



# 2018

## NATIONAL RICE R&D HIGHLIGHTS

## RICE BUSINESS INNOVATIONS SYSTEMS COMMUNITY PROGRAM



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# RICE BUSINESS INNOVATIONS SYSTEM (RICEBIS) COMMUNITY

*Program leader: Aurora M. Corales*

## EXECUTIVE SUMMARY

The Rice Business Innovations System (RiceBIS) Community Program aimed to develop rice and rice-based enterprises in key provinces to address farmers' recurring problem on low productivity and income. The program contributes to the following strategic outcomes: increased productivity, cost effectiveness, and profitability of rice farming in a sustainable manner (strategic outcome 1); improved rice trade through efficient post production, better product quality, and reliable supply and distribution system (strategic outcome 2); enhanced value, availability, and utilization of rice, diversified rice-based farming products, and by-products for better quality, safety, health, nutrition, and income (strategic outcome 3); and enhanced partnership and knowledge management for rice R&D (strategic outcome 6).

The program focused on optimizing production, processing, and marketing to ensure available and affordable rice, cultivated in a resilient and sustainable manner. While strengthening production system, the program also implements a market-driven approach to meet current demand. Unlike the conventional technology transfer approaches that are production-driven, the program draws more on the agribusiness framework. Thus, RiceBIS Community program involves strong strategic collaborations with like-minded organizations to carry out its objectives.

PhilRice initiates agro-enterprise development through the clustering approach and capitalizes on partnership with site working groups (SWG) composed of agencies, which include among others, Department of Agrarian Reform (DAR), Department of Trade and Industry (DTI), Cooperative Development Authority (CDA), Philippine Center for Postharvest Development and Mechanization (PhilMech), local government units (LGU), DA-RFOs, Agricultural Training Institute (ATI), and state universities and colleges (SUCs) with signed MOAs to provide support in agro-enterprise development.

The program has five main projects or components implemented from January to December 2018: 1) Strategic Communication; 2) Capacity Building; 3) Community Engagement; 4) Rural Agro-Enterprise Development; 5) Monitoring and Evaluation; and 6) IT-Based Solutions.

Organized farming through clustering served as key factor in enhancing farmers' access to knowledge, skills, high-yielding technologies, agro-enterprise development, and organizational building. For 2018, eight RiceBIS communities nationwide were grouped into 39 clusters



covering 545 farmers with 394ha (2018 DS) and 633ha (2018 WS) of production farms for organized production and group marketing. A series of mind-setting activities were conducted using group dynamics, Palaytalinuhan (game), and study tour.

Farmers were trained following the Modified Farmers Field School (FFS). Through the series of trainings, clusters were capacitated leading to acquired technical know-how, network expansion, and resource growth. Training topics included rice production and processing, organizational building and management, and agro-enterprise development. Packaged high-yielding and cost-reducing technologies were promoted in the clusters addressing their location specific problems on rice production. This resulted in an average yield of 4.93t/ha during 2018 DS and 5.03t/ha in 2018 WS, with an increase of 0.12t/ha and 0.67t/ha for 2018 DS and 2018 WS, respectively. Business plans were crafted depending on the products identified and the market chain study results. In each of the eight RiceBIS Community, one to three profitable rice and rice-based enterprises were developed with at least one established market linkage.

Through group marketing, 405,660kg of fresh *palay*; 123,500kg of dry *palay*; 15,244kg of milled rice; 1,265kg of pigmented rice; and 3,000kg of glutinous rice were consolidated and marketed. It also led to the collective marketing of 30kg of mushroom and 24,370kg of seeds. Net farm income improved by about P10,000/ha per cropping season from P22,532 in 2017 DS to P32,516 in 2018 DS. The cost of producing a kilo of dried paddy (P12.66/kg) suggested that the communities are still far from achieving the program's P7-8/kg target. Initial gathering of postharvest losses in 2018 WS showed an average of 6.53% from harvesting to threshing in manual harvesting and 3.53% losses using a combine harvester.

The program results confirmed that when farmers are grouped and trained together, collective marketing is possible and it can significantly add value to the increase in rice produce and farmers' income; thereby, improving the well-being of the rice farming communities.





*Collateral effectiveness survey and behavioral analysis*

#### PROJECT 1:

## STRATEGIC AND TRANSFORMATIVE COMMUNICATION

*RG Zagado, PIH Duran, and EE Reyes*

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This project aimed to (1) design, produce, distribute, and evaluate information, education, and communication (IEC) materials, (2) design, execute, and evaluate knowledge sharing and learning (KSL) activities, and (3) rally support from various sectors in the community. It was conducted from January 2018 – December 2018 in Region III with the following procedures: (1) behavioural analysis and other studies for needs assessment and gathering feedback, (2) campaign collateral, IEC, and messages design/creation, and (3) collateral, IEC, and message dissemination through strategic media. Results are as follows: (1) six studies divided into needs assessments, feedback/evaluation studies, and behavioural study (reflect), (2) campaign collaterals, IECs, and messages designed/crafted to discuss three themes/core messages, and (3) dissemination of these collaterals, IECs, and messages through strategic channels/media. This project contributes to MFO 1 (extension, support, education and communication services) under outcome 6 (enhanced partnerships and knowledge management for rice research for development).

Studies Reflect (audience analysis and communication evaluation), Produce (campaign collaterals production), and Share (knowledge sharing and learning) are three studies under RBS-002-000. For Produce, six studies on audience analysis and communication evaluation were conducted. Key results of the participants' (new RiceBIS Nueva Ecija site, n=17) information and educational materials needs assessment included TV and radio (AM and FM) as top media available and preferred. In terms of information needs, seed selection, nutrient management, and pest management were the top three information in demand. Filipino language was also preferred over English.

Effects of the mind-setting activities in the previous/first RiceBIS Nueva Ecija site were partially evaluated (baseline n=54, post-evaluation n =46). Results showed significant increase of perception scores on sufficiency of drying facilities in their area and training on new technologies. Meanwhile, there was a significant decrease in perceptions on organization management-related opinions and having strong relationship with co-farmers. Initial results of the modified doer/non-doer analysis (new RiceBIS Nueva Ecija site) reflected that there is a need to improve farmers' perception on their self-efficacy in practicing farming as a lucrative business, social norms and perceived positive effects related to group marketing, and perception on value-adding.

For Produce, 11 messages on farming as a lucrative business, 18 messages on organized community/enterprise, 34 messages on life chances and technologies, and 18 IEC materials/campaign collaterals were developed using a series of production processes. For Share, 12 KSL activities were conducted, 124 PhilRice Text Center messages sent, two radio programs aired, and two magazine articles published.





Agroecosystem Analysis (AES) in Ugat-Uhay Farmers' Association

## PROJECT 2:

# BUILDING CAPACITIES FOR AGROENTERPRISE DEVELOPMENT

*RA Pineda, CS Reyes, RB Miguel, and AM Corales*

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This project aimed to increase access to food and improve the quality of life for rural households by promoting farm enterprise diversification and commercialization, and capacitating the farming communities toward agro-enterprise development.

Studies were implemented to help farming communities through the promotion of cost-efficient and climate-smart farm technologies and enhance the capacity of the farmers and their organization toward agro-enterprise development (RBS 003-001: Building Skills). Furthermore, a key strategy of building partnerships among local institutions to harmonize development interventions was also forged (RBS 003-003: Building Relationships).

Twenty-five farmers in Mayamot were trained on rice production and organization building and management. Modified FFS were employed, in which farmers and facilitators met twice a month to discuss the rice technologies that may increase their yield and lower production cost. The decision-making abilities of the farmers were also enhanced through AESA, mentoring,



and coaching. Gained-in-knowledge of 45% was obtained after one season. Mushroom production, capillarigation, and kwebo were also presented to the farmers.

In Macarse, 20 of the 64 trained in rice production and organization building and management underwent Farming as a Business training as part of the agro-enterprise development module, registering 38% gained-in-knowledge after the training. Eighty-farmers attended the field day and forum, which showcased the performance of different varieties. Farming as a Business training was scheduled for the dry season.

The project's "Building Relationship" component engaged the community and organized production clusters. It also established partnership with nine institutions such as DA-RFO III, DAR, ATI, Zaragoza Municipal LGU, PhilMech, CDA, Central Luzon State University, and DTI. Two farmer-organizations were also organized: Pinagbuklod na Adhika Agriculture Cooperative (PNAAC) and Ugat-Uhay Farmers' Cooperative.

Four quarterly meetings with different host institutions were conducted to discuss updates, development, and needs in the area. In this manner, all SWGs developed their high sense of ownership with the program and the needs of the farming communities.

The partners and their accomplishments in the community are indicated in Fig. 1. The group also formed a partnership framework together, which served as the group's guiding principles in achieving its vision, "Mapaunlad ang Buhay ng Magsasaka sa Zaragoza."



Figure 1. Partnerships framework developed by all RiceBIS SWG members with their targeted vision, "Mapaunlad ang Buhay ng Magsasaka sa Zaragosa", clearly written in the middle

Partnering with SWG ensures that commitments to the RiceBIS Community Program and the farmers are met paving the way for the communities' easier access to markets, and range of services and provisions such as better access to production inputs, information, technologies, credit, training, and post-harvest facilities, and facilitated farmers' participation in decision-making at all levels.





### PROJECT 3:

## ENGAGING FARMERS' ORGANIZATIONS FOR SUSTAINABLE AND PROGRESSIVE RICE-BASED COMMUNITY

*JV Pascual, DM Patonona, and JP Gualingco*

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The project aimed to enhance the farmers' social capital through community engagement and strengthening of rice-based farmers' organizations to increase the income of farming households toward sustainable and progressive farming community.

In partnership with PNAAC and Ugat-Uhay Farmers' Association, the project established the RiceBIS Community in Zaragoza, Nueva Ecija. Eight production clusters with 97 participating farmers covering 205ha rice farms were organized for collective production and marketing and extensive promotion of high-yielding production technologies. Cluster leadership were formed in each group with cluster leader, production coordinator, postharvest coordinator, and techno demo cooperator as lead. Regular monthly meetings were conducted in each cluster to monitor and supervise activities.



In 2018 DS, RiceBIS-Macarse production clusters obtained an average yield of 6.29t/ha; achieving an average yield increase of 1.06t/ha from 2017 DS's 5.23t/ha. Thirty-seven of the 57 cluster-members had increased yield of 0.10-4.01t/ha. Cluster 3 with 12 farmer-members achieved the highest average yield increase of 1.73t/ha. The four RiceBIS production clusters consolidated 3,460 bags of fresh *palay*.

Mechanized rice production was also promoted by showcasing crop establishment using mechanical transplanter and plastic drumseeder. Demonstration trials showed that seedlings raised using plastic trays yielded higher (7.90t/ha) than when modified dapog was used (7.05t/ha).

In 2018 WS, Ugat Uhay Farmers Association in Mayamot, Zaragosa was established formed three production clusters composed of 29 farmers covering 75ha. Two clusters (Pamitik & Pilapil) were formed for organized rice production and group marketing while Cluster 3 (Kabute) intended to engage in mushroom production. Modified FFS was conducted in the barangay with 30 participating farmers. The topics were focused on the *PalayCheck* System, mushroom production and processing, and strengthening organization.

Techno demo trials were also established to promote newly- released inbred and hybrid rice varieties and farm mechanization. NSIC Rc 160 yielded the highest at 8.04t/ha followed by Mestiso 20, 6.53t/ha. Meanwhile, seedlings from plastic trays yielded 6.8t/ha while seedlings raised through modified dapog produced 5.70t/ha. Farmers' Field Day and Forum was conducted twice during the year with 155 participants in 2018 DS and 85 participants in 2018 WS.

Overall, yield in 2018 WS was higher than 2016 WS by 1.10t/ha owing to adoption of cost-reducing rice production technologies: use of quality rice seeds, proper seeding rate, use of plastic drumseeder, soil analysis, and use of pesticides only when needed. High practice score of 2.41 implied that farmer had adopted most of the technologies. On the average, the technology adoption rate obtained by the cluster-members reached 86.21%.

Presently, farmer-partners has P371,620 capital from the 115 bags of certified seeds from KOICA and 120 bags of registered and certified seeds from PhilRice RiceBIS. The amount is being rolled-over by the organization for its agro-enterprise activities.





#### PROJECT 4:

## RURAL AGROENTERPRISE DEVELOPMENT

*AB Mataia and JF Ballesteros*

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The project aimed to increase the income of rice-based farming households through improved market access. Specifically, it intended to: develop gender-sensitive, profitable, and sustainable agro-enterprises focusing on the RiceBIS community's rice-based products and resources; improve access to output markets of rice-based farming households through market linkage and partnership; and develop value-added food products from rice and rice-based commodities. To achieve the objectives, the project implemented three component studies: Development of gender-sensitive, profitable, and sustainable agro-enterprises based on the RiceBIS community's rice and rice-based products and resources; Enhancement of farmers' access to markets through market linkage and partnership; and Development of value-added rice-based food products for RiceBIS community in Zaragosa, Nueva Ecija.

A market chain study on rice and other rice-based food products was carried out. A three-day training on Farm Business School (FBS) was also conducted with 23 farmer-leaders while 13 women-farmers were taught on product development. Farmer-leaders were also mentored and coached on *palay* trading enterprise. Potential value-added rice-based food products were identified through focus group discussion.

The following outputs were produced: business plan on *palay* and rice trading; profitable *palay* trading business; collective marketing of newly harvested *palay*; and marketing agreement with partners was enforced. Value added rice-based food products (rice coffee, mongo coffee, flavored salted duck eggs), and rice balls stuffed with mungbean, ham, and cheese, and shangrice stuffed with glutinous rice, mungbean, and ground pork were developed. Farmer's bargaining power in selling *palay* was enhanced.

Two major outputs were delivered, which included *palay* trading business and collective action through group *palay* production and marketing. The *palay* trading generated P82,222 net income in a month despite the lack of market facilities. Participation in collective marketing provided P2,925/ha income. Trading has created employment and made the selling price of *palay* competitive in the area.

Market chain analysis showed that there were only three major processors of salted duck egg in the area with an average investment of P13,000.00 and average operating capital of P24,109.50. Rice ball (or suman) stuffed with local vegetable crop (particularly munggo), rice-beverage similar to coffee but with added local crop ingredient, and rice spring roll wrapper stuffed with monggo and other vegetables were identified as product concepts. They were then developed into value-added products and introduced to the women-member of RiceBIS Macarse through hands-on training. Women-members, who are less than 40 years old, preferred to further develop and market rice-munggo coffee, particularly the rice coffee, as they have sentimental attachment to rice coffee.



*Data collection in the farmer-members of  
Pinagbuklod na Adhika Agricultural Cooperative*

#### PROJECT 5:

## MONITORING AND IMPACT EVALUATION OF RICEBIS COMMUNITIES

*AC Litonjua*

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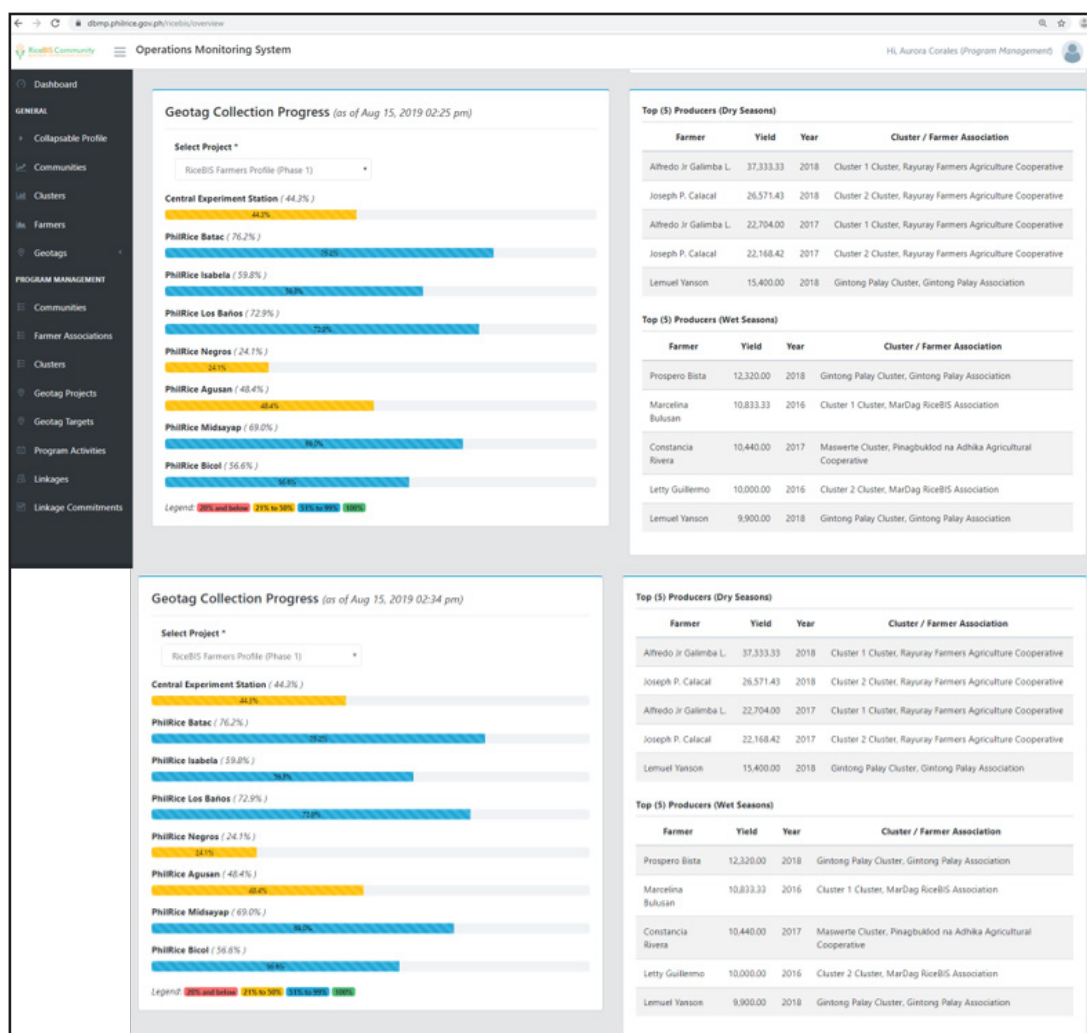
The project aimed to establish a monitoring and evaluation system to support the RiceBIS communities in carrying out rice-based enterprises. Specifically, it intended to: 1) profile the participating farmers' yield, income, production and marketing practices, and government support services received before the implementation of the RiceBIS program; 2) seasonally monitor the yield, income, technology adoption, and postharvest losses of farmer-participants; and 3) determine the impact of the RiceBIS program on farmers' productivity, profitability, technology adoption, production and marketing practices, postharvest losses, and women's welfare.

In 2018, the project monitored the 2017 WS and 2018 DS implementation. The program helped farmers achieve more yield in from 4t/ha to 5.3t/ha in wet season (WS) and from 5.62t/ha to 6.36t/ha in DS. The increase can be mainly attributed to the use of high-quality seeds and better fertilizer application.



The more harvest reduced unit cost by P2.10/kg in WS and P1.25/kg in DS. However, total production cost in the WS increased, which was contributed mainly by hired labor cost. As yield increased, labor cost also increased and paid mostly through harvest-sharing scheme. Total production cost was maintained in the DS despite drop in labor with the adoption of direct seeding, drumseeder, and transplanter. Shifting from hybrid to certified seeds also reduces maintenance and crop care cost in the DS. Thus, yield produced is the same despite reduced labor. However, unit cost (dry equivalent) reduced from approximately P12/kg to P10/kg in WS and P12.02/kg to P10.78/kg in DS mainly due to more harvest. With the same cost in WS and DS, the per-kilogram cost of the paddy declined significantly. For the DS, the P2.30/kg difference between baseline and end-season price was due to high prevailing market price in that year.

Despite linking farmers to millers, farmers received the same price of fresh *palay* before and after the first season of implementing the program owing to pick-up delays, which affected the quality of *palay*. To get good results from the program, members and officers must cooperate marketing their produce. Drying facilities and warehouse for the cooperative can also be provided to maintain good *palay* quality.



*Dashboard of the RiceBIS Operations Monitoring System*

## PROJECT 6:

# IT-BASED RICEBIS

*JL de Dios, AC Arocena, LI Camus*

This project aimed to help gather, process, share, and use quality and timely information during development and in scaling out the program. It also aimed to provide a highly-efficient method of handling multiple types of data.

A website was developed to promote the RiceBIS program accomplishments, services, and activities. Agro-enterprise farmers can post their products and other information in GIS-based format, which is already deployed in the development server of Database Management Portal. The RiceBIS Operation Monitoring System was also developed to gather geotagged data from the collection tool for the intended users. Through Geotagging Tool, data from farmer-members were collected and received in the web server. The exact location and view of the farm area was also obtained. Data collected were then processed in the data analytics for decision-making and report preparation.



Entrepreneurial and Business Competency Workshop

## PROJECT 7:

# ILOCOS NORTE RICEBIS COMMUNITY

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Established in 2017 at Brgy. Rayuray, Batac City, 45 farmers initially from three associations formed the Rayuray Farmers Agriculture Cooperative.

As communication strategies, *Palaytambayan* was established as source of KPs for the farmers. A demonstration farm of recommended technologies and best practices of the community was set up. Result showed that NSIC Rc160 and PSB Rc 82 showcased in the PhilRice Technology Field have higher yield than in the farmer's field owing to recommended fertilizer and pest management practices. Simple experiments were also conducted to introduce recommended postharvest technologies during harvesting, drying, and milling and compare with farmer's practice; and assess postharvest losses. Successful farmers' cooperatives in Piddig and Bacarra, Ilocos Norte were visited by RiceBIS farmers from Batac City and Brgy. Talugtog in Solsona, proposed expansion site.

Farmers were trained on rice production technologies, organizational building and management, and agro-enterprise development, which were tied-up with Mariano Marcos State University, ATI, CDA, DA, and Department of Science and Technology.

Agro-enterprise or business plan was developed venturing into brown rice, milled rice, pickled onion, and *palay* trading. Feasibility of brown rice and pickled were tested during trade fairs, festivals, and symposium. Monitoring and evaluation showed a net income of P83,340 in 2018 and P230,896.61 on the first half of 2019 from brown rice and pickled onion.





*Skills training with DTI; (Inset) MOA Signing with LGU San Mateo*

## PROJECT 8:

# ISABELA RICEBIS COMMUNITY

The RiceBIS Community project was piloted in San Mateo, Isabela, an agro-ecological destination in Cagayan Valley and the Munggo Capital of the Philippines. RiceBIS started its implementation in 2017 WS in Dagupan and Marasat Grande involving 88 individual smallholder farmers, of which 55 immediately became cluster members. Their harvest averages 5.98t/ha in 2016 WS and 6.37t/ha in 2017 DS.

Farmers were organized into eight production clusters and officially registered as MarDag RiceBIS Association in the Department of Labor and Employment. One-hundred two (102) farmers learned about modern rice production and processing, of which 88 graduated from the three introductory courses including organizational building and management and enterprise development. Two clusters are implementing their agro-enterprise plan on milled rice marketing and salted egg production and marketing.

Localized briefers (powerpoint and leaflet) and KPs were distributed to cluster members. There were 4 media coverages, 1 radio interview aired in 2 radio stations, and 4 Facebook posts featuring the RiceBIS Isabela Community. Twelve (12) knowledge sharing and learning activities (KSL) were also documented.

For capacity building, the training team had difficulties gathering participants in one training venue. To sustain interest, prizes such as shirts, hats, and ecobags were given to regular attendees and those who record their farm expenditures. Top yielders were also recognized at the end of cropping season to further motivate them in developing and sustaining agro-enterprises. Training modules were made simpler to suit the needs of the farm clusters.

Entrepreneurial competencies of MarDag RiceBIS Association members were also determined. Results showed that they have great potential as entrepreneurs having high scores in terms of their goal setting and information-seeking behaviours. However, their risk-taking and opportunity-seeking behaviors need to be improved.

In terms of *palay* trading, 64% of the RiceBIS members immediately sell their produce to local traders; 21%, middle men; 9%, rice mills; 5%, trucking; and 1%, cooperative. Farmers chose to engage in the group marketing of milled rice and salted egg. They were guided in the preparation of agro-enterprise plans relative to their chosen enterprise. Starter kits were also given to ensure immediate implementation.





*Training on rice production, processing, and agro-enterprise foster active discussion and group participation*

## PROJECT 9:

# QUEZON RICEBIS COMMUNITY

The RiceBIS project of PhilRice Los Baños was pilot-tested in Sariaya, Quezon. The project accomplished the following: produced two localized strategic IEC materials and a localized training manual; conducted one campaign using various media tools; trained 56 farmers on rice production through FFS; continued training for 25 farmers on modified *PalayCheck* System; trained 75% of the farmers on rice production and agro-enterprise development through farmers business school (FBS); established a 50-ha techno demo within the community; conducted Lakbay Palay with 130 participants; maintained RiceBIS community with four clusters and an expansion site with one cluster; and submitted two seasonal baseline and two seasonal monitoring data reports.

The localized communication campaign in Sariaya, Quezon was implemented thru: (1) *PalayTxtmate*, (2) *PalayKaalaman*, (3) *PalayTalakay*, (4) *PalayTalinuhan*, and (5) *PasyalAralan*. Discussions were then initiated after every mind setting activity. The activities were classified as KSL activities that were intended to be reinforced while the project is being implemented.

Video featuring early adopters and rice champions were produced to increase motivation among the farmers. Two strategic IEC materials were also developed based on the information needs assessment.



*PalayTambayan* was recommended for relocation and relaunching by 2019. *PalayTambayan* should also be opened at the expansion site. Feedback mechanisms, surveys, and other scaling-up methods were proposed to evaluate the communication initiatives' effectiveness.

Farmers' competitiveness is increased through enhanced technical capacity. Eighty-one (81) farmers were trained on *PalayCheck* System following FFS approach. Thirty-seven (37) of the 56 FFS graduates are being trained on agro-enterprise development.

Demo area in the pilot site showcased farmers' practice, no spraying at 30-45-60 days after transplanting (DAT), border row monitoring, Integrated Pest Management, and organic fertilizer (vermicast). Meanwhile, demo area in the expansion site showcased the differences between recommended and farmers' usual seeding rate.

Results showed that technology adoption remained low despite the interventions and promotions initiated through training. Although net farm income increased, low adoption of the recommended technologies and practices did not help in improving harvest. As such, the following are recommended: (1) conduct training on values formation and organizational building to enhance farmers' attitudes towards adopting technologies; (2) regularly organize mind-setting activities; and (3) hold refresher training to help farmers recall lessons and training.

Morong-Antipolo Rice Farmers Association (MORAN RFA) and Manggalang Agrarian Reform Beneficiaries Cooperative in Brgy. Manggalang, an expansion site, formed two new clusters in WS 2018. Farmers were knowledgeable in agro-enterprise; however, they needed assistance on palay production and marketing.

The farmer-associations chose rice production and inputs trading as enterprise. A 5-year business plan was crafted with the help of the SWG for MORAN RFA composing five clusters: one cluster was assigned to manage the inputs trading of the organization; three clusters for specialty milled rice production, and one cluster on *palay* production. Dinorado, NSIC Rc 218, and NSIC Rc 160 were selected for the enterprise. The projected additional income from specialty milled rice production is P120,000/ha per year while inputs trading can earn around P70,000 per year for a 50-ha rice area.

The farmer's organization achieved an average yield of 3.76t/ha during 2018 DS and 3.79t/ha in 2018 WS, with an incremental increase of 0.12t/ha from 2017 DS to DS 2018 and 0.57t/ha from 2017 WS to 2018 WS. This generated a net income of around P13,000/ha per cropping season, from P9, 210.86 in 2017 WS to P22, 134.08 in 2018 WS.

However, the average yield as well as the cost of producing a kilo of dried paddy suggested that the community and its partners have to work more to achieve the project goals. Low yield was attributed to the non-use of high quality seeds, non-application of recommended seeding rate, and non-adoption of the right timing and rate of fertilizer and chemical use. Results also showed that mechanization remained low.

Based on the results, the following measures are recommended: (1) intensify the mind-setting activities that will encourage farmers to participate in the project; (2) conduct refresher trainings about the recommended practices in rice production; (3) find and link farmers to seed growers near the area; and (4) find and link farmers to market that could give them premium or higher prices.



*Gathering of postharvest losses in farmer's field; (Inset) RiceBIS briefing with new farmer's association*

## PROJECT 10:

# ALBAY RICEBIS COMMUNITY

To strengthen the support system in carrying out the agro-enterprise development process, PhilRice Bicol forged partnerships with DA-RFO5, CDA, National Food Authority, National Irrigation Administration, Land Bank of the Philippines, Philippine Crop Insurance Corporation, DTI, ATI, local government units, and Bicol University.

Two farmer-associations were organized: Gintong Palay Farmers Association and Batang Farmers Association composed of 41 farmers with 44.6ha farm area. On capacity enhancement, 72 farmers were trained using modified *PalayCheck* System. Emphasis was given on integrated nutrient management to ensure efficient fertilizer use as it is a major production constraint in the area. With ATI funding, a season-long training on Climate Smart Farm Business School was also conducted to 30 farmers per cluster. About 78ha was planted to NSIC Rc 240H, a public hybrid, in 2018 DS. In 2018 WS, high-quality inbred seeds such as PSB Rc 10, NSIC Rc 82, Rc 160, and Rc 200 were grown using location-specific technologies and *PalayCheck* recommendation.

Two Farmers' Field Day and Forum were conducted that were attended by 85 farmer-cooperators. The Batang and Busay clusters ventured into brown and milled rice marketing. A total volume of 2,400kg of milled rice were consolidated.

Postharvest losses in 2018 WS showed an average of 4.2% from harvesting to threshing in manual harvesting and 1.3% losses using combine harvester. PhilRice Bicol has the lowest postharvest (PH) losses on practicing combine harvesting. Gathering of PH losses was limited to harvesting until threshing as most farmers sell their produce immediately after harvest.





*Business Development Planning Workshop*

PROJECT 11:

## NEGROS OCCIDENTAL RICEBIS COMMUNITY

Two RiceBIS communities were established in Negros Occidental: Sumbingco, Brgy. Damsite, Murcia; and Brgy. XI, Victorias City. Damsite, Murcia was chosen and organized owing to the convergence of rice farming community in Sitio Sumbingco, Cabarles, and West Way. The compact 295ha rice land in Brgy. Damsite and Cansilayan in Murcia and 150ha in Brgy. XI, Victorias City produce the highest volume of rice demands. Low yield and lack of knowledge and skills in rice production and marketing have to be addressed to transform the areas as agro-enterprising communities.

RiceBIS Negros has 104 participating farmers in three groups. Members in Brgy. Damsite is registering its group as RiceBIS Negros Agrarian Reform Cooperative (RiceBISNARCo) with 34 regulars and 15 associates. Two groups were formed in Brgy. XI, Victorias City, which were registered on July 15: Tison-Aida Farmers' Association with 28 members and Sitio Timawa Organic Farmers' Association with 27 members.

Component technologies were showcased in the 62.13ha production cluster farm. FFS was conducted bi-monthly highlighting seven rice crop management areas and eight key checks. As a result, farmers started adapting science-based rice farming technologies and innovators gained 6.4t/ha. Farmers were also trained on developing business plan for brown and milled rice including supply, financial, and marketing plans. Technology guides on nutrient management, pest management, and customized rice production were developed and distributed to cluster members.

Three farmer-groups sold brown and milled rice during agri fairs. They also have product market displays in sari-sari stores.

To create awareness, 10 promotional field banners, 1 commitment wall, and 1 lobby banner were installed at PhilRice Negros. PalayTambayan was established in Murcia and Victorias City. Facebook Page featuring RiceBIS activities was created with 90 views and likes.





*Mushroom training and production*

## PROJECT 12:

# AGUSAN DEL SUR RICEBIS COMMUNITY

Five agro-enterprise clusters were developed in Esperanza, Agusan del Sur composed of 61 farmers. The agro-enterprise clusters were developed using the 8-step approach to agro-enterprise development. The SWG selected Dacutan Farmers' Cooperative, one of the most outstanding and stable cooperatives in the region.

Location-specific technology promotion platform was developed based on the communication and information needs survey. The promotion platform included *PalayCheck* farmer field school, KSL events, coaching, and technology demonstration. The capacity enhancement component increased farmers' yield to an average of 0.6t/ha.

Techno demo covering 82.6ha in 2018 DS and 80.7ha in 2018 WS were established. The irrigated techno demo had an average yield of 4.05t/ha, a half ton difference from the baseline yield. Rainfed areas had an average yield of 3.73t/ha, a stark contrast from the 3.0t/ha yield in 2017 WS.

All clustered farmers used high-quality seeds. Meanwhile, 25 of 43 clustered farmers used Minus-One Element Technique to detect nutrient soil deficiencies. Adoption of integrated nutrient and pest management practices led to an average yield increase of 62.8%. Harvest was increased to an average of 1.6t/ha across rice environments and locations.

The clusters conducted market chain study, established connection with Business Development Services providers, and contacted seven prospective buyers including major millers in the region. With this strategy, harvests were sold at the highest price.





*Farmers try the modified dapog technology as part of their basic course on inbred rice seed production and certification for new seed growers*

## PROJECT 13:

# NORTH COTABATO RICEBIS COMMUNITY

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The Midsayap RiceBIS Community covers 50ha of irrigated rice field and four clusters in Central Glad, Upper Glad, and Bual Sur where technology demonstration farms were established. Results showed that yield increased to 1.64t/ha in Central Glad; 1.17t/ha, Upper Glad; and 1.21t/ha, Bual Sur. Production cost also decreased from P12.47 to P11.95. Seeding rate on direct seeding rice decreased by 26.3%, from 133kg/ha to 98kg/ha. The clusters sold milled rice to sari-sari stores in their locality.

Sixteen of the cluster members attended five-day Basic Seed Production Training Course for potential seed growers in preparation for their seed production enterprise. Campaign materials such as banners, billboards, technology calendars, and leaflets were produced and distributed.

We are a government corporate entity (Classification E) under the Department of Agriculture. We were created through Executive Order 1061 on 5 November 1985 (as amended) to help develop high-yielding and cost-reducing technologies so farmers can produce enough rice for all Filipinos.

With a "Rice-Secure Philippines" vision, we want the Filipino rice farmers and the Philippine rice industry to be competitive through research for development in our central and seven branch stations, coordinating with a network that comprises 59 agencies strategically located nationwide.

We have the following certifications: ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety Assessment Series).

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