

2018

NATIONAL RICE R&D HIGHLIGHTS



PHILRICE BICOL

BRANCH STATION



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PHILRICE BICOL

Branch Director: Victoria C. Lapitan

EXECUTIVE SUMMARY

PhilRice-Bicol was established to develop and disseminate strategies and technologies, which will make rice farming in calamity-vulnerable regions of Bicol and Eastern Visayas more resilient to climate change. With this mandate, PhilRice Bicol crafted projects to develop and strengthen warning and forecasting systems; reduce agricultural vulnerability to climate change through farming systems; and generate technologies for adverse ecosystems to cope with climate change.

The station implemented R4D programs, such as Capacity Enhancement and Technology Information Campaign; Rice Business Innovations System (RiceBIS) Community; Rice Seed Systems (RSS); Palayamanan Plus; Vulnerability and Risk Assessment in Stress-Prone Rice Ecosystems; and Philippine Rice Information System (PRISM).

Rice production technologies such as Alternate Wetting and Drying (AWD), Minus One Element Technique (MOET), and Leaf Color Chart (LCC) were showcased to PhilRice trainees, walk-in visitors, on-the-job trainees (OJTs), farmers, and other guests through Learning Farm. Quarterly station seminars were also conducted as KSL strategy in support to station's and R4D programs. In support to National Rice Awareness Month (NRAM), feeding program and poster making contest were also conducted. One on-station and four satellite OSIS in SUCs were maintained, and two new satellite OSIS were established. Through OSIS and RicExhibits, linkage between PhilRice, other government agencies, farmers and state universities and colleges in Bicol region and in Samar/Leyte Island Provinces were strengthened.

Under the RiceBIS Program, three clusters were formed in Ligao City and Polangui, Albay with 66 farmers and total area planted of 75.7 hectares. Seventy-two farmers were trained on improved rice production using the modified PalayCheck System.

The on-station Palayamanan Plus implemented one rice and rice-based model farm composed of seven components: rice and rice seed production, vermicomposting, oyster mushroom production, duck egg production, azolla, tilapia, and vegetable production.

One survey questionnaire, 1 e-survey form (open source), and 1 e-survey sheet of survey questionnaire generated for socio-economic and crop production practices in stress-prone ecosystems were finalized and generated. Monitoring data were also collected in Region V and VII under PRISM.

PROMOTING RICE SCIENCE THROUGH CAPACITY ENHANCEMENT AND TECHNOLOGY INFORMATION CAMPAIGN

VC Lapitan

Loss of agricultural lands due to degradation, land conversion, climate change, and other factors causes risk to our food security and sufficiency, and the potential income and profit of farmers. PhilRice Bicol aimed to address these effects through developing and introducing rice farming technologies through training and education, and deployment of rice and rice-based technologies or systems.

Study 1 aimed to capacitate the knowledge and skills of the male and female intended clients on rice and rice-based production technologies leading to deeper appreciation and experiential learning opportunities that are gender responsive. It also aimed to enhance staff skills for excellent service by conducting Rice Appreciation Course to newly hired staff. Technology demonstration field was established in dry season and wet season showcasing AWD, MOET, and LCC, which were incorporated in five major rice growth stages in learning farm field.

Study 2 hosted the quarterly station seminars as KSL strategy in support to station's and R4D programs. Activities in support to the National Rice Awareness Month (NRAM) were also conducted such as feeding program and poster making contest. OSIS was also established.

Promoting Rice Science through Capacity Enhancement

KR Paliza

Activities under this study enhanced the knowledge and skills of intended clients on rice and rice-based production technologies. It also improved staff skills and sustained excellent service thru Rice Appreciation Course and establishing a learning farm. The station accommodated 579 visitors (229 male and 350 female) on-station and 62 on-the-job trainees (OJTs) (31 male and 31 female). Training on effective communication and finance management were also conducted for PhilRice staff. It also supported the training components of other projects such as the RiceBIS, Rice Seed System, Agta (IPs), and Palayamanan participated in by 953 participants (380 male and 573 female). Other training included accounting for non-accountant, rice appreciation course; agripreneurship; organizational building and management; agro-enterprise development; science and technology updates; and rice and rice-based production.

Learning farm was established to demonstrate integrated and diversified rice-based production systems, which provided experiential learning opportunities to learners

or trainees to various on-farm options or components. Technology demonstration field was established in dry season and wet season showcasing the rice production technologies such as AWD, MOET, and LCC. These rice technologies were integrated in the five major rice growth stages in learning farm field. New learning shed was constructed with 30-40 person capacity within the Edible Landscaping area. The study accommodated 19 requests of technical dispatches.

Promoting Rice Science through Technology Information Campaign

MAR Orbase

PhilRice Bicol contributes to extension through its Technology Information Campaign, which aimed to promote and provide easy access to technologies and information on rice and rice-based farming. The study involved technology showcase and dissemination of information through on-farm demonstrations, KSL activities, and OSIS. Quarterly station seminars were also conducted in support to station's R4D programs. Various activities supporting the National Rice Awareness Month (NRAM) were also implemented such as feeding program and poster making contest.

The KSL activities served 791 (469 male and 322 female) clients (farmers, IPs, ATs) during the workshops and briefings conducted by RiceBIS, Rice Seed System, Palayamanan, Associated Technologies, and Agta (IP) projects. The creation of OSIS made the station more effective in extending services to clientele by displaying and distributing relevant materials. One on-station and four satellite in SUCs were maintained while two new satellite OSIS were established. Through OSIS and RicExhibits, PhilRice strengthened its linkage with other government agencies, farmers, and state universities and colleges in Bicol region, Samar, and Leyte.

SEED SYSTEM: STRENGTHENED SEED PRODUCTION AND DISTRIBUTION PATHWAYS IN BICOL AND EASTERN VISAYAS

RT Dollentas

This project aimed to enhance the availability and accessibility of high-quality seeds and appropriate rice varieties, and increase their utilization in Bicol and Eastern Visayas regions through: (1) improvement of seed production protocol at PhilRice Bicol station to enhance availability of seeds; (2) development of an operational rice seed system distribution in the regions; and (3) development of information support system to enhance adoption of high-quality seeds of appropriate varieties in the target regions. Existing protocols for seed production at PhilRice Bicol were consolidated and analyzed and initially revised to suit the local condition. Based on MOET results, 10 sites at the station were found deficient in Nitrogen; most of the sites are deficient in Potassium, Copper, Zinc, and Sulfur; and some are phosphorus-deficient.

Through stakeholders' meetings in Regions 5 and 8, it was identified that the volume of CS and RS seeds produced in the region were insufficient to supply the requirement in both regions. Plans were crafted to satisfy the requirement and enhance the distribution of high-quality seeds in the intended regions.

Seven varietal demonstration sites were also established in each province in Bicol to showcase promising rice varieties and serve as seed source in the locality. Three field days were conducted and participants were asked to vote for their desired varieties. Farmers in Camarines Norte preferred NSIC Rc 25 and Rc 346; Camarines Sur: Rc 300 and Rc 358; and Albay: Rc 300, Rc 222, Rc 160, PSB Rc 82, and Rc 18.

RICE BUSINESS INNOVATION SYSTEM (RICEBIS) COMMUNITY

Reflected under the RiceBIS Community Highlights

CREATE-RICE PROGRAM: VULNERABILITY AND RISK ASSESSMENT OF CLIMATE CHANGE-AFFECTED RICE ECOSYSTEM IN BICOL AND EASTERN VISAYAS

GB De Mesa

The project aimed to reduce the vulnerability of farmers under stress-prone rice ecosystems by providing information on climate variability and extreme events so rice growers can adapt to unfavorable and optimized farm management practices for sustainable production. This is a 5-year project with the Department of Agriculture – Regional Field Office (DA-RFO) 5 and 8 and in coordination with other agencies and provincial and municipal local government units (P/MLGUs). Starting January 2018, the project was composed of three studies: Study 1 focused on the creation of database of soil properties, pest incidence, and the level of mechanization under stress rice ecosystems; Study 2 identified appropriate technologies and management strategies through establishment of techno-demo sites; and Study 3 aimed to produce rice techno-guides for each stress environments (flood, submergence, drought, and saline-prone) for Bicol and Eastern Visayas regions.

After finalizing project protocol based on series of consultation with partner agencies and stakeholders, secondary data on weather and climate, soil characteristics, farming and cropping systems, socio-economic, and level of mechanization were collected through requests from provincial Agro-Met stations, regional soils laboratory, SUCs, and DA-RFO5 research division.

Simultaneously, a comprehensive structured survey questionnaire for stress-prone ecosystems and 1 e-survey form (open-source e-form) were developed and generated. One hundred sixty-two farmers (Male-107; Female-55) under stress-prone areas in Bicol region were interviewed and initial data were analyzed.

Characterization and benchmarking of stress-prone (flood-prone, submergence-prone, drought-prone, saline-prone) rice ecosystems

GB De Mesa

Submergence, salinity, and frequent drought and flood are major abiotic constraints to rice production. The study was conducted to gather characteristics, changes, and developments in stress-prone rice ecosystems, which are needed in designing appropriate technologies, improving crop management practices, and deciding on farm-related issues. Data gathered from 69% of the total municipalities in Bicol region showed that 50% of the 116,158ha rice area are experiencing environmental stresses. Among adverse ecosystems identified, drought-prone environment is the

most extensive with 26,668ha; followed by flood, 19,270ha; submergence, 8,438ha; and saline-prone, 4,068ha. All stress-prone rice environments were extensively found in Camarines Sur where there is 12,569ha flood-prone area affecting 10,336 rice farmers; 16,526ha drought-prone, 15,133 farmers; 7,692ha submergence, 7,685 farmers; and 3,344ha, 2,839 farmers.

Profiling and Benchmarking of Pest Incidence in Stress Prone Rice Area in Bicol and Eastern Visayas Region

CR Llagas and GB De Mesa

This study aimed to generate a database of pest incidence, map the occurrence and infestation of major pests, and develop and recommend appropriate pest management strategies in stress-prone rice areas in Bicol and Eastern Visayas.

Considering that Bicol and Eastern Visayas have rice areas classified as saline, drought, submerged and flooded, and typhoon prone, its rice areas are vulnerable to pest infestation. As of November 2018, 162 farmers were interviewed in Bicol region, in which majority of the farmer-respondents said they had experienced pest infestation.

Assessment of the Level of Mechanization in the Bicol Region and Eastern Samar

ARS Rivera and AF Nillo

The study aimed to advance mechanized rice farming in Bicol and Eastern Visayas regions. Assessing the level of rice mechanization is a way to fast track the adoption level of agricultural rice machineries. Data on the adoption of agri-machines used in land preparation, crop establishment, crop management, and water, harvest, and post-harvest management were measured through individual interviews with the farmers using a structured questionnaire. Of the 480 targeted farmer-respondents across region, 34% or 162 farmers were interviewed (60 from Sorsogon City and 102 from Camarines Sur).

General observations showed that the massive implementation of agricultural mechanization in accordance to RA 1061 or the Agricultural and Fisheries Modernization Act (AFMA) boosted farmers' machine use for rice production.

Study also gathered a total of 21 establishments in the region. Fourteen of which are in Camarines Sur; 4, Albay; 2, Camarines Norte; and 1, Sorsogon. Researchers noted that 14 of the establishments are operational; 2, obsolete; 1, changed its location; and 2, for verification. Twelve of them are fabricators and/or suppliers or distributors; 2, distributors/suppliers; while 6 stopped their operation due to low demand for locally fabricated machines. Initial data also showed that 60% of the establishments fabricate hand tractors, blowers, and rice threshers.

REDUCING VULNERABILITY TO CLIMATE CHANGE THROUGH RICE-BASED FARMING SYSTEMS

GC De Peralta and GH Morente

Living in the two most disaster-prone areas in the Philippines, farmers of the Bicol and Eastern Visayas regions continue to suffer from poverty owing to yield and crop losses caused by natural disasters. Their level of poverty may likely intensify due to climate change, which may lead to serious and long-lasting impact on agriculture and farmers' livelihood.

The study aimed to develop climate-resilient rice-based production systems and to improve living standards of rice-based communities in Bicol and Eastern Visayas regions through diversified and integrated farming. This study complemented PhilRice Bicol's work in promoting Palayamanan Plus through the nucleus-estate technology dissemination model. It has 3 components: 1) development of climate change-resilient upland rice-based model farms, 2) establishment and assessment of the Palayamanan Plus concept in the saline-prone ecosystem, and 3) implementation of PhilRice Bicol's Palayamanan Plus model farm.

For the first year of implementation, initial activities such as study orientation with LGUs and farmers, site selection and validation, farmers' organization, and capacity enhancement through skills trainings were conducted. Three upland Palayamanan model farms were also re-established. On-station Palayamanan Plus with seven rice and rice-based components was implemented in collaboration with the station's capacity enhancement and technology information campaign team. The model farm was showcased during field days and visits and was utilized as training ground for OJTs.

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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