing regions, poverty and inequality persist, particularly for marginalized communities and women. In both South Asia and Sub-Saharan Africa, women contribute up to 80% of rice production labor but often have limited access to resources, technology, and decision-making power. Smallholder farmers, who produce over 80% of rice in developing countries, frequently receive the smallest share of value chain profits. **IRRI will promote inclusive livelihoods by developing gender-responsive technologies, climate-resilient and nutritious varieties, and value chain interventions that empower smallholders—particularly women. Expanding access to digital tools and knowledge for underserved communities is also key to closing these gaps.**

Accelerated digital transformation

Despite the rapidly advancing AI landscape and the growing accessibility of digital and AI solutions, corresponding data remains siloed. Complexities in AI governance, data management, product scaling, carbon credits, financing models, smallholder engagement, and infrastructure further hinder progress. Coupled with the urgent need for faster innovation to build climate resilience and deliver tailored, integrated products, this demands a new AI and digital approach from IRRI. **IRRI will strategically partner across the food system to scale, finance, and apply digital innovations for impact. It will also drive data-enabled insights for South-South collaboration and leverage AI and better data management to boost internal efficiency and long-term impact.**

Evolving partnership landscape

IRRI faces constraints in resources for agricultural research in partner countries and increased capacity in others. Public agricultural research investment has dropped by over 25% in some developing countries over the past decade. Meanwhile, national research systems in countries like China, India, and Brazil have developed sophisticated capabilities that sometimes overlap with IRRI's traditional role. **IRRI will rethink its partnership strategy by tailoring approaches to diverse national systems, complementing their efforts based on their research and delivery capacities, fostering collaboration with varied stakeholders, and enhancing South-South knowledge sharing and co-investment models that maximize collective impact.**

Core Shifts Needed for Future Impact

To meet these demands, IRRI is evolving to become more integrated, demand-driven, agile, and impact-focused.

Integrated by Design:
One global team, greater than the sum of its parts.

Driven by Demand:
We go where the data, needs, and partners lead.

Focused on Impact:
Results that scale, backed by evidence.

Catalyzing Change:
Connecting ideas, people, and capital for big shifts.

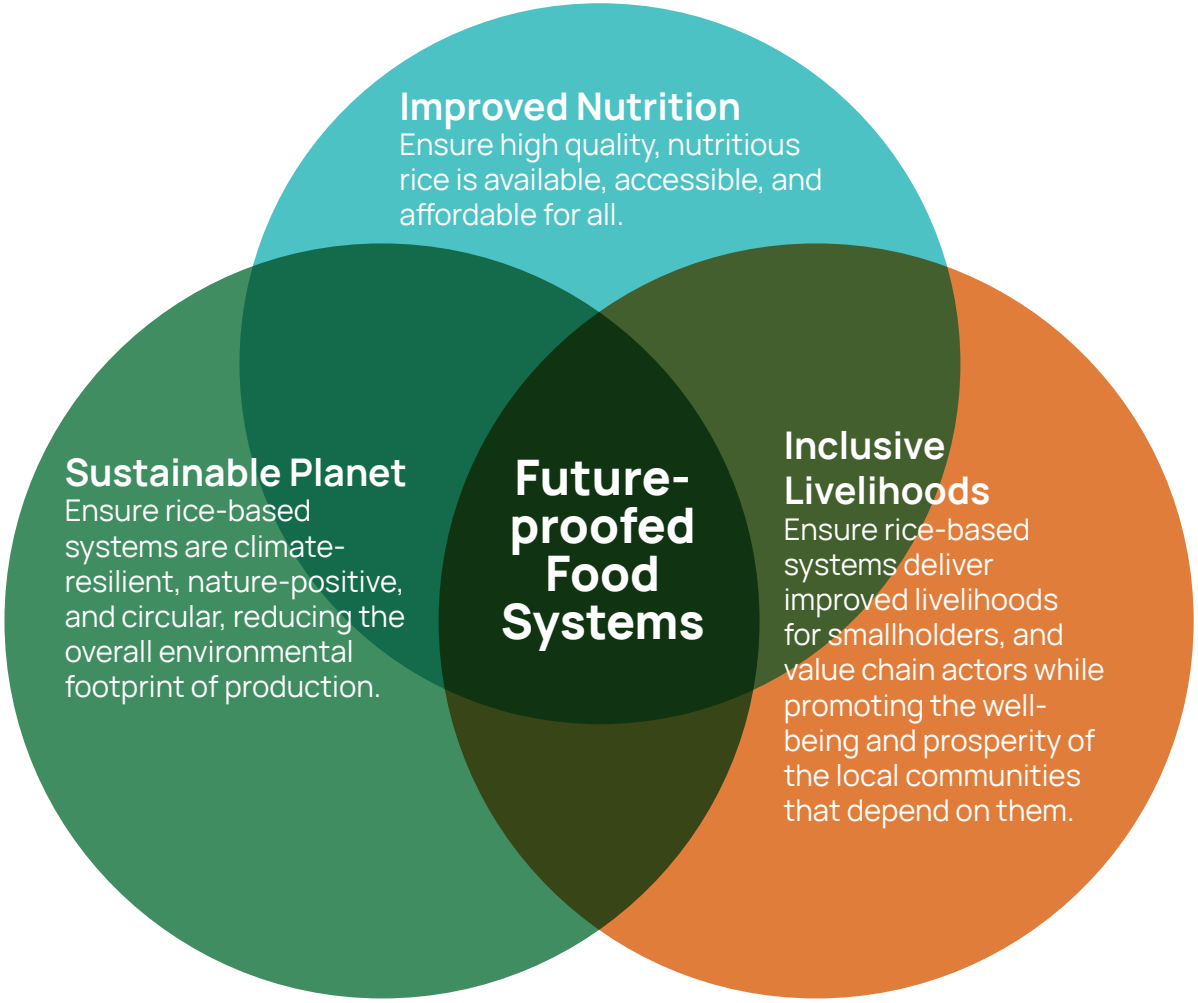
Always Evolving:
Agile, adaptive, and learning every step of the way.

IRRI's Next Chapter: Sharper Focus, Stronger Impact

With a bold 10-year vision and a focused 2025–2030 strategy, IRRI will provide targeted, demand-driven solutions. We will align with what the world needs most to deliver measurable impact where it matters.

IRRI's 10-year vision

Transform global rice-based agri-food systems through research innovations, market-driven solutions, and strategic partnerships - improving nutrition, promoting sustainable production, and enhancing livelihoods while tackling climate change and protecting the environment.



Our Strategy Framework

IRRI is focused on achieving the greatest impact across three interconnected goals: enabling improved nutrition, supporting a sustainable planet, and ensuring inclusive livelihoods. In close partnership with governments and stakeholders, we will deliver market-driven integrated solutions tailored to national priorities. Leveraging our core strengths across genetics, systems science, and delivery, IRRI will ramp up on its "sum-of-the-parts" innovations—where integrated science creates real-world impact at the nexus of climate, food, and nature. Our new strategy strengthens the global research-for-development ecosystem with a seamless pipeline from discovery to delivery in rice-based agri-food systems.

Delivering on interconnected impact goals...

- Improved Nutrition
- Sustainable Planet
- Inclusive Livelihoods

Through a portfolio of market-driven integrated solutions...

- Enhance Food Security
- Expand Market-Driven Supply
- Catalyze Climate Resilience
- Strengthen Nutritional Security
- Combat Diet-Related Non-Communicable Diseases
- Accelerate Tech Transfer

Leveraging IRRI's core domains in a sum-of-the-parts approach...

- Genetic Resources & Discovery
- Accelerated Breeding Systems
- Sustainable Production Systems
- Environment & Ecosystems
- Scaled Delivery Systems

And guided by demand-driven delivery mechanisms.

- Integrated Rice-based innovations
- Data and AI Support Systems
- Market Enabling Catalysts
- Strategic Partnerships
- Global Innovation Ecosystem

Impact Goals

Our strategy reimagines how agricultural research and strategic partnerships deliver real-world impact. We focus on three interconnected goals:

Improved Nutrition

Ensure high quality, nutritious rice is available, accessible, and affordable for all.

Sustainable Planet

Ensure rice-based systems are climate-resilient, nature-positive, and circular, reducing the overall environmental footprint of production.

Inclusive Livelihoods

Ensure rice-based systems deliver improved livelihoods for smallholders, and value chain actors and promote the well-being and prosperity of the local communities that depend on them.

Market-Driven Integrated Solutions

In close partnership with governments and stakeholders, we will deliver market-driven integrated solutions tailored to national priorities.

Enhance Food Security: Strengthen rice-based agri-food systems for efficiency, productivity, and affordability

Strengthen Nutritional Security: Integrate nutritious rice products that consumers value

Combat Diet-Related Non-Communicable Diseases: Develop healthier, affordable rice products to control non-communicable diseases

Catalyze Climate Resilience: Increase resilience to climate change and extreme weather events

Expand Market-Driven Supply: Meet evolving consumer demands in export and value-driven markets

Accelerate Technology Transfer: Establish global and South-South pathways to scale breakthrough innovations

Core Strengths and Sum-of-the Parts Innovations

Leveraging our core strengths across genetics, systems science, and delivery, IRRI will ramp up on its "sum-of-the-parts" innovations—where integrated science creates real-world comprehensive solutions and impact at the nexus of climate, food, and nature.

Genetic Resources and Discovery: Leveraging the world's largest rice germplasm repository with advanced digital tools to uncover beneficial traits for climate resilience and nutrition

Accelerated Breeding: Employing innovative technologies to improve productivity, nutritional quality, and stress tolerance

Sustainable Production Systems: Developing integrated packages of seeds, agronomic practices, and value chain interventions optimized for different contexts

Environment and Ecosystems: Understanding plant-environment interactions at landscape level and implementing nature-based solutions

Scaled Delivery: Providing data, analysis, and models to drive adoption of innovations through partnerships and platforms

Integrated Delivery Mechanisms

Our new strategy strengthens the global research-for-development ecosystem with a seamless pipeline from discovery to delivery in rice-based agri-food systems.

Integrated Rice-based Innovations:
The right technologies and system solutions for specific geographies, including improved varieties, sustainable farming systems, and value chain interventions

Data and AI Support Systems:
Novel analytics for decision-making, including crop modeling, bioinformatics, and AI tools

Market Enabling Catalysts:
Policy analysis, measurement systems, and innovative finance mechanisms to drive adoption at scale

Strategic Partnerships:
Engaging stakeholders and supporting local platforms to ensure ownership and investment

Global Research Ecosystem:
Facilitating knowledge transfer, learning, and capacity building across regions

This framework ensures that IRRI's work flows seamlessly from research to impact, addressing the complex challenges facing rice-based agri-food systems in the 21st century.

Strategy in Action: Exemplary Solution Roadmaps

For each integrated solution area, IRRI has developed detailed implementation roadmaps that span three time horizons, ensuring a progressive, cumulative approach to achieving the desired impacts.

1. Enhance food security

Our desired long-term impact

- Narrowed global yield gaps in rice production
- Enhanced returns on economic activities for smallholder farmers and value chain partners
- Integrated reduction of water, energy, and agrochemical inputs in high-input rice production systems

Horizon 1: What can we leverage now?
Build digital map & data foundations on consumer preferences in major rice-based food systems to improve breeding and agronomy program alignment with on-the-ground needs.

Horizon 2: What's the next outcome or step?
Work with seed systems partners and leverage market and consumer intelligence to incorporate high-impact traits into consumers' preferred varieties.

Horizon 3: What's the last mile to lasting impact?
Deploy AI-powered breeding platform, integrating modelling and stress forecasting to proactively identify traits and support varietal development for emerging environs.

IRRI is on track:

IRRI's client-oriented crop cafeterias and tours are interactive platforms introduced across Asia and Africa—including Bangladesh, India, Nepal, Kenya, Tanzania, Mozambique, and Burundi—to engage farmers and stakeholders in selecting rice varieties based on real-world traits like yield, grain quality, and climate resilience. These participatory events help ensure that IRRI's innovations are aligned with local needs and market demands.

> One of the key demonstration methods introduced by IRRI was the Rice Varietal Cafeteria Model, an effective approach for disseminating high-yielding rice varieties and improved technologies. This model significantly enhanced awareness among rice farmers by allowing them to observe and compare different rice varieties under real field conditions.
>
> - The African Fertilizer and Agribusiness Partnership (AFAP)

2. Expand market-driven supply

Our desired long-term impact

- Reduce smallholder income gaps and enhance returns on economic activity
- Direct contribution to achievement of public and private sector scope I & II emissions goals

Horizon 1: What can we leverage now?
Prototype products & markets for sustainable & low-emission rice, rice-based functional foods, and rice straw residue/byproducts

Horizon 2: What's the next outcome or step?
Co-develop and coordinate PPPs and financing models for value chain infrastructure development and market linkage programs mapped to identified need

Horizon 3: What's the last mile to lasting impact?
Launch regional hub(s) for low emissions, high quality rice-based systems

IRRI is on track:

The Can Tho Department of Agriculture and Environment (DAE) and IRRI launched a circular agriculture model using rice straw (RiceEco), supporting Vietnam's One-Million-Hectare Low-Emission Rice Initiative. Backed by government incentives such as low-interest loans for cooperatives, expanded extension services, and multi-sector partnerships, the project promotes sustainable rice farming practices and straw-based innovations—including organic rice, straw mushrooms, cow fodder, bio-fertilizers, and urban agriculture. It also advances mechanized and digital solutions for efficient straw collection and transport.

> "RiceEco has achieved policy outcomes that will facilitate the wider and more sustainable adoption of the rice straw-based circular economy, particularly through integration with the One-Million-Hectare of High Quality and Low-Emission Rice Associated with Green Growth in the Mekong River Delta by 2030 program."
>
> - Department of Crop Production, Ministry of Agriculture and Rural Development (Vietnam)

3. Catalyze climate resilience

Our desired long-term impact

- Increased mobilization and Return on Investment or impact for capital deployed for climate adaptation
- Reduce rice production yield gaps and improve productivity for smallholders subject to extreme climate-driven stress

Horizon 1: What can we leverage now?
Partner with agrifood system and government partners to test & optimize incentives for investment in & uptake of climate adaptation solutions

Horizon 2: What's the next outcome or step?
Reorient & integrate 'bundles' into climate finance programs & services (credit, insurance, investment)

Horizon 3: What's the last mile to lasting impact?
Provide integrated package of support to climate adaptation financiers—instrument co-design, partnership coordination, geo-and intervention-targeting, and impact assessment—to scale sustainable financing for resilient rice systems

IRRI is on track:

IRRI is driving the adoption of low-emission rice systems in Southeast Asia, with over 80% of farmers in the Philippines, Thailand, and Vietnam, willing to adopt water-saving techniques that maintain yields and profits. IRRI is working with governments to create supportive policies, incentives, and digital tools to help smallholders transition to sustainable rice production.

"With the pace of how the environment is changing, IRRI's network and expertise could help in developing and scaling technologies that respond to the rice industry's concerns on productivity and resilience. DA could continuously partner with IRRI to develop a future-ready rice industry with innovative tools providing field practice recommendations as well as climate-ready seed varieties (heat-tolerant and pest-resistant genetic materials)."

- Department of Agriculture (Philippines)

4. Strengthen nutritional security

Our desired long-term impact

- Increase accessibility and adoption of nutrient-enriched rice by farmers and consumers
- Accelerate deployment and scale of high-value, rice-based consumer products with credible claims for health improvement

Horizon 1: What can we leverage now?
Leverage gene bank to identify novel traits for nutrient enrichment (iron, zinc, vitamin A, and protein) and health improvement (low glycemic index, caloric intensity, cancer resistance, and mycotoxin-free)

Horizon 2: What's the next outcome or step?
Work with seed systems partners to background high-impact nutrition & health-oriented traits into consumers' preferred varieties, streamlining access for farmers and processors

Horizon 3: What's the last mile to lasting impact?
Collaborative 'product innovation centers' for industry partnerships & venture growth services accelerating development, deployment, and scale of high quality, nutritious rice-based products

IRRI is on track:

As part of the CGIAR Better Diets and Nutrition (BDN) Program, IRRI is helping integrate nutrition into rice breeding by involving nutrition experts in product design and prioritizing health-focused traits in target market segments. IRRI is also assessing consumer valuation and health impacts of low-Glycemic Index (GI) rice and other nutrition-enhanced rice varieties and products to support better diets for women and children.

> **Our overall goal is to sustainably produce more rice so as to reduce overreliance on imports. The increase in rice consumption could potentially aggravate the existing nutrition challenge hence the need to focus on improved rice diets.**
>
> - Ministry of Agriculture and Livestock Development (Kenya)

5. Combat diet-related non-communicable diseases

Our desired long-term impact

- Reduce incidence of diet-related non-communicable diseases in core rice consumption markets
- Accelerate development and deployment of high value, rice-based consumer products boasting credible claims for health improvement

Horizon 1: What can we leverage now?
Leverage gene bank to identify novel traits for nutrient enrichment and health improvement (low and ultra low glycemic index, caloric intensity, cancer resistance)

Horizon 2: What's the next outcome or step?
Conduct large-scale clinical trials and nutritional studies to generate robust evidence supporting the inclusion of enhanced rice varieties in health policies and dietary recommendations

Horizon 3: What's the last mile to lasting impact?
Establish globally-recognized certifications and branding programs for health-enhancing rice products, ensuring positioning, transparency and credibility in consumer markets and export destinations

IRRI is on track:

Backed by strong government and private sector support, Inpari IR Nutri Zinc, a high-zinc rice developed by IRRI and partners, is helping reduce stunting in Indonesia—from 30.8% in 2018 to 21.6% in 2022. Widely adopted in high-risk areas, it's favored by farmers for its taste, pest resistance, and nutrition, supporting national efforts to combat zinc deficiency and improve child health.

"Inpari IR Nutri Zinc, Indonesia's first zinc-biofortified rice variety released in 2019, was swiftly adopted by the Ministry of Agriculture to help combat stunting across the country. Its superior zinc content supports better nutrition, while its resistance to pests like brown planthopper and tungro virus makes it a reliable choice for farmers. With wide adaptability, good taste, and strong market potential, especially in health-conscious segments, Inpari IR Nutri Zinc has proven to be nutritious, resilient, and farmer-friendly."

- Research Center for Food Crops, Research Organization for Agriculture and Food, National Research and Innovation Agency (Indonesia)

6. Accelerate tech transfer

Our desired long-term impact

- Increase accessibility and adoption of nutrient-enriched,climate-adaptive, and low emissions rice by farmers
- Accelerate development and deployment of high value, rice(-based consumer products) leveraging upstream IRRI innovation in new markets

Horizon 1: What can we leverage now?
Supply-side stock-taking and assessment of existing technologies in China, Korea, India, and other high-maturity rice science & innovation centers that may be best candidates for international 'tech transfer'

Horizon 2: What's the next outcome or step?
Standardize and scale training efforts—in partnership with supply-side partners—to support uptake and utilization of newly-transferred technologies & practice

Horizon 3: What's the last mile to lasting impact?
Leverage AI-powered breeding platform and its modelled trait/varietal priorities to target associated tech transfer partnerships, with emphasis on locally adapted stacked trait technologies with multi-vector impact

IRRI is on track:

IRRI has achieved several firsts in hybrid rice innovation: it released Mestiso 149 and the world's first coastal salinity-tolerant hybrid, DRRH-5. It also licensed Mestiso 120 —the first low-methane hybrid—to Tao Foods Company in the Philippines.

"The most valuable partnership of AATF with IRRI is on hybrid rice. It holds immense promise, especially given the relative newness of this technology in Africa and its transformative potential for the continent's rice seed system. By leveraging hybrid rice, we can significantly enhance seed quality, boost yields, and ultimately contribute to food security across the region."

- African Agricultural Technology Foundation (Kenya)

6 collectively prioritized market-driven integrated solutions

IRRI will leverage and strengthen best-in-class capabilities in Science, Capacity Building, and Partnerships to deliver integrated solutions that speak to expressed market needs and IRRI's impact goals.

Integrated Solution		Impact Goals	Markets in Focus: Asia	Markets in Focus: Africa
Enhance Food Security	Strengthen rice-based agri-food systems for efficiency, productivity, and affordability		Bangladesh, Lao PDR, Nepal, Philippines, Cambodia	Tanzania, Kenya, Uganda, Mozambique, Burundi
Expand Market-Driven Supply	Meet evolving consumer demands in export and value-driven markets		India, Lao PDR, Nepal, Thailand, Vietnam	Tanzania, Kenya, Uganda, Mozambique, Burundi
Catalyze Climate Resilience	Increase resilience to climate change and extreme weather events		Bangladesh, India, Lao PDR, Nepal, Philippines, Thailand, Vietnam, Cambodia	Tanzania, Kenya, Uganda, Mozambique, Burundi
Strengthen Nutritional Security	Integrate nutritious rice products that consumers value		Bangladesh, India, Lao PDR, Cambodia	Tanzania, Mozambique
Combat Diet-Related Non-Communicable Diseases	Develop healthier, affordable rice products to control non-communicable diseases		Philippines, South Korea, Thailand, Vietnam, China, Bangladesh	
Accelerate Tech Transfer	Establish global and South-South pathways to scale breakthrough innovations		Bangladesh, India, Nepal, Philippines, South Korea, Thailand, Vietnam, China	Kenya, Uganda, Burundi

Impact Goals — Inclusive Livelihoods — Improved Nutrition — Sustainable Planet

Renewed Priorities for Asia and Africa: Country Examples

IRRI in Asia

In Asia, where IRRI has its headquarters in the Philippines, country-specific strategies focus on strengthening established rice systems while addressing emerging challenges. IRRI operates across diverse Asian countries: Bangladesh, China, India, Indonesia, Korea, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand, and Vietnam. These countries represent a spectrum of economic development and agricultural research capacity.

While China, South Korea, and India have experienced substantial economic growth, countries like Bangladesh, Myanmar, and Cambodia are still developing. This diversity is reflected in agricultural research investment patterns, with China increasing its global share from 3% to 16% between 2000–2016, and India growing from 5% to 9%, while global spending rose from $31 million to $47 million during this period.

IRRI will therefore employ context-specific approaches rather than a "one-size-fits-all" strategy. For advanced economies like China and India, IRRI can leverage South-South cooperation, facilitating knowledge transfer between developed Asian nations and less-developed countries in both Asia and Sub-Saharan Africa—a unique role that IRRI is positioned to fulfill.

IRRI in Sub-Saharan Africa (SSA)

IRRI currently operates through offices in five countries: Burundi, Kenya, Mozambique, Tanzania, and Uganda. Regional priorities focus on closing yield gaps, developing climate-resilient production systems, improving income and livelihoods, building local capacity, and supporting import substitution to meet growing rice demand.

In Africa, where rice consumption is growing rapidly, IRRI is implementing country-specific approaches, in collaboration with other CGIAR Centers such as AfricaRice and CIAT, that address the unique challenges and opportunities in the region. This approach exemplifies IRRI's solution-led strategy, applying expertise gained in combating hidden hunger in India and supporting export development in Thailand and Vietnam to meet emerging market demands in Sub-Saharan Africa.

Strategic Country Priorities

These country examples from Vietnam, Thailand, Tanzania, and Mozambique offer a glimpse of IRRI's renewed priorities—each tailored to national goals.

Vietnam

As the world's #3 rice exporter, Vietnam produces 43–44 million tons of milled rice annually, exporting around 9 million tons in 2024. With 7.12 million hectares under cultivation and high average yields (>6 t/ha), the Mekong Delta leads output but faces climate threats like drought, salinity, and rising GHG emissions. A complex, increasingly mechanized value chain connects 1.5 million smallholder farmers to markets. Amid shifting diets and rising health concerns, **Vietnam aims to lead in exporting high-quality, low-emission rice through sustainable, transparent food systems—targeting a 30% methane reduction by 2030 and net-zero emissions by 2050.**

Focus of IRRI's current programs in Vietnam:

- New varieties suitable for diverse landscapes and conditions
- Precision farming & digital ag for climate adaptation, improved sustainability, low emissions
- Improved crop residue management & circular economy
- Carbon footprint and MRV system/framework development
- Capacity development and extension service support

*These country priorities and roadmaps at the time of the release of this strategy are exemplary in nature. These will continue to evolve and be adapted according to the changing country partner needs.

Strategic Priorities for IRRI in Vietnam (2025-2030)

Catalyse Climate Adaptation	• Develop rice straw circular agriculture • Advance precision farming, remote sensing, AI postharvest, digital age • Develop resilient food systems and implement MRV system for GHG emissions • Support Nationally Determined Contributions (NDCs), carbon markets, climate finance, and Government's 'One Million Hectare program'
Expand Market-Driven Supply	• Support access to higher value markets, incl. enhancing Vietnam's rice brand recognition, certification standards, and tools for tracking and tracing
Accelerate Technology Transfer	• Boost public-private partnerships & stakeholder networks for scaling innovations • Develop digital platforms for ag extension (E-extension, adapting Rice Crop Manager & EasyFarm) • Enhance capacity via training, cross-learning, establishment of knowledge hub
Combat Diet-Related Non-Communicable Diseases	• Develop and deploy improved and healthier rice (e.g., low GI, high protein) to help achieve more balanced nutrition and prevent NCDs such as hypertension and diabetes

Thailand

Thailand is actively evolving to meet emerging social and environmental challenges in its rice-based systems. It is a top 5 producer and the #2 exporter of rice in Asia, though trade growth is increasingly challenged by regional competition. Yields are hindered by climate change, extreme weather, soil degradation, and limited access to technology and equipment. **Thailand is making public and private commitments to climate adaptation, mitigation, and air quality improvement.** The country faces rising rates of diet-related diseases, including overnutrition and diabetes, and income inequality remains a challenge among small-scale farmers.

Focus of IRRI's current programs in Thailand:

- Supporting national planning & policy and technological interventions on climate change adaptation & mitigation
- Development and localisation of climate-smart agronomic practices, mechanisation options and digital tools
- Business model development for circular economy
- Accelerating advanced technology transfer for national partner

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Strategic Priorities for IRRI in Thailand (2025-2030)

Expand Market-Driven Supply	• Strengthening sustainability and quality to grow exports in premium markets, and drive new product development in rice & byproducts for local urban demand
Catalyze Climate Resilience	• Progressively develop, adapt and de-risk investment in technologies and agronomic practices for climate change adaptation and mitigation and related (a)biotic stress tolerance
Combat Diet-Related Non-Communicable Diseases	• Accelerate technological and market development of rice varieties and rice-based food products combating NCD prevalence in domestic and export consumer markets
Accelerate Technology Transfer	• Broker South-South collaboration on breakthrough technology across rice-based production systems and rice research, with focus on climate change mgmt

Tanzania

Tanzania is a regional leader in rice-based food systems, with strong growth potential but facing unique climate and nutrition challenges. It is Sub-Saharan Africa's #4 producer (>2.5 million tonnes) and #2 exporter, with a goal to double production by 2030. However, yields remain low (<2.5 t/ha) due to reliance on rainfed farming, poor agronomic practices, and limited mechanization. Climate risks—drought, floods, salinity, heat—are high, especially in key production zones. Tanzania also bears a heavy burden of hidden hunger, with iron and zinc deficiencies widespread.

Focus of IRRI's current programs in Tanzania:

- New breeding products for lowland rice ecologies
- NARES capacity building & infrastructural support
- Geospatial tech & tools for climate-smart agriculture

*These country priorities and roadmaps at the time of the release of this strategy are exemplary in nature. These will continue to evolve and be adapted according to the changing country partner needs.

Strategic Priorities for IRRI in Tanzania (2025-2030)

Enhance Food Security	• Integrating technology and systems strengthening for uptake of productivity and competitiveness-improving technologies, tools, and practices
Strengthen Nutritional Security	• Reducing prevalence of Fe/Zn/VitA deficiencies through tech, production systems, policy, and partnerships
Catalyze Climate Resilience	• Improving and sustaining yields in the face of increasingly prevalent and overlapping climate risk factors through better targeting and uptake of tech & risk management
Expand Market-Driven Supply	• Strengthening product orientation, policy compliance, and public-private relations to better serve target export markets and urban consumers

Mozambique

Rice is a strategic food crop in Mozambique, with growing domestic consumption. The government targets a 30% reduction in the rice deficit by 2030, aiming to boost productivity from 1.6 to 4.2 t/ha and production from 1 to 2.4 million tons. Climate change and low input levels challenge production, but opportunities exist in increasing inputs, adopting climate-smart practices, expanding irrigation, and involving the private sector—especially for youth and women in rice-based agri-food systems.

Focus of IRRI's current programs in Mozambique:

- Climate-resilient and high-yielding varieties for lowland rice ecologies and development of seed systems
- Partnership development to enhance market-driven rice value chains
- Research and innovation on climate-resilient farming, agricultural mechanisation and improved management of rice irrigation schemes

Strategic Priorities for IRRI in Mozambique (2025-2030)

Enhance Food Security

- Strengthening seed system and increasing the adoption of climate-resilient and high-yielding varieties and agricultural best practices including fertilizer inputs, water management

Catalyze Climate Resilience

- Sustaining yields through mitigation of adverse impacts of extreme weather events (drought, floods and cyclones) and creating risk management mechanisms

Expand Market-Driven Supply

- Strengthening public-private partnerships to pave the way for market-driven production and evolve towards the Government's rice self-sufficiency target

Strengthen Nutritional Security

- Developing biofortified rice varieties with enriched Vitamin A, iron, and zinc, and promoting rice-based rotations with crops rich in Vitamin A (e.g. carrots, sweet potatoes, kale), zinc and iron (e.g. legumes)

IRRI's roadmaps for the rest of its high-priority countries in Asia and Sub-Saharan Africa are designed to be flexible and responsive to shifting market needs, national priorities, and an evolving innovation and partnership landscape.

Partnerships that redefine impact

Partnerships are central to IRRI's strategy implementation and impact model. IRRI's approach to partnerships follows a clear innovation-to-impact pathway.

To maximize its impact, IRRI needs to find different partners along the innovation lifecycle, from ideation to sustainable scaling

Ideation: Defining and analyzing the development problem and identifying potential solutions through horizon scanning of existing and new ideas

Research & Development: Further developing specific innovations that have potential to address the problem

Proof of Concept: When the intellectual concept behind an innovation is field-tested to gain an early, 'real-world' assessment of its potential

Transition to Scale: When innovations that have demonstrated small-scale success develop their model and attract partners to help fill gaps in their capacity to scale

Scaling: The process of replicating and/or adapting innovation across large geographies and populations for transformational impact

Sustainable Scale: The wide-scale adoption or operation of an innovation at the desired level of scale requires and generates support by an ecosystem of actors

Breakthrough innovation research & development

Organisations and institutes that IRRI works with to conduct research across the value chain

Demonstration of innovations via Proofs of Concept and field-testing

Local partnerships for real-world assessment and refinement of the research

Scaling and sustained scaling of innovations

Organizations and companies with the capacity and networks to disseminate and enable the adoption of IRRI's research outputs for widespread impact

Typical supporting actors across the innovation lifecycle:

We are leveraging our longstanding partnerships with governments, development agencies, and research institutions as we cultivate new relationships to expand our reach and impact.

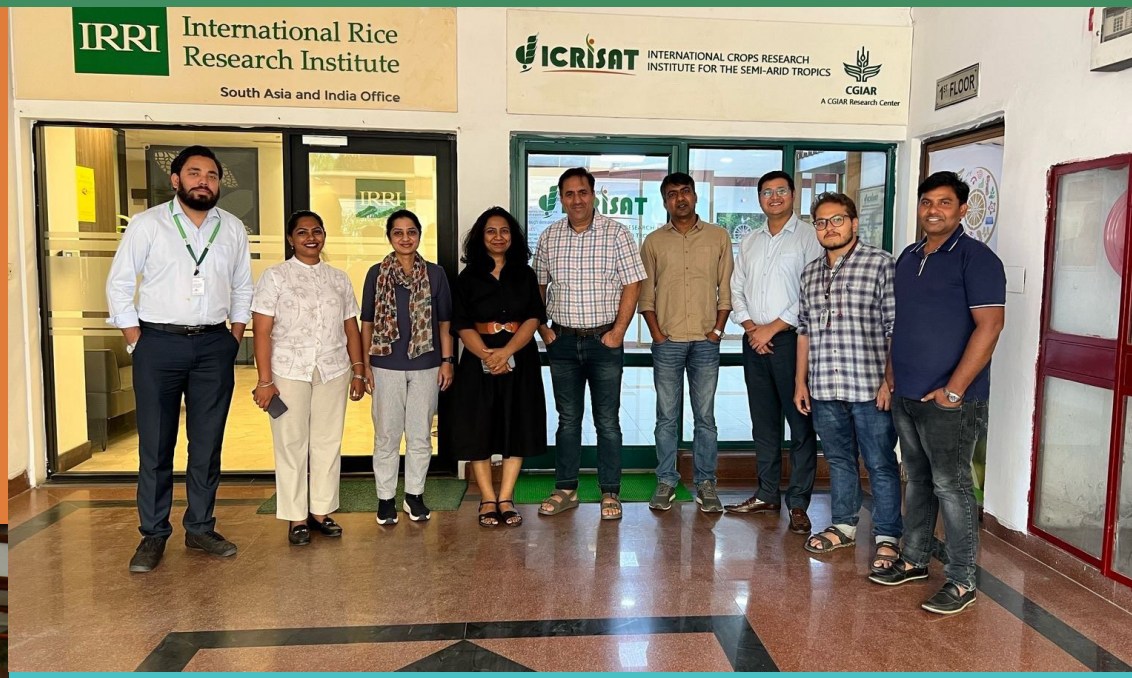
Research Institutions	Development Agencies	Venture Capitalists
Incubators and Accelerators	Professionals (Human Capital)	Market Facilitators and Intermediaries
Civil Society Orgs	Government	Private Companies
Angel Investors	Startups & Enterprises	Private Equity Firms

Partnership Spotlight

The spadework of our partnership transformation has begun. IRRI's new partnerships leverage shared strengths and complementing expertise in ways that better align with region- and country-specific demands, ensuring locally grounded, globally impactful collaboration.

ADB-CGIAR Clearinghouse Facility

This investment explores a co-financing partnership with the Gates Foundation to scale CGIAR innovations through the Asian Development Bank's (ADB) country loan portfolio. The initiative establishes the ADB-CGIAR Clearinghouse, facilitated by IRRI and connects CGIAR technologies and expertise to enhance food system transformation in targeted Asian countries. This partnership offers valuable insights into effective scaling mechanisms and fostering collaborative learning for impactful results.



IRRI and ICRISAT unite for Inclusive Innovation in India's Drylands

IRRI and ICRISAT have launched a joint research vision for 2025–2027 to drive inclusive, impact-focused innovation in India's rice-based dryland farming systems. The collaboration aims to co-develop integrated solutions tailored to water-scarce, fallow-prone areas—focusing on strengthening seed systems, scaling varietal kits, and designing market-responsive delivery models. This partnership exemplifies how CGIAR Centers can join forces to deliver real change from lab to last mile.

Partner Voices

IRRI's consultative approach fuels a strategy that is dynamic and responsive, informed by the expertise and demands of our global partners. We stay ahead of the curve by continuously aligning with external forces, ensuring our impact is always relevant and forward-driven.

Cross-Border Collaboration, Cross-Sector Impact

"IRRI provides invaluable scientific expertise and research infrastructure, particularly in rice-related studies, which complement our work on Philippine native cattle. This partnership fosters long-term collaboration between Korea and the Philippines, ensuring mutual benefits in agricultural and livestock research."

Chungbuk National University (Korea)

From Field Trials to Real-World Solutions

"Partnership with IRRI allowed us to develop proof of concepts on the ground; testing models and climate resilient technologies (technical and social) through action research generating research outputs and development outcomes at local levels."

International Institute of Rural Reconstruction (Philippines)

"IRRI has been a responsive partner to the changing needs of time, offering areas for innovations and partnership that supports the thrusts and priorities of the Philippine DA."

Department of Agriculture (Philippines)

Policy Support Driving Rice Sector Resilience

"IRRI's expertise in policy support has played a key role in strengthening national strategies for rice production, agricultural development, and food security. These contributions are central to Laos' agricultural growth and resilience in the rice sector."

National Agriculture, Forestry and Rural Development Research Institute (Lao PDR)

Research Access That Makes a Difference

"The most valuable aspect of our partnership with IRRI is the access to cutting-edge agricultural research and innovation. IRRI's expertise in climate-resilient agriculture, sustainable natural resource management practices, and breeding programs has significantly contributed to our research programs."

Punjab Agricultural University (India)

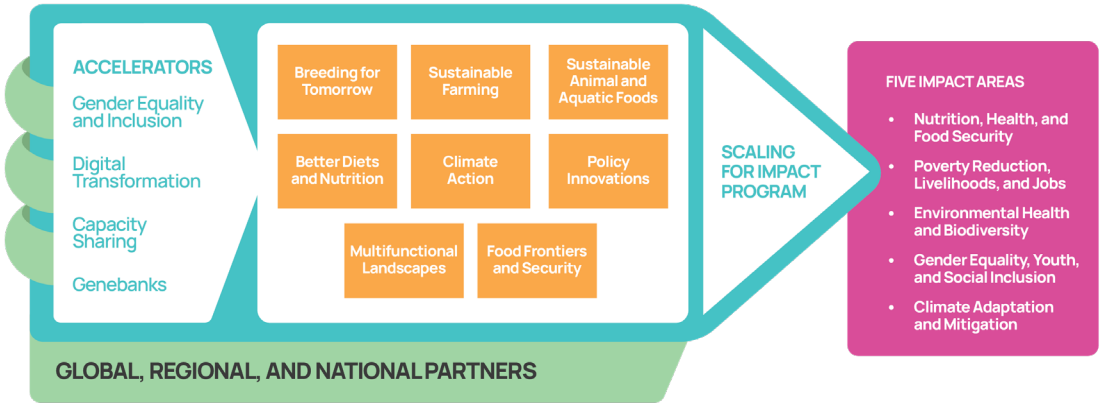
Resilient Rice for a Warmer World

"By collaborating with IRRI, partners gain access to climate-smart rice innovations and targeted solutions that empower partners to scale sustainable rice production, strengthen food security, and build resilience to climate change through locally adaptable strategies."

Bangladesh Rice Research Institute

Global Alignment and IRRI's Transformative Role

IRRI currently maintains a robust network of over 600 partners worldwide, including CGIAR member centers, global research institutions and universities, national agricultural research organizations, and private sector companies. While this network provides a strong foundation, IRRI will continue to expand and diversify its partnerships to meet the evolving challenges of global food systems.



IRRI's 2025-2030 Strategy is closely aligned with the CGIAR 2025-2030 Portfolio. IRRI's core objectives and approach integrate seamlessly with the One CGIAR structure, contributing to its impact areas through aligned research and innovation pathways.

IRRI's 2025–2030 Strategy is a call to action.

It sets a bold course for delivering impact through science that is agile, collaborative, and solutions-driven. At its core is a clear conviction:

IRRI can't do it alone. Collaboration isn't optional—it's foundational. This strategy is an open invitation to co-create solutions that strategically place rice within the broader context of diversified food systems—an integrated system that delivers nutrition, supports livelihoods, and builds climate resilience at scale.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