

PhilRice Magazine

A quarterly publication
of the Department of Agriculture-
Philippine Rice Research Institute

**BETTER
TOGETHER**

ISSN 0254-6132



VOL. 37 NO. 4
OCT - DEC 2024



ABOUT THE COVER

DA-PhilRice is working to help transform rice-farming communities through its programs, guided by the principle of *Bida ang Sama-Sama*—better together. Through various initiatives, we ensure that farmers have access to high-quality seeds fit for their needs, promote climate-resilient farming technologies, and help boost productivity across the rice value chain. We guide organized farmers into agro-entrepreneurship, strengthening their competitiveness and sustainability. These efforts, combined with a focus on healthier rice, improve farming practices and knowledge sharing, empower farmers to increase their income, enrich livelihoods, and contribute to a more sustainable, resilient rice industry and better rice communities.

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EXECUTIVE DIRECTOR'S NOTE

Together, we'll harvest a better tomorrow

In 2017, PhilRice launched the Rice Business Innovations System (RiceBIS) program as one of its flagship programs to empower farmers through farm clustering and consolidation, and agribusiness opportunities. Over the years, RiceBIS has helped transform many rice-farming communities into thriving entrepreneurship hubs. Farmers gained essential skills in sustainable farming, agripreneurship, and value-added processing, marking an evolution from sole rice production through innovative enterprises.

RiceBIS helped farmers achieve remarkable strides in productivity and profitability. Rice yields grew by an average of 15%, while production costs dropped significantly through the adoption of recommended crop management practices. Farmers also reported a 20% rise in net income, attributed to value-adding activities and improved market access.

RiceBIS 2.0 now aims to reach more farmers, expand partnerships with farmer groups, and further embolden their competitiveness in the agricultural value chain.

These efforts neatly fit the Masagana Rice Industry Development Program (MRIDP), originally introduced in the 1970s as Masagana 99 to boost rice production and ensure rice security. Today, under the leadership of President Ferdinand R. Marcos Jr., MRIDP has been revitalized with a broader vision: achieving rice self-sufficiency by 2028. This updated program integrates modern technology, climate resilience, and value chain improvements while prioritizing farmer welfare and income growth.

MRIDP and RiceBIS aligning with the MRIDP's *Sama-sama* strategy share a unified mission: enhancing the productivity and profitability of Filipino farmers. Both programs emphasize modern technologies, efficient farming practices, and market-oriented approaches, demonstrating a collective commitment to a sustainable and thriving rice industry.

Through the *Masaganang Bagong Pilipinas*, President Marcos envisions a future where no Filipino goes hungry, driven by a revitalized agricultural sector and united efforts. At its core lies inclusivity — ensuring that every farmer, cooperative, and community contributes to and benefits from national progress.

As we move forward, let us embrace the concept of “Better together” or *Bida ang Sama-sama*. Convergence remains our most powerful tool in building a resilient and prosperous rice industry. At PhilRice, we remain committed to fostering partnerships, nurturing innovations, and turning our shared vision into reality. Together, we can ensure that the grains of today sow the prosperity of tomorrow. 🌾

NEWS

Low-GI rice varieties for diabetics

With diabetes rising as the fourth leading cause of death in the Philippines, PhilRice food scientists are exploring rice varieties better suited for people with the medical condition. They are investigating rice with low glycemic indexes (GI) to help manage blood sugar levels.

According to Dr. Marissa V. Romero, a food scientist, white rice is the primary source of carbohydrates for most Filipinos, and excessive rice consumption often contributes to the development of diabetes.

Farmers to benefit from RCEF until 2031

Filipino farmers will continue to enjoy sustained support and interventions until the year 2031 as the amended Agricultural Tariffication Act (RA 12078) extends the Rice Competitiveness Enhancement Fund (RCEF), implemented by PhilRice, Philippine Center for Postharvest Development and Mechanization, Agricultural Training Institute, Technical Education and Skills Development Authority, LandBank of the Philippines, and Development Bank of the Philippines, to boost sustainability and competitiveness through quality seeds, modern machinery, extension services, and low-interest credit while tripling its annual budget from P10 billion to P30 billion.

The additional funding will strengthen ongoing initiatives and introduce new projects to improve agricultural productivity and sustainability. These include programs to enhance soil health, combat pests and diseases, develop solar-powered irrigation systems, establish small water impounding projects, and distribute composting facilities.

PhilRice will accelerate the implementation of its flagship RCEF Seed Program and its share in the Extension Program, which empowers farmers through access to high-quality seeds, advanced technologies, and training.

Additionally, the expanded budget will bolster research efforts to develop climate-resilient rice varieties and innovative farming solutions, ensuring the long-term adaptability and competitiveness of Filipino farmers. - CHRISTINE MAE A. NICOLAS



The paper, "Low-Glycemic Index Rice for Diabetics: Searching for Appropriate Grain Quality and Pasting Property Indicators", earned 3rd Best Poster award at the International Conference for Crop Science and Breeding, with Romero (3rd from right) as author, along with co-authors Baby Lymie D. Rosales, Henry M. Corpuz, Jenina Patria S. Villar, and Evelyn H. Bandonill.

Yet, our appetite for rice remains big. Fortunately, rice with low-GI helps lessen that effect — or at least manage it.

"GI measures how fast our food raises blood sugar. The polished white rice with a GI of 70 and above, which can increase the risk of diabetes," Romero added.

Their collaborator, the International Rice Research Institute, had previously identified NSIC Rc 182 as a low-GI rice variety using its advanced *in vitro* laboratory test that simulates digestion, instead of using humans as test subjects.

In their study, Romero's team used this as a reference variety to identify appropriate grain quality and pasting property indicators for low-GI rice.

After screening several varieties, they found that NSIC Rc 472, PSB Rc 10, and Rc 514 had similar GI to Rc 182.

"Farmers already prefer these varieties, and our study confirmed that they have relatively low-GI," Romero added. These varieties, known for their resilience and high yield, offer diabetic patients a healthier option without compromising flavor. - FRANCIS ROI G. FERNANDO

Agri Sec: PhilRice helps shape agri's future



Agriculture Secretary Francisco P. Tiu Laurel Jr. has commended PhilRice for its innovations as the Institute marked its 39th founding anniversary on Nov. 5.

"As we celebrate this milestone, I underscore PhilRice's role in shaping the future of Philippine agriculture. You are not just improving rice production; you are improving lives," the secretary said.

Represented by Engr. Christopher V. Morales, DA Undersecretary for Rice Industry Development, Tiu Laurel tied PhilRice's contributions to the government's Masagana Rice Industry Development Program (MRIDP), an initiative to boost food supply and strengthen the rice value chain.

"PhilRice has been instrumental in fostering a culture of collaboration and resource-sharing among farmers," he said.

One of PhilRice's strategies has been promoting farmer clusters to enhance access to resources, information, and technology, enabling farmers to cope with agricultural challenges.

The ex-officio chairperson of the Institute's Board of Trustees noted that this is critical to the success of MRIDP, particularly as farmers face climate-related hazards such as El Niño and La Niña.

After 10 seasons of implementation, from 2019 to Sep 15, 2024, the Rice Competitiveness Enhancement Fund Seed program, with additional support from the DA National Rice Program Inbred Seed Component, has distributed 18.29M bags of certified seeds, which benefitted 1.77M farmer-beneficiaries.

- CHRISTINE MAE A. NICOLAS

WHAT'S NEW IN RICE RESEARCH

Resilient rice varieties for extreme conditions

MINARD F. PAGADUAN AND ARDIAN M. DOLERA

Are there any rice varieties that can withstand floods, endure drought, and thrive in saline areas simultaneously?

This challenging question inspired Senior researcher Christopher C. Cabusora and his breeding team at PhilRice to rethink their breeding objectives. They committed to developing rice varieties with multiple adaptations to help farmers face diverse climate challenges.

Cabusora envisions a future where no Filipino farmer would feel defeated. He aims to eliminate the hesitation caused by sowing low-performing seeds, especially in areas without irrigation.

Since 2004, approximately 38 rice varieties with specific adaptations have been developed and commercialized. In the coming years, achieving multiple adaptations within a single variety is becoming increasingly attainable.

After 8 years of dedicated research, PhilRice in 2023 introduced innovative rice varieties designed to thrive under multiple environmental stresses such as drought, flooding, and salinity. These varieties offer solutions for farmers dealing with extreme weather conditions, in the hope of marking a significant milestone for PhilRice.

"The conventional rice breeding cycle typically lasts for 12 years; however, PhilRice has successfully shortened this timeline to just 8 years through mutation breeding approaches. This accelerated process ensures timely responses to the urgent climate adaptation needs," Cabusora explained.

New variety highlights

These rice varieties exhibit remarkable resilience under challenging environmental conditions. They can withstand drought for up to 75 days during the seedling stage onwards, and up to 23 days during the panicle initiation to flowering period.

Additionally, they demonstrate the ability to survive submergence for up to 14 days from the seedling to vegetative stages. In saline ecosystems, they can tolerate salinity stress for up to 17 days during the seedling stage.

Early field trials, such as those conducted through the OneRicePh Project, have shown positive results.

Farmers like Eusebio Xavier Batlangao from Borongan City, Eastern Samar, have witnessed improvements. He praised Rc 572 for its drought and salinity tolerance, noting, "Our area is prone to saline intrusion, and our rice farming relies heavily on rain. This variety brings hope that it could revitalize the rice industry in our community."

Before the full-scale distribution of these varieties, a technology demonstration will be conducted across various regions next year, according to Cabusora. This initiative aims to showcase the unique characteristics of the new varieties, validate their multiple adaptive traits, and serve as an information campaign to raise awareness among farmers about these resilient rice varieties.

NSIC Rc 572

Yield: 2.8–4.5t/ha under rainfed conditions

Maturity: 109 days

Ecosystem: Suitable for drought-prone and saline areas; performs well under irrigated conditions

NSIC Rc 732

Yield: 4.4–6.9t/ha under saline conditions

Maturity: 124–126 days

Ecosystem: Tolerant to drought, submergence, and salinity; performs well under irrigated conditions

NSIC Rc 686

Yield: Up to 4.2t/ha under saline conditions

Maturity: 113 days

Ecosystem: Suitable for flood-prone and coastal areas; tolerates drought, submergence, and salinity; performs well under irrigated conditions

NSIC Rc 740

Yield: 5.9–6.1t/ha under irrigated conditions

Maturity: 109–112 days

Ecosystem: Tolerant to drought, submergence, and salinity

"We are planning to include these varieties in the DA National Rice Program for seed distribution, specifically through the Local Seed Support Program for rice farmers."

- CHRISTOPHER C. CABUSORA

The multi-stress-tolerant varieties are essential for regions such as Bicol, Cagayan Valley, Eastern Visayas, and Ilocos, where farmers reckon with a confusion of heavy rainfall, typhoons, saline intrusion, and drought. These resilient rice varieties play a critical role in sustaining rice production, ensuring food security, and supporting local livelihoods in the face of climate challenges.



RIZAL G. CORALES

Head (retired), Field Operations and Monitoring Division, RCEF-Project Management Office

In line with the vision *Masaganang Bagong Pilipinas*, the Rice Competitiveness Enhancement Fund (RCEF) Seed program has hoisted its flagship project, *PalaySikatan*, from focusing on individual farmer-cooperators to fostering farmers' cooperatives, associations, and farm clustering. Launched during the 2024 wet season, this expanded demonstration project showcases recommended inbred rice varieties and modern farming technologies in select sites across the country.

Collaborating with the Rice Business Innovations System (RiceBIS) 2.0 Program, *PalaySikatan 2.0* enhances agri-enterprise development for farmers' groups, cementing greater collaboration and impact.

From individual efforts to collective impact

Transitioning to farmers' associations as project cooperators has expanded *PalaySikatan's* reach. Demonstration areas now span up to 50ha/site from only 3-6ha/site, forming rice clusters

PalaySikatan 2.0: Strengthening communities for better rice farming

aligned with the DA's Masagana Rice Industry Development Program (DA-MRIDP).

This strategy not only allows for larger demonstration areas but also positions these clusters as registered rice clusters under DA-MRIDP. These clusters gain access to DA-provided interventions and market opportunities, such as those under RiceBIS and the Farmers-to-Consumers Clustering Programs.

This clustering approach promotes economies of scale, quality standards, and market access—key to transforming farmers into agripreneurs in the modern rice economy.

Overcoming challenges in transition

Shifting from individual cooperators to farmers' associations required nationwide consultations, new protocols, and social preparation. Six months of technical briefings, training activities, and workshops aligned stakeholders, including local government units (LGUs) and project partners.

Also, enlisting farmers in semi-contiguous clusters posed challenges due to voluntary participation and landholding constraints. Voluntary enrollment and a maximum farm size of 1ha/farmer resulted in dispersed farms, complicating monitoring and data collection efforts for the project's technology demonstration officers.

Despite the handicap, *PalaySikatan 1.0's* success provided a foundation for enhanced yields and incomes, supported by partnerships with LGUs, RCEF-involved agencies, and the DA National Rice Program.

Farmers' associations as rural development drivers

Farmers' associations streamline cooperator selection, intervention distribution, and activity coordination.

They know their members well, so they can ensure that support reaches the right people.

Communication and logistics, such as seed delivery and fund distribution, also become more efficient when facilitated by associations.

The integration of *PalaySikatan 2.0* with RiceBIS in select sites further nurtures agripreneurship. By ensuring production economies of scale and quality standards, farmers meet market demands for specific varieties and volumes, paving the way for thriving agribusinesses.

Hatching unity and convergence

Effective planning, coordination, and communication have been key to fostering unity among the stakeholders in the communities participating in *PalaySikatan 2.0*.

Plans must be developed collaboratively to define roles and responsibilities clearly. Regular reviews ensure that adjustments can be made when necessary. Frequent meetings and transparent communication channels have also helped address issues promptly, track progress, and maintain stakeholder engagement.

Toward a *Masaganang Bagong Pilipinas*

PalaySikatan 2.0 exemplifies the spirit of *Bida ang Sama-Sama sa Masaganang Bagong Pilipinas*. By prioritizing collective efforts and convergence, the program is not just enhancing rice farming practices but also engendering a sense of community and shared purpose among farmers.

As the project continues to evolve, it exemplifies how collaboration and innovation can drive the agricultural sector forward. With stronger clusters, empowered associations, and a unified vision, *PalaySikatan 2.0* is sowing the seeds for a resilient, sustainable, and prosperous future for Filipino farmers.

(INTERVIEWED BY MARIEL M. ESPINOZA)

RICEBIS ACROSS THE COUNTRY

 JANNELLE O. MANALILI



Zanjera Sto. Niño Agriculture Cooperative



Rayuray Multipurpose Agriculture Cooperative

BATAC

Innovative Coops

Rayuray Multipurpose Agriculture Cooperative has established a profitable *palay* trading business by securing a P1M grant from the DA's Kadiwa ni Ani at Kita. The Coop ventured into brown rice crispies technology developed by Mariano Marcos State University. Grants from the Department of Science and Technology and Department of Trade and Industry have further boosted their marketing and production initiatives.

Zanjera Sto. Niño Agriculture Cooperative in Banna, Ilocos Norte offers a variety of products and services, including milled rice, processed pork products, pig feeds, fertilizers, pesticides, and drying and harvesting services. A P5.5M DA-RFO1 grant and a P5M zero-interest loan from the Development Bank of the Philippines supported their piggery operations, meat processing, and enabled the purchase of equipment for their *palay* trading activities, as well as the construction of their training hall granted by Agricultural Training Institute. - HANAH HAZEL MAVI B. MANALO

NEGROS

Better market

Establishing a strong partnership with Seda Hotel Bacolod marks a significant milestone for the RiceBIS Negros Agrarian Reform Cooperative (RiceBISNARCo), launched through the efforts of another RiceBIS community. The collaboration has been successful, with RiceBISNARCo initially supplying 40kg of pigmented brown rice monthly at P75/kg on a consignment basis, with plans for growth as demand increases. Despite challenges in maintaining a consistent supply, improving production quality remains the Coop's key to success.



RICEBIS ACROSS THE COUNTRY



ISABELA

Dream partnership

The MarDag RiceBIS Agriculture Cooperative in San Mateo was recently recognized as a Department of Social Welfare and Development retail partner for its *Walang Gutom* Program, which provides indigent families with P3,000 worth of food monthly. Through these efforts, the Coop has transformed into a million-peso organization that sells

100 bags of rice per month. Continuous efforts to innovate for its members include offering production loans of up to P25,000, rice trading, and farm machinery services. Recently, 19 MarDag farmers earned Philippine Good Agricultural Practices (PhilGAP) certification, enhancing their ability to collectively market to more formal institutional buyers.



LOS BAÑOS

First PhilGAP-group Coop

The Manggarang Agrarian Reform Beneficiaries Cooperative (MARBENCO) in Sariaya, Quezon, became the first Coop in the Philippines to receive PhilGAP-group certification for rice, with 96 certified rice fields. The Coop has formed partnerships with the Development Academy of the Philippines, Pasig Multipurpose Coop, and TAO Management Service MPC to supply both premium and ordinary milled rice. With the support of RiceBIS, MARBENCO's collective efforts potentially bring them closer to even greater success.

AGUSAN

First GAPproved rice product

The Calamba Farmers' RiceBIZ Sustainable Livelihood Program Association and the Antonio Luna cluster celebrated their first harvest from PhilGAP-certified farms, branded as GAPproved rice. They collectively harvested 400 sacks of rice, which were sold at a price P0.50/kg higher than those offered by traders.

According to Sharen T. Rivas, RiceBIS coordinator at PhilRice Agusan, GAPproved rice has been well-received by catering services for its excellent quality. Customers have praised its delicious taste with the added benefit of not spoiling easily. Harvests from RiceBIS farmers are purchased by the Federation of Cabadbaran Irrigators and Farmers Association, Inc. and processed into GAPproved rice.



CARLO G. DACUMOS

CENTRAL EXPERIMENT STATION

Beyond debts

The RiceBIS Macaguig Primary MPC in Zaragoza, Nueva Ecija, has gradually recovered from heavy debts with the support of the RiceBIS program. The Coop now offers milled rice at P1,200/bag and pigmented rice at P80/kg, and buys *palay* at P17/kg.

Mely J. Nicolas, chairperson of Macaguig MPC, noted that these advancements have not only eased financial pressures but also enabled the Coop to share its success through patronage refunds. Currently, the Coop boasts of 11 PhilGAP-certified farms, while the other 51 members are actively working toward certification.



BICOL

AZRYL MAY M. JIMENEZ

Going strong toward success

RiceBIS in Bicol was awarded more than P5.5M grant to assist farmers in Masbate through the Bank of the Philippine Islands Foundation, Inc. The grant will help improve facilities for the production and processing of pigmented glutinous rice, well-milled white rice, and rice-based products, including *kropek*, a popular snack in their community.

MIDSAYAP

Building capital from scratch

Starting with zero capital, the Libungan RiceBIS Farmers' Association in North Cotabato has achieved a cash balance of about P870,000 through a roll-over scheme initiated by 149 farmers involved in the RiceBIS Program. The

members contribute a portion of their harvest in exchange for essential resources such as seeds and fertilizers provided by the government. The rice milling enterprise generates a sustainable income of around P100,000 per cropping season. Each peso earned is reinvested into members' capital shares, fostering ownership and accountability, thus providing higher income opportunities.

YOUR NOT-SO-ORDINARY PARTNER IN SUCCESS

 **ROCEL DYAN C. SILVA**

Nowadays, products emerge faster than we can blink, and consumers are bombarded with choices. Yet, one thing remains the same—quality. For RiceBIS farmers, delivering quality rice means earning the trust of consumers and creating a lasting impact through high-quality products.

Capacitating the shoulders carrying the country

One of the first steps in gaining a stronger foothold in the market is understanding it. Consumers today are increasingly looking for products that

are high-quality, safe, and sustainably produced. Hence, RiceBIS 2.0 used this opportunity to introduce the Philippine Good Agricultural Practices (PhilGAP) certification led by the Bureau of Plant Industry to rice farmers.

“At first when this was introduced by PhilRice, we only recognized PhilGAP as a certification for vegetables and fruit farmers. But when we heard about the testimonials of our co-rice farmers, the advantages of having this certification, and the knowledge they accumulated through multiple training sessions, we became eager to pursue it,” Reunston

A. Delalamon, 53, chairperson of the Federation of Cabadbaran Irrigators and Farmers Association, Inc. (FCIFAI), shared.

Reaping the fruit behind the title

Due to the increasing demand for PhilGAP rice, the association strategized the use of the remaining fund granted by the Local Government Unit (LGU) of Cabadbaran City, Agusan, del Norte. This loan grant worth P3M was given in 2023 specifically for fertilizer use to sustain low-yielder crops like rice.

With the remaining P1M, more PhilGAP-certified fresh *palay* were sourced from the association members with P0.50/kg increment to meet the growing volume of orders. This might be a small advantage for some, but for the farmers this was their “one step forward” from the ever-inconsistent *palay* buying price of traders.

Being the David in Goliath’s game takes so much effort, courage, and commitment to quality. Hazel L. Cong, 41, owner of Loreta Resort knows this for sure. She recalled that before being known as a hotel and catering service provider in the whole Caraga Region, they were also once just a simple restaurant with humble beginnings.

Loreta Resort is a family-owned business named after Cong’s grandmother. Serving their blockbuster crispy *pata* and *pinakbet*, she knew there was nothing more delectable to pair with these viands than delicious and quality boiled rice.

“Since we learned about the PhilGAP rice from PhilRice Agusan, I knew that by serving rice sourced directly from the farmers will not only help them but also help our business to offer safe and high-caliber rice,” Cong bared.

From four bags of well-milled rice as their first order in October, their partnership grew stronger with the supportive impression Cong felt for their association and Delalamon’s perseverance. Now, Loreta Resort orders 20-24 bags of 50-kg high-quality rice a month with a P300 price advantage per bag. She explained that this amount is more than worth it with all the pleasant feedback they receive from their patrons to whom the PhilGAP rice is served. They also noticed that PhilGAP rice stays fresh for the whole day when other rice they have tried in the past would already spoil even only in the afternoon.

For the young entrepreneur, the quality of the rice has been a game changer. “The PhilGAP rice from the association is not just delicious, it has superior eating qualities, an appetizing aroma, and most importantly for us as caterers, it doesn’t spoil as fast as the



“Since we learned about the PhilGAP rice from PhilRice Agusan, I knew that by serving rice sourced directly from the farmers will not only help them but also help our business to offer safe and high-caliber rice.”

- HAZEL L. CONG

others,” she attested. “As caterers, we trust it to deliver a perfect meal every time.”

The federation’s commitment to deliver every order also struck Cong as they are only “one call away”. With this, their initial partnership is set to last until March 2025 and according to her, they are very much willing to extend this if the quality is sustained.

“We are really happy with our partnership with Loreta Resort. We have a guaranteed market every week until next year. As a small association, this assures us that we have a definite income for as long as this partnership lasts,” Delalamon gladly expressed.

He narrated that from having the slightest doubt pursuing PhilGAP certification, he now inspires other rice farmers to venture into this as it can greatly impact their lives, from their improved farming practices to reaching markets they never knew they could. Just recently, their federation also closed a partnership with Prince Hypermarket in Cabadbaran City with eight branches all around Agusan.

Hand-in-hand with the LGU and RiceBIS program, FCIFAI reaches more and more—gaining knowledge along the way while sustaining partnerships bound with mutual trust. 🌾

PhilGAP certification process

► INFOGRAPHICS BY: SARAH JOY N. RUIZ

Most of our farmers are unaware of alternative methods for selling their products in the market because they believe that as long as they take good care of their crops, they can sell them at a high price. However, as time passes and farmers face numerous challenges such as fluctuating market demands and low prices for *palay*, they often feel discouraged and wonder what they might be lacking, especially since they spend nearly their entire lives farming. For this reason, PhilRice encourages farm owners to take advantage of the Philippine Good Agricultural Practices (PhilGAP) certification.

PhilGAP is a certification program designed to ensure the safety and quality of agricultural products, including vegetables, rice, and fruits. By obtaining a PhilGAP certificate, a farm can demonstrate its adherence to international standards of quality and safety. Additionally, PhilGAP promotes responsible and sustainable agricultural practices that benefit the entire community. As a result, consumer trust in farmers will increase, opening access to not only local markets but also international outlets.

Applying for a PhilGAP certificate is easy and free! Here's a look at the necessary requirements and the application process:

Requirements for individual/ group application (cooperatives, associations, and companies)

- 1 Application form (with Annex A and Annex B)
- 2 Farm or organizational profile
- 3 Farm map
- 4 Farm layout
- 5 Field operation procedures
- 6 Production and harvesting records (Annex A)
- 7 List of farm inputs (Annex B)
- 8 Certificate of Soil Nutrient Analysis
- 9 Certificate of training on GAP conducted by Agricultural Training Institute (ATI), Bureau of Plant Industry (BPI), Local Government Unit (LGU), DA-Regional Field Offices (DA-RFO), State Universities and Colleges (SUCs) or ATI-accredited service providers
- 10 Certificate of Registration and other related permits, e.g., Registry System for Basic Sectors in Agriculture (RSBSA), Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI), Cooperative Development Authority (CDA) (as applicable)

Additional requirements for groups:

1. Quality management system/internal control system or equivalent
2. Procedure for accreditation of farmers/growers
3. Manual of procedure for outgrowership scheme, which will show that the group have 100% control of all registered or accredited growers (e.g., internal policies on accreditation of farmer/grower, and sanctions)

APPLICATION PROCESS

STEP 1:

Submit documents to the regulatory division of the DA-Regional Field Office (DA-RFO)



STEP 2:

DA-RFO counterchecks the documents, pre-assesses the farm, and endorses the application to the Bureau of Plant Industry-Plant Product Safety Services Division (BPI-PPSSD)



STEP 3:

The BPI-PPSSD issues a notice of inspection to the farmer through DA-RFO to conduct final inspection and verification



STEP 4:

PhilGAP secretariat will endorse the application together with the inspection report to the PhilGAP Certification Committee (PhilGAPCC) for evaluation and recommendation to the BPI Director



STEP 5:

Approval by the BPI Director



STEP 6:

Release of approved certification to the farmer through DA-RFO



NOTE:

Once a PhilGAP certificate has been issued, valid for two years, your farm will be regularly monitored and regulated to ensure continued compliance with good agricultural practices.



RICE THROUGH THE LENS

COMPILED BY CARLO G. DACUMOS

Hidden in the mountains are the stunning rice terraces of Ifugao, framed by plants and trees. The terraces, carefully carved into the hillside with simple tools, showcase the Ifugao's skill and dedication. Every season, every harvest, celebrates their deep connection to the land, providing food for their families and community.



REYNALDO F. DIOCTON IV

Rice farming requires a significant effort, from preparing the land to harvesting. Seeing a farmer in his field at sunset shows just how much hard work goes into it.



JOSHUA P. MENDOZA



CARLO G. DACUMOS

Draped in morning mist, the rice field at sunset symbolizes the dawn of new opportunities for rice farmers.



FEATURE

Virtually pampered by the majestic green landscapes, mountain ranges, rolling hills, and breathtaking attractions that define Bukidnon province, the Patag-Coroña Irrigators Association Inc. based in Maramag thrives. This dedicated farmer group has spent years cultivating the land, preserving traditional methods handed down through generations.

With over 300 members, 63-year-old Abraham C. Sendiong Jr. leads the group. “We began as an association, relying on traditional practices passed down by our parents,” he shared, reflecting on their roots. “We have duly evolved into an agricultural cooperative.”

Like many others, Coop members once believed that a bountiful harvest required a large quantity of rice seeds sown — typically 80-100kg/ha under the direct-seeding method. However, change arrived with the Rice Competitiveness Enhancement Fund (RCEF) Seed Program’s *PalaySikatan*, a technology demonstration project highlighting the advantages of using high-quality inbred rice seeds.

A farming legacy

“Farming wasn’t just a job; it was our life,” emphasized Honorato P. Dizon,

NEW DAWN: EMBRACING MODERN PRACTICES

YOBHEL LOUISSE P. BELTRAN

63, a Coop member and a *PalaySikatan* farmer-cooperator.

For years, he adhered to the traditional practice of broadcasting 100kg/ha of rice seeds, believing that a higher seeding rate would lead to better yields — a common belief among farmers in his community.

“You plant more, you harvest more,” he often said, echoing the mantra he had embraced since childhood.

Despite his efforts, Dizon’s yields remained inconsistent, and his income was far from impressive. The high cost of seeds at P1,800.00 per 40kg sack drained his earnings. He longed for a better

approach but lacked the resources and knowledge to make a change.

Finding high-quality rice seeds was difficult for them until RCEF introduced inbred seeds of superb quality.

“Back then, we often had to search far and wide for seeds, sometimes traveling to other towns. But more often than not, we just exchanged seeds with neighboring farmers if their yields were good,” he added.

Milestone: *PalaySikatan 2.0*

The *PalaySikatan* initiative allowed the Coop, including Dizon, to reassess and enhance their farming practices.



That progress shoots up when farmers are open to change and this is radiated by Abraham C. Sendiong Jr. who leads his Coop in adopting certified seeds and mechanized technologies for a sustainable future.

For the 2024 wet season, the project has expanded from a 6ha to a 50ha area site designated for a techno-demo.

Aside from promoting high-quality inbred certified seeds, the project also introduced mechanized farming technologies, such as drone-assisted direct seeding, which are showcased in techno-demos nationwide.

The adoption of *PalayCheck* System technologies, including its digital app, was also encouraged to support efficient and cost-saving rice mechanization interventions.

Dizon joined the techno-demo with a mix of curiosity and skepticism. He doubted whether 40kg of seeds could suffice for a hectare of direct-seeded rice. Despite his silent protest, he decided to give it a try, hoping for positive results.

He was concerned that his field seemed sparse compared with previous seasons. Even so, he struggled to stay positive and diligently followed the new technology.

"I often broadcast 100kg of seeds, but now I realize that this doesn't necessarily result in a higher yield. Forty kilograms is indeed enough," he admitted.

With the farming technology introduced, he saw significant improvements.

"The grains are fuller and healthier, and there are fewer pest problems. The drone seeder provided just enough space for each grain, leading to lower seed costs, which I was able to redirect toward fertilizer and pesticides," he expounded.

Visible outcome

Improving from using good to certified seeds, Dizon was amazed by the results of his transition. With the 40kg/ha of seeds and the drone seeder, the improved spacing allowed the rice to grow more robust, and the grains were fuller.

"I was able to surpass my previous harvest — from 5.2t/ha, it increased to 6.6t/ha, a 27% increment," he beamed.

"Before, we used to travel 35 minutes just to buy good rice seeds. Now, we have easy access to certified seeds," proudly said Abraham C. Sendiong Jr., Coop chairperson.

The ripple effect

Dizon's story spread among his fellow farmers like gossip, a productive kind of "Marites." It challenged them to adopt what they learned from a fellow farmer.

"Many farmers were hesitant, but through the techno-demos and the testimonies of farmer-cooperators, the adoption rate has gone up," Sendiong said.

"How did you do it? What farm practices should I adopt? These are the questions we often hear from fellow farmers," he went on.

Thus, *PalaySikatan* is transforming farmers with the understanding that, with the right knowledge, fewer seeds, and lower input costs lead to more efficient farming practices and richer income.

Looking ahead

Today, members of the Patag-Coroña Coop are champions of the RCEF Seed Program, advocating for the use of certified seeds and modern farming practices.

As Dizon enunciated, "It's not just about tradition; it's about learning and growing." He now realizes that farming isn't just about working harder — it's about working smarter.

The Coop also testified that government support can be more rewarding if members are open to new farming practices toward sustainable and efficient farming. 🌱



WOMEN LEAD

■ CHRISTINE MAE A. NICOLAS

Founded with just a few members and limited resources, the Agcabugao Multipurpose Cooperative (Agcabugao MPC) in Cuartero, Capiz has grown into a thriving organization. It is now capable of acquiring essential assets, including harvesters, a truck, a turtle power tiller, as well as lots for offices, a shop, storage facilities, and a flatbed dryer.

Humble beginnings

Illuminada H. Herosa, the 67-year-old chairperson of Agcabugao MPC, recalled a 1990s health initiative known as the *Lakas* Program. As a volunteer health worker, she witnessed the community's struggles, including a lack of necessities and sanitation, along

with an alarming rise in malnutrition, diarrhea, and typhoid cases.

This situation prompted the Department of Agriculture to train mothers on combating malnutrition, leading to the Coop's creation, with women crucially building Agcabugao MPC from the ground up.

We started with 25 members, growing to 56 by our first registration in 1991, with a total initial share capital of P75,000 that funded three essential services: savings, lending, and *palay* trading," Herosa chronicled.

Despite limited resources, members pooled their assets, laying the bedrock for growth. Membership has since grown to 341 active members — 190



GERALD PAUL G. AQUINO

Energized by unity and purpose, this women-led Coop transforms challenges into opportunities, showing that progress thrives on compassion and collaboration.

women and 151 men—with women playing a particularly active role in administrative tasks, while men focus on the physical farm labor.

Extending support

Through sheer determination, Agcabugao MPC secured abundant support from various government programs. In 2014, the Coop became an assisted project of the Department of Agrarian Reform (DAR) and the LandBank of the Philippines, benefiting from a P3.5M credit line. Initially hesitant, they gained confidence through training and seminars, effectively utilizing the funds and doubling their credit line to P7.5M for farmer loans repayable after harvest (180 days). Today, they have a P21M credit line entrusted by LandBank.

Since 2018, DAR has provided farm machinery, including two rice reapers, a thresher with motor and blower, a hand tractor with two trailers, six rotary weeders, and six drum seeders. That same year, the DA-Philippine Center for Postharvest Development and



“These interventions are not just for our members. We must also extend government benefits to our fellow farmers.”

- ILLUMINADA H. HEROSA, Coop chairperson

Mechanization (PHilMech) supplied a rice reaper and a granular applicator. In 2022, the DA-Bureau of Soils and Water Management provided composting machinery with a 7hp motor.

“Our Coop’s success is closely tied to the support we’ve received from the government,” Herosa admitted.

Mechanizing their farming methods has dramatically reduced costs for members. Previously, land preparation could cost up to P18,000/ha, relying on manual labor and daily wages for workers. With the use of machines, expenses have nearly halved to P10,000, and time has been reduced from days to hours, remarkably easing the workload and allowing members to spend more time with their families.

Members enjoy lower machine rental rates compared with non-members; for instance, tractor rental is P500/hr for members and P600/hr for non-members.

Transforming lives

Agcabugao MPC’s journey has not only improved farming practices but has also uplifted the lives of its members in transformative ways.

Women who once struggled to earn now actively contribute in roles such as preparing seed trays for seedling production, locally known as the “Dapog Girls”. Younger generations also participate in Coop activities, learning from their parents by assisting with light tasks, which foster a culture of farming knowledge and responsibility.

“We are fortunate that the Coop employed us, allowing us to contribute not only financially to our families but holistically to the community as well,” she added.

For Herosa, the Coop’s success has also translated into personal progress. “I was able to purchase an additional 2,500m² of land farm, and now I have more time to spend with my family and focus on my well-being.”

The Coop’s members take pride in their involvement in community programs that strengthen social bonds and allow them to give back. From feeding programs to school supply donations, the Coop’s outreach activities highlight its commitment to service, instilling values of honesty, transparency, and responsibility among its members.

While the Coop has made tremendous strides, its leaders remain focused on further growth. Their plans include constructing a second-floor annex for the main office, establishing a deep well and water refilling station with a delivery van, and providing salaries for professional staff to support their expansion.

They have also requested a rice mill from PHilMech, which would enhance the Coop’s rice processing capabilities and create additional income-generating opportunities for its members.

“Our goal is not only to maintain what we’ve achieved but to continue striving for further improvements. We need a boost in working capital to fully support our lending activities, but we’re confident in our capacity to grow,” Herosa said. 🌱

A rice-self-sufficient nation remains the dream. But this vision continues to face setbacks from natural disasters and environmental challenges.

Evelyn V. Aguila, 59, a rice farmer from Canaman, Camarines Sur, was hopeful for a good harvest. Equipped with modern farming practices and technologies learned from a training she diligently attended, she anticipated a successful season. Yet, Typhoon Kristine struck.

"Our rice was growing so well, but the flooding [from the typhoon] ruined it, so we only harvested 0.4t/ha," she regretted.

This scenario isn't uncommon to thousands of Filipino rice farmers. Intense typhoons disturb the critical stages of rice growth nullifying four months of hard work.

But typhoons alone aren't their worst nightmare.

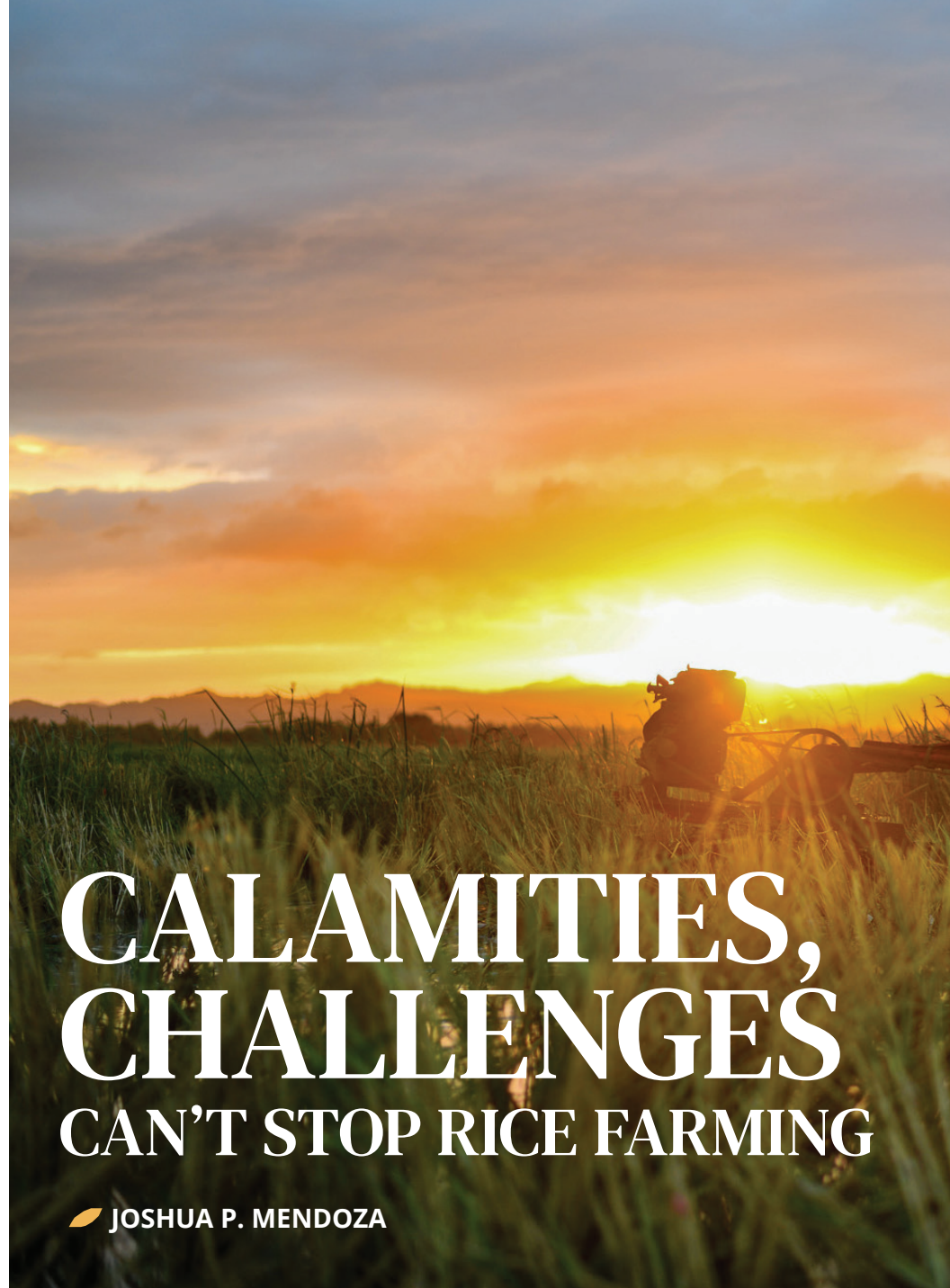
Adding salt to the wound

In coastal Canaman, 75% of rice fields suffer from saltwater intrusion, severely affecting crops, according to Rudy D. Nuñez, a barangay councilor and member of the agricultural committee.


Residents explained that once saline water enters their fields, the leaves turn yellowish. Since they depend on rainfall as their main source of water, they couldn't just flush it out off their land. This scenario is exacerbated, especially during high tide and the dry season when rain is elusive.

However, even though this has been their situation since the 1950s, Nuñez still pursued rice farming starting in 2018 because he witnessed the interventions and solutions being offered to help their community, conceiving hope.

Starting in 2022, PhilRice Bicol expanded its "Scaling Integrated Crop Management" project for saline sites through the establishment of community-based demonstration fields.



CALAMITIES, CHALLENGES CAN'T STOP RICE FARMING

 JOSHUA P. MENDOZA

Through this, Nuñez and Aguila learned that planting salt-tolerant rice varieties could help them alleviate the negative effects of saline intrusion on their crops. They also learned to use the drum seeder and followed the 40kg/ha seeding rate recommendation.

"I learned not to spray pesticides immediately because some insects are not pests; rather, they are friendly organisms beneficial to our crops," Aguila recited.

In addition, the training equipped them through a series of lectures,

demonstrations, and practicum activities based on the *PalayCheck*—a dynamic integrated rice crop management system that presents the key technology and management practices as Key Checks; compares farmer methods with best practices; and learns from farmers' discussion groups to sustain improvement in productivity, profitability, and environment safety.

ICT-based tools on rice, pests and diseases, and salt management for rice production were also promoted through knowledge-sharing-learning activities.



JOSHUA P. MENDOZA

Hard work paid off as Nuñez eventually reaped the fruits of his training. He evaded Kristine by planting earlier, thus harvesting 5.4t/ha of *palay* instead of only 3t/ha.

Hybrid rice offers solutions for low-yielding areas

Meanwhile, to help achieve rice security, hybrid rice seed production and cultivation is being expanded to help low-yielding communities like Abra, whose yields fall below the national average.

The province sufficed achieved yields of only 3.62–3.87t/ha in 2019–2021.

The expansion project of PhilRice Isabela involves season-long training, testing public hybrid rice seeds in the field, creating a 5-year rice plan led by the local government, certifying farmers as hybrid rice seed growers, and helping them plant, grow, and sell their produce.

Rolando A. Galinato, 50, a farmer-trainee from La Paz, attested how this initiative abundantly increased his yield. Upon planting Mestiso 20 hybrid rice on his half-hectare farm, he harvested 5t/ha — more than 100% superior to the 2.2t/ha

of inbred rice from the same land area. Afterwards, he planted hybrid rice on 2.5ha and harvested 12t/ha.

“I became motivated to farm. I used to feel discouraged. I would borrow money, but when it was time to harvest, it still wasn’t enough. The cost of labor was borrowed, and I had no capital at all.”

Galinato confirmed that it was his first time attending a training course on rice farming. While other farmers in his area were unable to complete the training, he eagerly finished it. After a few seasons, he employed all the best practices and managed to earn enough to buy a tractor and a combine harvester.

“Before, we were already happy with the so-so harvest, but because of the training, we became even happier and were able to reduce our expenses. I was even able to buy a mechanical transplanter,” he rightfully boasted.

Project results showed that, the hybrid rice technology scaling in Abra unleashed a 107% increase in yield from 2022 to 2024. Moreover, 136% of La Paz rice farmers shifted from planting inbred to hybrid rice varieties.

Multiplying success

Aguila and Galinato have both shown determination to improve their rice-farming practices by attending training sessions. Even though it is time-consuming and requires a lot of patience and dedication, they completed the training and both achieved satisfying results.

Knowing how hard it is to be a rice farmer, they find joy in sharing their knowledge with others who haven’t had the chance to attend similar training programs, without expecting anything in return.

Typhoons like Kristine could destroy rice crops repeatedly not just in Canaman, but in many other areas. But the knowledge that is acquired through adult education will continue to flow, multiplying fine results and reaching more farmers, hopefully leading to bountiful rice-farming communities.

Weeks after the typhoon Kristine, land preparation has begun, and the battle for a rice-self-sufficient nation continues. 🌱

LESSONS AND VISIONS FROM AN AGRIBUSINESS FAMILY

🍌 MARY GRACE M. NIDOY



ROCEL DYAN C. SILVA

Rooted in resilience, the Balane family stretches its farm's bounty into opportunities, proving that true success is cultivated together. Through shared vision and hard work, they build a thriving agribusiness that uplifts their family and community alike.

Sarry G. Balane holds a pile of papers and puts it on a bench in their hut. Each piece shows how long it has been since her husband Richard received them. Some are already torn, creased, and embrittled, and others have started to fade or decay. The ones inside the folders or cardboard remain smooth and crisp.

"It was the first thing we secured when typhoon Kristine hit us," Sarry revealed as she pointed to other papers hanging on the walls and windowsills of their humble abode.

Most of these documents are certificates of recognition the couple has amassed over the years. The oldest is in 2009—brown, preserved, and laminated.

Agribiz journey

In 2016, Richard received another one for their collection, a certificate for being one of the speakers at PhilRice's National Rice R&D Conference. Facing some of the country's best agricultural scientists and researchers, the 48-year-old farmer narrated how he practiced the *Palayamanan* System in his 4ha farm in Macalelon, Quezon, which became the model for integrated farming in his home province.

How exactly does a family earn from integrated farming?

Richard was part of the "Upland Rice Development Program" of PhilRice, which introduced the community to the *Palayamanan*, an integrated rice-based farming system.

Like many farmers in Quezon, Richard and his family relied on coconut farming. The province is the top producer of coconut in the country, accounting for 10% of the total supply nationwide, according to highly credible sources.

His family used to earn merely P8,000 a month from coconut and upland rice. Over the years, various development workers based at PhilRice Los Baños would traverse their family's slopy farm to engage farmers and integrate *Palayamanan* based on their needs.

The family then started planting other high-value crops such as mungbean, banana, and other fruit-bearing trees, expanding the components of their

"We intend to continue sharing what we learned so all of us could improve our way of life together."

- SARRY AND RICHARD BALANE

farm. Rice comprises a hectare of their farm while 3ha are for other crops.

March until April is when they prepare the land while May or June is for planting traditional rice varieties such as *pinalawan*, *inipot-ibon*, and *pinilik* for family consumption.

Richard recounted his lessons, "We put 5-7 seeds per hole at an average distance of 30cm apart."

August is for sweet potatoes and mungbeans, where rice straw is used as natural fertilizer.

Farming runs in the Balane DNA. Their second son, Rommel, is a graduate of Agricultural Crops Production National Certification II from the Technical Education and Skills Development Authority. During the pandemic, Rommel planted ginger, which gave him a total income of P60,000. The 27-year-old farmer used his earnings as additional money to build a house for his own family.

The business manager

Sarry's hands are clasped while slithery African Nightcrawlers creep and wiggle through the nook and cranny of her fingers.

"We sell our vermicast at P600/kg," Sarry said, as she placed the earthworms back to the soil.

The family also ventured into small-scale buy-and-sell. In November, the 47-year-old business manager of the family bought and sold more than 300kg of traditional rice varieties from three farmers in their community and earned a total of P15,000.

A few kilometers from their main farm stands a *sari-sari* store that Sarry

manages along the national highway. The tiny hut houses their latest harvest from the farm and other products they bought from their fellow farmers.

From farming to marketing, the family now earns a monthly income of more than P24,000.

Visions

The four-hour ride from Los Baños to Macalelon is no longer unfamiliar to PhilRice's Imelda DG. Olvida. After all, it is the same route that she used to take for many years when her team of development workers partnered with Richard.

On board a van, new staff of *Palayamanan* and partners from DA-CALABARZON embark on a trip to visit the farm. The travel seems like a blast from the past for Olvida, except that the story is still relevant in the present.

"I wanted to take them here to be inspired by the Balane story," Olvida said.

According to her, what sets Richard apart from other farmers is his vision.

"While the project has ended, he still has many plans not only for his family but also for his community," she said.

Since the inception of Olongtao-Ilaya Upland Farmers Association, Richard has served as its President. Recently, their association acquired six cows requested from their DA Regional Office.


"We intend to continue sharing what we learned so all of us could improve our way of life together," the couple shared.

By the time super typhoon Pepito smashed their province, they had secured the "documentary evidence" in a durabox.

For Richard, the certificates are more than just symbolic documents for training completed or recognitions bestowed. The papers symbolize their achievements and progress.

"It is like our treasure that we need to protect. These papers remind us of the things we worked hard and became known for," the couple explained.

Unlike the pages that fade, their lessons and visions do not. 🌿



Saranay P. Gaboy has turned challenges into milestones with hybrid rice farming, nearly doubling her harvest and inspiring her community to embrace innovation and collaboration for a brighter agriculture future.



FEATURE

CLUSTERED FARMING UNLOCKS CHANGE

✦ GERALD PAUL G. AQUINO



CHRISTIAN PAUL A. DE LEON

Rice, more than a staple food, is the lifeline of individual smallholder farmers. A sole resource that perhaps can only determine and continue their living as they synchronize with the fast-paced innovations of the world, especially in agriculture.

Technological innovations and advancements in rice farming have rapidly evolved, gradually outgrowing conventional farming practices. Saranay P. Gaboy, Eva A. Carpio, and Gerald P. Naballin, change catalysts from Isabela, believe that complacency can stunt growth and progress in rice farming.

Shifting to hybrid seeds

"We started from scratch as individual smallholder rice farmers. Every farm activity incurs costs. From seed to produced rice, we barely earn enough to support our families, often resulting in minimal income," Gaboy started her story.

After years of contenting themselves with an average yield of 5-6t/ha using inbred seed, Gaboy and Carpio, pioneer members of the Marasat-Dagupan (MarDag) Business Innovations System (BIS) Agriculture Cooperative, now enjoy up to 8-9t/ha harvest per cropping season. This overwhelming change began with their shift to private hybrid cultivation in the company of a clustered agriculture group in San Mateo.

Similarly, Naballin, president of Casala Livelihood Farmers and Irrigators Association (CLFIA) in San Mariano, one of the branch development initiatives

of PhilRice Isabela, took the opportunity to try hybrid varieties. He experienced using inbred seeds vulnerable to weather, resulting in low yield and small returns.

CLFIA now has 191 members cultivating 178ha of both public and private hybrid varieties averaging nearly 7t/ha in both dry and wet seasons.

Transforming yields and futures

Faced with challenges of using inferior inbred seeds, struggling with volatile input costs, and being vulnerable to adverse conditions, farmers like Gaboy, Carpio, and Naballin admitted they couldn't withstand these threats alone. Their lack of bargaining power

"In clustering and consolidation, farmers are the real winners. Everything is made accessible and affordable. We have given free seeds, members can avail of 2-3% lower cost from our machinery, and can potentially be rewarded with a competitive price advantage over our produce."

- EVA A. CARPIO, Coop treasurer

also prevented them from effectively engaging in the rice value chain, leading them to join and lead hybrid rice farming clusters in their communities.

"I used to harvest 1.5t of rice from 4,000m² using inbred, but when hybrid was introduced to us, I reached 3t with public hybrid varieties Mestizo 1 and Mestizo 20," Naballin shared. "I even expanded my production site with other hybrid varieties because I was able to save money from my produce," he gratefully said.

Gaboy disclosed that she never hesitated to try hybrid seeds, especially since the Department of Agriculture provided all the necessary resources. Her positive experience led to an impressive harvest of roughly 5t from her half-hectare. Seeing her success, her fellow farmers were inspired and transitioned to hybrid farming as well.

"In clustering and consolidation, farmers are the real winners. Everything is made accessible and affordable. We received free seeds of choice and can avail of 2-3% lower cost from our machinery rental. More rewardingly, the high yield that hybrid guarantees commands a P0.50/kg price advantage through market and partnership linkage," Carpio expressed.

Starting with 96 farmers in 2017, the MarDag Coop grew to 105 members cultivating 120ha of hybrid rice, averaging 8t/ha per cropping season. This growth followed more engagement with various agriculture initiatives such as farm and fishery clustering and consolidation in 2020 and agrarian reform beneficiary organization just recently.

However, despite their success, the Coop faced challenges in selecting the appropriate services from numerous initiatives available.

"I was astounded by the group's impressive production evolution, however, they need to increase their resources, member engagement, and sustain partnerships to achieve their larger vision," Jaylord Y. Bagasin, DA Region 2 focal person said.

"Though our cluster faced trials, hybrid cluster farming markedly boosted our productivity and facilitated access to affordable mechanization. It enabled negotiations with *palay* traders and buyers, and strengthened partnerships," Gaboy reiterated.

Through these first-hand experiences, the clusters have witnessed how hybrid rice gradually transformed their yields, significantly improving their income while reducing production costs. Gaboy, Carpio, and Naballin are hopeful that these innovations continue to thrive to benefit more farmers across other regions. 🌱

SMARTER TOGETHER

FRANCIS ROI G. FERNANDO

It has been said in many ways that two heads are better than one. But in San Ildefonso, Bulacan, the synergy among farmers, PhilRice, and the local government unit (LGU) proves that three heads are superior to only two. This triad of benevolent partnership is paving the way for SMART farming.

Heminio M. Cruz, 57, felt a surge of hope when a drone flew overhead, sowing *palay* seeds on his half-hectare farm. This leap toward smart farming was made possible through collaboration between PhilRice and the Bulacan local government.

Cruz is one of the farmer-cooperators who received the Package of Technologies (POTs) under the scaling and refinement stage of the “Scalable, Modern, and Adaptive Rice-Integrated Crop Management (SMART-ICM) Technologies” initiative spearheaded by PhilRice.

For the 2024 wet season, new machines were introduced to speed up direct seeding work and lower costs. The drone seeder service is provided free of charge through a partnership among Gov. Daniel R. Fernando’s office, the provincial agriculture office headed by Ma. Gloria SF. Carrillo, and the San Ildefonso LGU.

Manual broadcast seeding by several persons typically takes a full day to

cover a hectare, while a drone seeder can accomplish the same task in about 15 minutes—significantly reducing labor time. Thanks to the precision of the flying machine, farmers like Cruz no longer need to hire laborers for seed broadcasting, and seed costs are diminished.

Reducing production costs has reinvigorated Cruz’s commitment to SMART-ICM, positioning his farm as a model in San Ildefonso. Previously, Cruz would spend up to P90,000 to cultivate his 1 ha land. After adopting SMART-ICM practices, his expenses contracted to P48,000 — an impressive 47% reduction.

After adopting the POTs, Cruz only used 20kg of seeds for half a hectare, much lower than his old practice. His use of fertilizers also contributed to less input costs, applying just one bag of complete fertilizer compared with the previous two to three bags, thanks to the Minus-One-Element Technique (MOET) included in the package.

His adoption of the POTs underscores the importance of testing new technologies at the grassroots level. This cooperative approach allows institutions to gain valuable insights into how these innovations perform on a larger scale.

Without the willingness of farmers like Cruz to embrace these advancements,

scaling up technology could overlook critical, real-world challenges.

Similarly, the partnership between PhilRice and Bulacan LGU for SMART-ICM project exemplifies the power of collaboration, ensuring that the technologies offered to farmers are effective and tailored to their needs.

“We really aim to improve the lives of farmers. We insist that none of them should be left behind, and this is why we are thrilled to partner with PhilRice on the SMART-ICM project,” Victorio C. Joson Jr., San Ildefonso municipal agriculturist said.

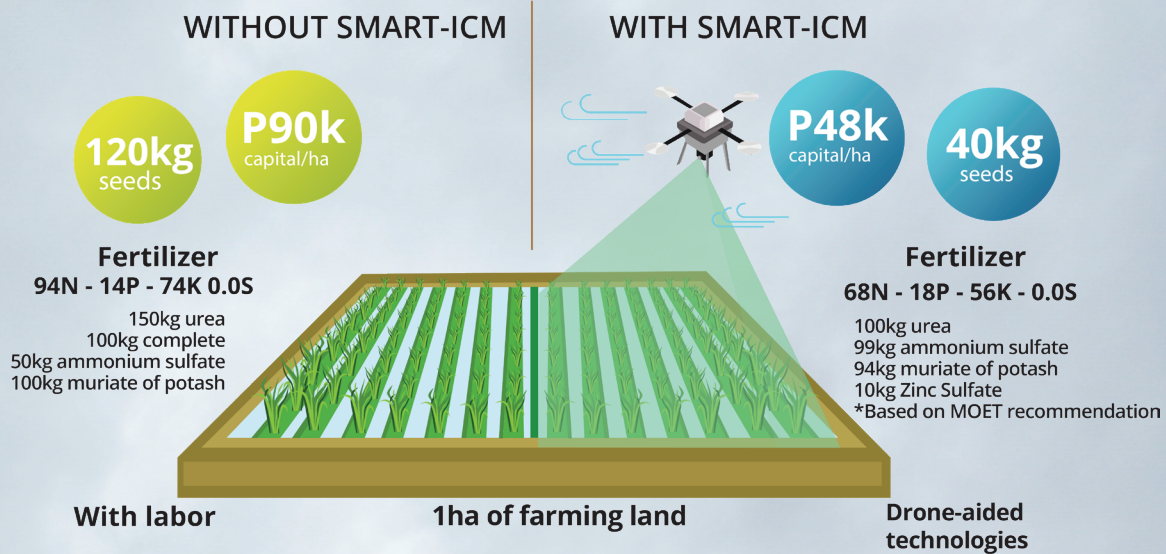
“We need to offer farmers new technologies to impress then persuade them. Our goal is for Bulacan to be a catalyst for agricultural advancements, with hopes of expanding to the region,” Carrillo added.

Cruz echoed this optimism, emphasizing that technological adaptation of farmers is essential.

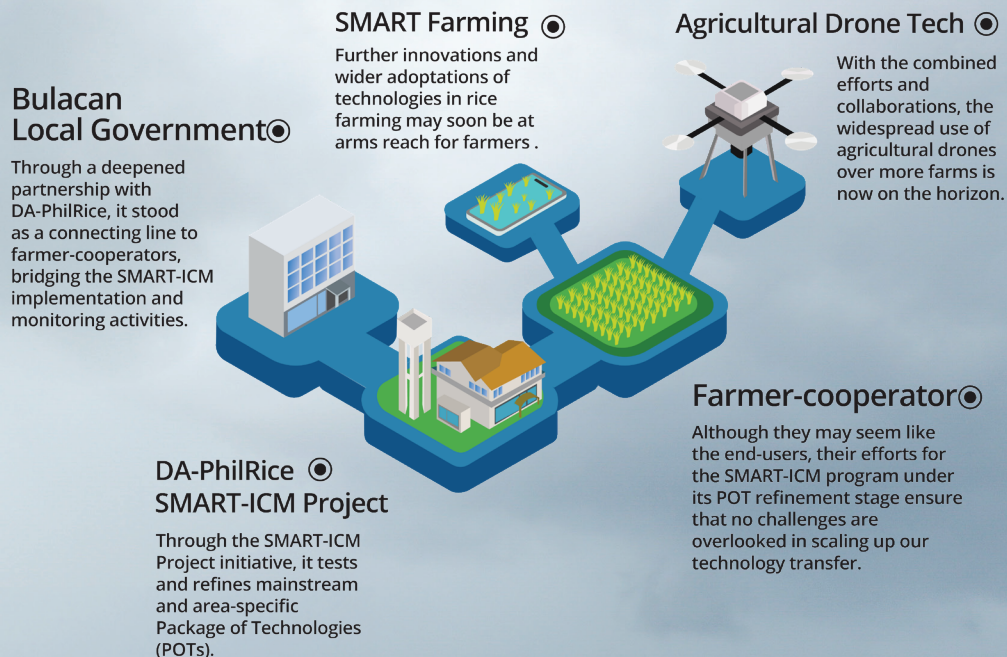
“Farmers continuously need to improve, or they get left behind. We should not complacently stick to traditional methods. We do trials to see if the results are favorable, and farmers reap even greater benefits,” he declared.



CENTRAL EXPERIMENT STATION Area of Responsibility-based POT



SMART-ICM Partnership Paradigm



HALF CUP

RICE INITIATIVE

Did you know?
6g (1tbsp) of uncooked rice
wasted daily per person
could feed 2.79M Filipinos.

With half-cup as a default
serving or as an option can
help reduce rice wastage.



Who will Benefit?

- 1 **Low-income families** who want to stretch their budget
- 2 **Health-conscious individuals** who want controlled portions for better overall wellness
- 3 **Diet-conscious individuals** who wish to manage calorie intake
- 4 **Small eaters** who prefer smaller meals
- 5 **Environmental advocates** who wish to reduce food wastage
- 6 **Budget-friendly consumers** who seek more affordable portions
- 7 **Restaurants and food services** who want to attract customers needing smaller serving portions



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