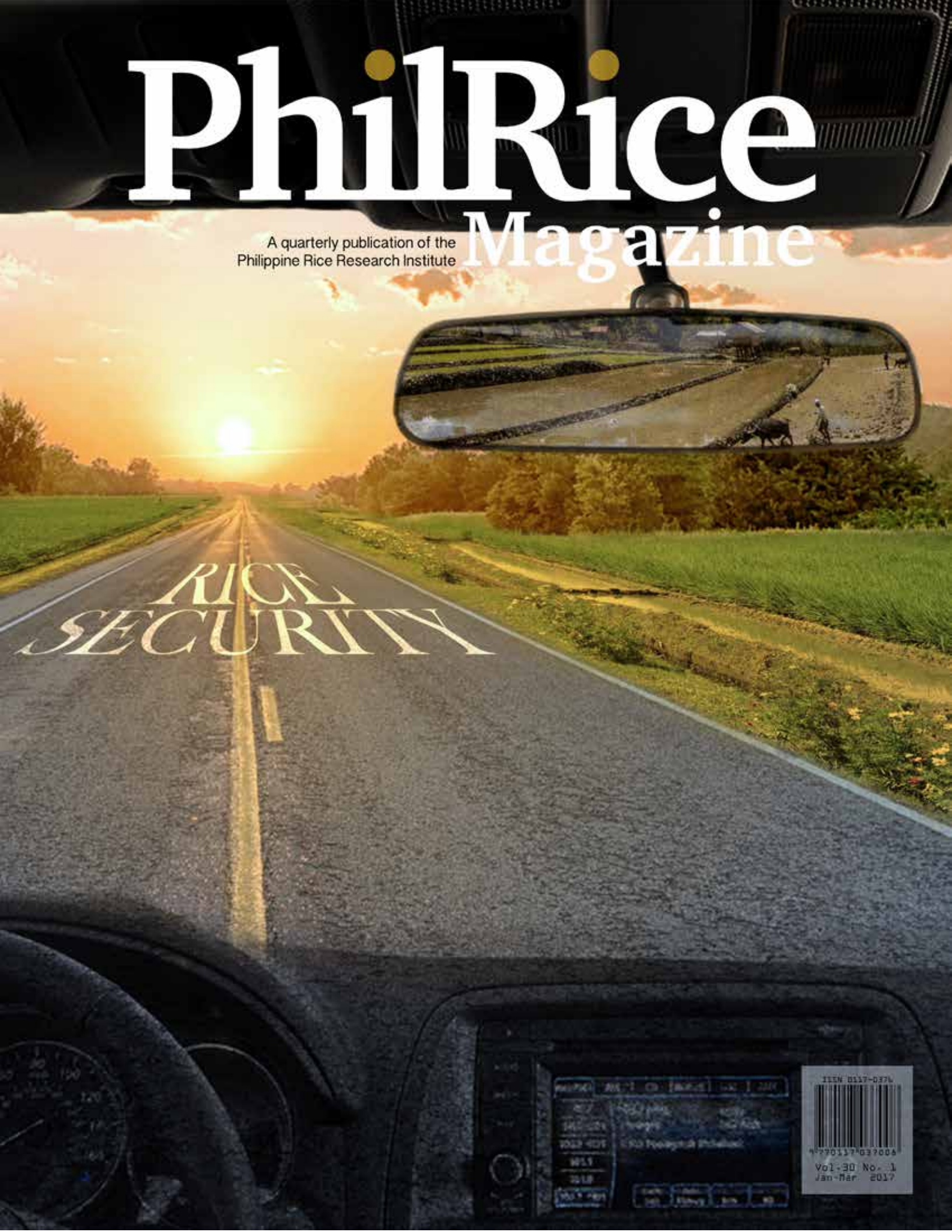
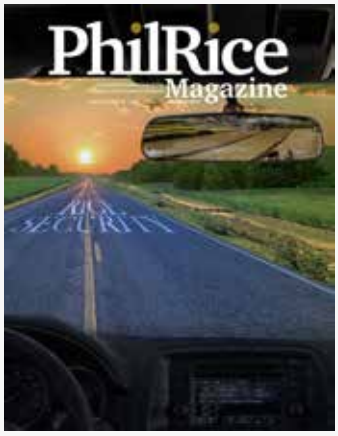
PhilRice Magazine

A quarterly publication of the
Philippine Rice Research Institute



ISSN 0117-0374
Vol 30 No. 1
Jan-Mar 2017



ABOUT THE COVER

As we speed closer to our vision of a rice-secure Philippines, we look back on how we got to our current position.

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2007 Binhi Hall of Fame Awardee
2001 Gawad Florendo Awardee

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EDITOR'S NOTE

RICE SECURITY: PAVING THE ROAD AHEAD

The Philippines is about to officially open its borders in terms of rice trade. The country's waiver to our commitment to the World Trade Organization in eliminating quantitative restrictions (QR) is to expire by June 30, 2017 unless renegotiated. This means that cheaper imported rice from low-cost exporters will be much more accessible in our retail outlets despite the imposed tariff. However, the full implementation of this policy still rests on the expeditiousness of our legislature in amending the Agricultural Tariffication Act (RA 8178).

Whether QR on rice is eliminated or extended, the fact persists that Filipino farmers and processors are not competitive against our rice-exporting neighbor countries. While some of them present a semblance of competition, many more produce rice at higher cost compared to "similar" producers in Vietnam, Thailand, and India. Hence, locally produced rice is more expensive in the market compared with imported rice with similar qualities.

The challenge ahead then is to locally produce sufficient rice at competitive cost. This becomes increasingly difficult as the country stares at diminishing land and water resources in the midst of more frequent occurrences of extreme weather conditions.

The Duterte administration vows to make food, rice first and foremost, available and affordable to the people. The DA, under the leadership of Secretary Emmanuel F. Piñol, is now charting the course of the National Rice Program that hopes to lead us to this state.

This year's first issue of the PhilRice Magazine tackles the good lessons learned from previous rice programs. Thoughts of three of the former agriculture secretaries on how we go forward in these more challenging times were solicited. It is our hope that meaningful experiences in the past could guide us toward developing our present rice industry. Above all this, this issue also highlights the directions being taken by the current administration. With this, readers could be kept abreast with what lies ahead for the Philippine rice industry.

NEWS

JOSELITO M. DANCEL

NSIC approves 25 new rice varieties

The National Seed Industry Council (NSIC) approved 25 new rice varieties for commercial use, 9 of which are hybrid and 16 are inbred in June and December 2016.

Dr. Oliver Manangkil, NSIC coordinator and head of PhilRice's Plant Breeding and Biotechnology Division, said six of the new varieties were bred by PhilRice, namely: NSIC Rc438 (*Tubigan 38*), Rc440 (*Tubigan 39*), Rc446H (*Mestiso 73*), Rc472 (*Sahod Ulan 22*), Rc462 (*Salinas 21*), and Rc470 (*Salinas 25*).

Tubigan 38 and *39*, and hybrid *Mestiso 73* are for irrigated lowland; *Sahod Ulan 22* for rainfed lowland; and *Salinas 21* and *25* for saline environment.

Tubigan 38 and *39* have maximum yields of 10.3 and 10.8 t/ha, mature in 106 and 109 days, and both grow as high as 95cm.

Sahod Ulan 22 can yield 4.3 t/ha, matures in 117 days, and grows 86cm.

Salinas 21 and 25 have maximum yields of 4.3 and 6 t/ha, mature in 111 and 120 days, and grow 95cm and 96cm.

Mestiso 73 is an 11-tonner that matures in 113 days, with a height of 107cm.

The other 19 varieties were bred by IRRI, UPLB, Phil-Sino Center for Agricultural Technology, Syngenta, and LongPing-Philippines.-ASHLEE P. CANILANG

DOST recognizes PhilRice

Department of Science and Technology (DOST) Secretary Fortunato T. Dela Peña recognized PhilRice's role in scientific work and inducted some of its qualified scientists and researchers as new members of the Philippine Association for the Advancement of Science (PHILAAS) during his visit to the Institute, January 24.

Inducted were Dr. Eduardo Jimmy Quilang, acting deputy executive director (DED) for research; Dr. Flordeliza Bordey, acting DED for development; Dr. Roel Suralta, Scientist II; Dr. Manuel Jose Regalado and Dr. Ricardo Orge, both Scientist I.

They are to join the agricultural cluster that will carry the commitment of the association to promote science consciousness and serve as forerunners of science and technology in the country.

Dela Peña, member of the PHILAAS Board of Advisers, said they recognize PhilRice as a viable partner in advocating agricultural science considering the Institute's contribution in rice R&D.

"PhilRice has established farm machines, such as the mechanical transplanter and flour mill. We are eyeing these equipment for expansion because they can surely help farmers and even small entrepreneurs," Dela Peña said.

Dela Peña and other officials from DOST and PHILAAS were toured around PhilRice, including the FutureRice Farm, Rice Engineering and Mechanization Division, and the Rice Science Museum. They also visited the Philippine Carabao Center, PHilMech, and Central Luzon State University. -ANNA MARIE F. BAUTISTA

A social media campaign called #BROWN4good initiated by DA and PhilRice has received massive hashtag support from netizens, resulting in more than P1.0 M worth of brown rice distributed to chosen charities nationwide.

Carried out from August 28 to December 5, 2016, the #BROWN4good Challenge enjoined netizens to eat at least a cup of brown rice after taking a picture of it, then post it on Facebook. Every hashtag posted was equivalent to one cup of uncooked brown rice donated to any charity institution within the region where the publisher came from.

The turnover ceremony took place on January 19 in Payatas, Quezon City where campaign ambassadors Kylie Padilla and Mikael Daez distributed packs of brown rice to over 200 families. They also helped serve brown rice arroz caldo to children in coordination with the local government of Payatas, Komunidad Kay Kristo (KKK-Payatas), and the ladies of Bayan Muna-Payatas.

The rest of the brown rice donations for Metro Manila will be distributed by the ABS-CBN Foundation to over 400 families living along the Pasig River.

Regional donations have already started in the cities of Cebu, Davao, and Iloilo. Beneficiaries include elders, indigenous peoples, street children, and drug rehabilitation participants at charitable institutions supported by the Department of Social Welfare and Development.

The Challenge was a way to inform the public of the four goodness of brown rice: first is personal goodness considering its health benefits; goodness to the farmers, given the added value that comes from producing and marketing it; goodness for the country, as it has 10% higher milling recovery, thus adding 10% to the country's rice volume; and fourth goodness is for others like the

CARLO G. DACUMOS

Charities receive P1-M worth of brown rice

beneficiaries of the chosen charities who will receive brown rice for their consumption.

"We're happy that many were encouraged to eat brown rice because of the challenge. They had different motivations. They committed to eat brown rice regularly, with some even committing for life," said PhilRice's Hazel Antonio, director of the Be Riceponsible Campaign.

Brown rice is unpopular among low and middle-income families despite its health benefits because of its high price. By commissioning farmers' cooperatives to be suppliers of good-quality brown rice and linking them to retailers and food establishments, DA-PhilRice made it available in major cities at P37-45/kg.

"While it was made around 40% cheaper than in malls, farmers still earned up to six times higher because of the project. Thus, consumers were able to afford it while also increasing the income of farmers," Antonio added.

"The Challenge proved that Filipinos are just deterred by the high price of brown rice. Given more affordable and accessible supply, more would be willing to embrace it for good. Thus, the challenge that DA would continue to address," Antonio concluded.

The #BROWN4good Challenge is part of the bigger campaign dubbed as Be Riceponsible, a social mobilization initiative created to spread awareness on the value of every rice grain and to encourage the consumption of healthier rice options like brown or unpolished rice. -SONNY P. PASIONA

NEW KNOWLEDGE PRODUCTS

COMPILED BY: HANAH HAZEL MAVI B. MANALO

Books

Mushroom Feast: A Collection of Filipino Mushroom Recipes showcases the different mushrooms cultivated in the country, particularly in rice-based farm areas, and the myriad ways of preparing them.

Diversification, Intensification, and Integration: Stories Outstanding Rice-Based Farmers Tell features the practices of successful rice-based farmers to inspire other farmers, the youth, and other stakeholders.

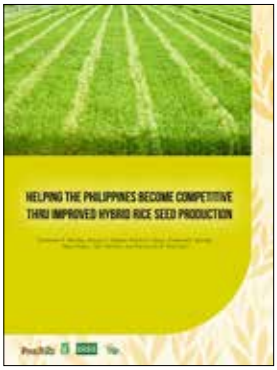
Magazines

Healthy Living with Rice presents options to the rice-consuming public on how to prepare and savor rice, the healthier way.

Who is the Filipino Rice Farmer gives a human face to PhilRice's rice-based farming households survey data.

Teknolohiyang Subok na Noon at Ngayon Magasin compiles farmers' technologies and practices that have been tested through time even in the presence of a changing climate.

Magsasakang Pinoy, Handa Ka Na Ba Magasin shares farming practices to improve farmers' competitiveness.

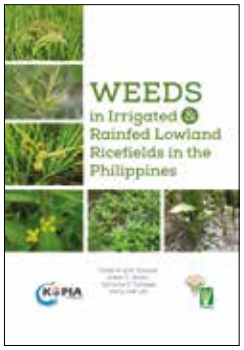


Monograph

Helping the Philippines Become Competitive Through Improved Hybrid Rice Seed Production compares the farm-level competitiveness of producing private hybrid seeds in Davao Oriental with those in Jiangxi, China and Andhra Pradesh, India.

Rice Science for Decision-Makers

Mechanizing Postharvest Work Enhances Farmers' Competitiveness highlights the significance of mechanizing postharvest operations to improve farmers' competitiveness or being able to reduce cost while maintaining the same yields so they can offer a lower selling price.



Booklet

Weeds in Irrigated and Rainfed Lowland Ricefields in the Philippines serves as a guide for effective management of weeds.

Technology Bulletin

Mushroom Production contains laboratory and mass propagation processes for mushroom production.

Handouts

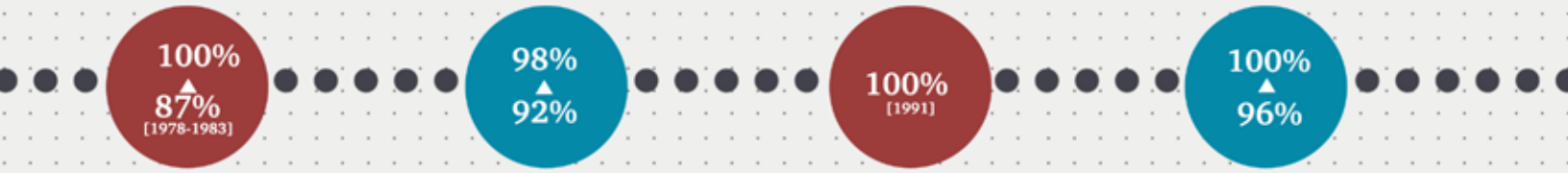
Pilipino Handouts offer short tips on rice production to farmers:

- **Pamamahala ng daga**
- **Small farm reservoir**
- **Pagtatanim ng palay**
- **Kumpunihin ang mga dike, pilapil, at kanal ng irigasyon at magtanim ng puno sa paligid ng palayan**
- **Leaf Color Chart**
- **Paggawa ng floating raft**
- **Sorjan Cropping System**
- **La Niña at Pagpapalayan**

These knowledge products are available at www.pinoyrice.com, www.philrice.gov.ph, and PhilRice's Development Communication Division.

BACK TO THE FUTURE OF PH

SONNY P. PASIONA



1973–1985
Masagana 99 Program

President:
Ferdinand E. Marcos Sr.

Agriculture Secretaries:
Arturo R. Tanco and Salvador H. Escudero III

Objective:
Attain self-sufficiency and make the Philippines an exporter

Strategies:
- Promotion of inbred high-yielding varieties
- Integration and demonstration of packages of technologies
- Fertilizer subsidy
- Pest surveillance network
- No-collateral credit
- Irrigation construction
- Extension services
- NFA procurement and distribution

*First comprehensive rice production program that resulted in the longest stretch of self-sufficient status: 1978-1983.

1988–1990
Rice Productivity Enhancement Program (RPEP)

President:
Corazon C. Aquino

Agriculture Secretary:
Carlos G. Dominguez

Objective: Increase rice production

Strategies:
- Promotion of high-quality seeds/seed exchange scheme
- Fertilizer subsidy
- Credit through Land Bank of the Philippines
- Crop insurance
- Small Water-Impounding Project
- NFA procurement and distribution
- Intensified rice R&D; execution of PhilRice charter/mandate
- Enactment of Comprehensive Agrarian Reform Program

1990–1992
Rice Action Program (RAP)

President:
Corazon C. Aquino

Agriculture Secretary:
Senen C. Bacani

Objective: Increase rice production, stabilize price, and promote productivity

Strategies:
- Encourage private sector to supply seeds by establishing certification laboratories
- Buy-two-take-one fertilizer scheme; tax-free imported fertilizers
- Rehabilitation of irrigation facilities
- NFA procurement and distribution
- Decentralization of extension work

1992–1995
Grains Production Enhancement Program (GPEP)

President:
Fidel V. Ramos

Agriculture Secretary:
Roberto S. Sebastian

Objective: Increase rice production, stabilize price, and ensure productivity and profitability

Strategies:
- Subsidized seeds, fertilizers, and credit
- Construction and rehabilitation of new irrigation systems
- Construction of farm-to-market roads, bridges, and ports
- Rice R&D; production of IEC materials
- NFA procurement and distribution

From 1973 to 2016, nine national rice production programs were implemented by 14 agriculture secretaries under six presidents. As the Duterte administration goes deeper, how do we secure enough rice for the Filipino people? What significant lessons have we learned from the past to keep us going and moving further? And probably doing better?

Let's take a long close look at the government's past efforts in ensuring food security, through the help of available references and resource persons. Rice will unquestionably remain our staple food.

Differing emphases

DA consultant Edmund Sana says that the objectives of past national rice programs mainly focused on increasing productivity and improving the income level of farmers.

The former DA Undersecretary for Operations says, "Some programs did explicitly pronounce the achievement of self-sufficiency, some didn't. But there was always a commonality among the programs on the intention to produce adequate quantities of rice."

NATIONAL RICE PROGRAMS

91% ▲ 89%

93% ▲ 70%

93% ▲ 81%

94% ▲ 81%

1996-1998
Gintong Ani Program (GAP)

President:
Fidel V. Ramos

Agriculture Secretary:
Salvador H. Escudero III

Objective: Stabilize price, transform farmers into entrepreneurs, and enhance farm income

Strategies:
- Removal of seed and fertilizer subsidies
- Soil analysis
- Integrated Pest Management/Farmers' Field School training
- Construction of small-scale irrigation systems
- Promotion of postharvest technologies
- Credit and crop insurance thru Land Bank of the Philippines
- NFA procurement and distribution
- Enactment of the Agriculture and Fisheries Modernization Act (AFMA)

1998-2000
Agrikulturang MakaMASA Program

President:
Joseph E. Estrada

Agriculture Secretaries:
William D. Dar, Edgardo J. Angara, and Domingo F. Panganiban

Objective: Reduce poverty incidence, increase farm income, ensure sustainability, and empower people

Strategies:
- No seed & fertilizer subsidies
- Small-scale irrigation systems
- Promotion of balanced fertilization
- Farmers' Field School and retooling of agricultural technologists
- Business information database
- NFA procurement and distribution

2001-2010
Ginintuang Masaganang Ani/ FIELDS

President:
Gloria Macapagal-Arroyo

Agriculture Secretaries:
Leonardo Q. Montemayor, Luis P. Lorenzo, Arthur C. Yap, Domingo F. Panganiban, and Bernie G. Fondevilla

Objective: Achieve rice self-sufficiency and generate more employment

Strategies:
- Seed subsidy (hybrid and inbred)
- Seed producer assistance
- Fertilizer subsidy
- Extension system intensified
- Construction and rehabilitation of national and communal irrigation systems
- Postharvest facilities and farm equipment provision
- Credit/loans to eligible irrigators' associations
- NFA procurement and distribution

2011-2016
Food Staples Sufficiency Program (AgriPinoy)

President:
Benigno C. Aquino III

Agriculture Secretary:
Proceso J. Alcala

Objective: Rice self-sufficiency by 2013 and sustaining it thereafter

Strategies:
- Construction of quick-gestating irrigation systems
- No seed & fertilizer subsidies
- Community seed bank
- Distribution of postharvest facilities and farm machinery
- Intensified promotion of integrated crop management through training and IEC dissemination
- NFA procurement and distribution
- Staple diversification

Past rice programs had for their basic components seeds, fertilizers, irrigation, postharvest facilities, credit and crop insurance, research and development, extension, and marketing.

"All of these components had the potential to help farmers. But each secretary (of agriculture) brought in a different emphasis," says Dr. Bruce Tolentino, now IRRI deputy director-general, DA undersecretary for policy and planning in 1986-1993.

Tolentino recalls that the most important element of *Masagana 99* (1973-1985) was credit through a loan for the farmers to keep going. The Grains Production Enhancement Program (1993-1995) and *Ginintuang Masaganang Ani*/ FIELDS (2001-2010) focused on seed and fertilizer subsidies. The Food Staples Sufficiency Program (2011-2016) had no subsidies but drove efforts on developing irrigation and postharvest facilities, and promoting staple diversification. Each administration perceived matters differently.

Challenges and insights

Each of the past programs was motivated by both opportunities and adversities. We learned lessons from various challenges during their implementation ranging from budgetary constraints, political predicaments, environmental issues, and economic movements both domestically and internationally.

On budget

"Objective has always been the same – ensuring food security, but I think there

JAYSON C. BERTO

are many factors (affecting this). For instance, you propose a budget for a program but you do not get the right amount of resources to pursue it, so there lies some limitations already," says Dr. Segfredo Serrano, the current DA undersecretary for policy and planning.

Relative to resource allocation, Tolentino recalls that in 1986-1990, the budget of DA was about P1.2 billion annually compared with today's more than P81 billion.

Although budget significantly increased in recent years, there's a need to improve absorptive capacity or efficiency in spending while ensuring that budget is commensurate to the targets of DA and its line agencies.

On devolution

The devolution brought about by the Local Government Code of 1991 also led to several problems to the agriculture sector. A 2001 report of the Social Watch-Philippines concluded that devolution was a "contributing factor to the stagnant condition of agriculture," citing issues at the local government level such as political differences, lack of funds, lack of coordination, and negligence of LGUs to capacitate extension workers who are key in giving technical assistance to farmers.

Serrano recollects that the government lost the national extension network because of devolution – which did not provide for resources to the local governments to pursue and continue extension and advisory services. But more adversely, there was no mandatory discipline for rural development among the LGUs.

"There was no obligation on the part of the local governments to even have agricultural programs. That was the level of autonomy that time. Simply put, if the LGU is not interested in agriculture or certain aspects of it, then there's nothing for it," Serrano regrets.

On leadership changes

Frequent changes in leadership might have also been a factor that diminished the sustainability of the programs. Presidents appointed agriculture secretaries of their choice who also had the authority to replace people within the department, which translated to restructuring and reorganization.

History tells that the eras of Marcos and Noynoy Aquino both showed that sustainability and impact go well when an agriculture chief stays in his spot longer. In 12 years, Marcos appointed only two secretaries for *Masagana 99* while Aquino allowed his secretary to finish the FSSP in his full term. But in between these two programs, there

have been quick turnovers in the DA leadership.

Sana, Tolentino, and Serrano all agree that sustainability of a national program is important. In meeting the objectives of various interventions regardless of the focus of a current administration, the three experts are on the same boat — it will take time.

"When you introduce a new program, it does not become effective overnight. It will take time for the entire bureaucracy to learn, to make sure that you have the right budget. Then it has to flow. So continuity is important," Tolentino points out.

In hindsight, frequent changes in leadership will not do well. Hence, sustainability and continuity are two important considerations that we hope the new administration could glean from the past.

The road ahead

Despite all the downfalls in the past, it cannot be ignored that the country has substantially improved rice production. The Philippine Statistics Authority shows that except in 2016, the country has sustained *palay* production at 18 M mt since 2012 compared with only 7.6 M mt in the 1980s.

"We're still able to produce most of the rice that this country needs with only a little bit imported. So actually, the achievements between the 1980s and now are amazing because yield and production have been increasing. In general, we've been able to keep up with population growth," Tolentino is delighted.

But in spite of this feat, the road to rice security now faces a more challenging environment. Before, the challenge was merely to increase production to cope with the spiralling consumption. Now, the challenge has become more complicated as we are to produce more rice in an uncertain environment.

The world now suffers from climate change impacts such as global warming and frequent extreme typhoons. Serrano warns "we will be the number one victim of the adverse impacts of the ongoing climate change. We are the jewel in the Pacific Ring of Fire, we are also in the buckle of the typhoon belt." we who contribute least to climate change suffer the most.

With this in mind, Serrano calls for greater investments in research and innovation. Through technology, he says "We must be able to produce more output and value out of every square meter of land; out of every unit measure of labor and capital."

> "When you introduce a new program, it does not become effective overnight. It will take time for the entire bureaucracy to learn, to make sure that you have the right budget. Then it has to flow. So continuity is important.
>
> - DR. BRUCE TOLENTINO

Enhancing technology through research is one thing. Getting it into the hands of the farmers is another. Thus, there has to be sustained investments as research flows to extension. After all, the adoption of cost-reducing and yield-enhancing technologies among farmers largely comes from an efficient extension system.

Tolentino observes, "it's very difficult now for ground-level extension workers to access the research-based technology they need to help farmers. It's one of the key problems that need to be fixed and it will require a focused effort."

Meanwhile, with stiffer trade and competition, not only do we need to produce more to achieve sufficiency, but also to reduce production cost, have better product quality, and make rice more affordable so we can compete with foreign rice.

Even Sec. Manny Piñol, who is a steadfast supporter of Quantitative Restrictions (QR) on rice, admits that he cannot stop its eventual removal. He is now buying some time to implement competitiveness-enhancing interventions and support programs as it will take some two years for our legislators to amend the local laws that will cushion the elimination of QR and its replacement with taxes.

Enhancing competitiveness is now at the core of strategic plans of various interventions in the agriculture sector. For rice, Sana says that self-sufficiency may still be relevant considering the very limited supply of rice for sale in the international market, which is only 3-5% of total world production.

"But it will have to be within the context of raising our competitiveness level. You can't sustain self-sufficiency level unless you are competitive," he clarifies.

Supporting this argument, a study by Dr. Flordeliza Bordey, a senior PhilRice socioeconomist and acting deputy executive director for development, concluded that "only when rice sufficiency is attained at a competitive level would that sufficiency become a meaningful strategy to achieving food security."

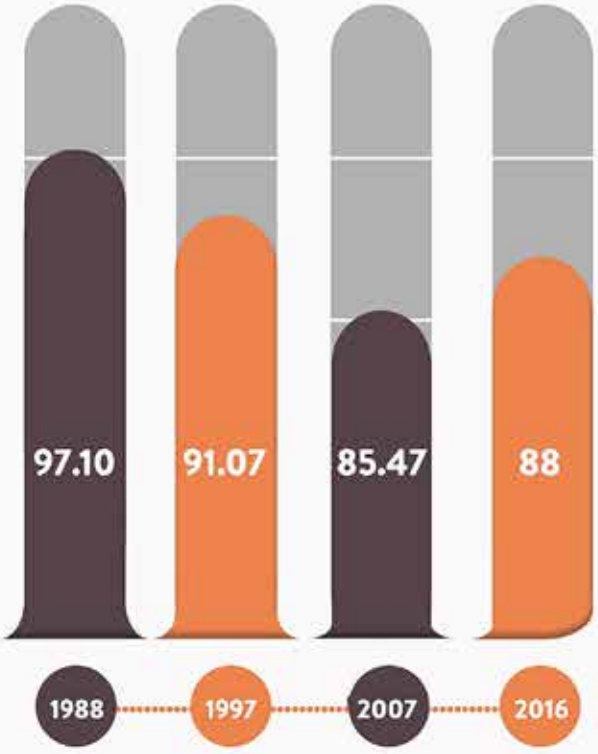
Now, looking back to the future of the rice industry, the present time is in the hands of not only the government. Rice security is not solely a decision-makers' responsibility; it requires multi-stakeholder collaboration from the producers to consumers, from civil society groups to the private sector. Surely, government initiatives are on the pipeline and with strong political will and vision, the rice sector will, optimistically, gain its momentum again. In our quest, may the insights of the past and our vision for the future lead to a rice-secure Philippines. ●

RISING RICE

PER CAPITA RICE CONSUMPTION (KG/YEAR)

1998-1999	106
2008-2009	119
2012	114

% RICE SELF-SUFFICIENCY



POPULATION

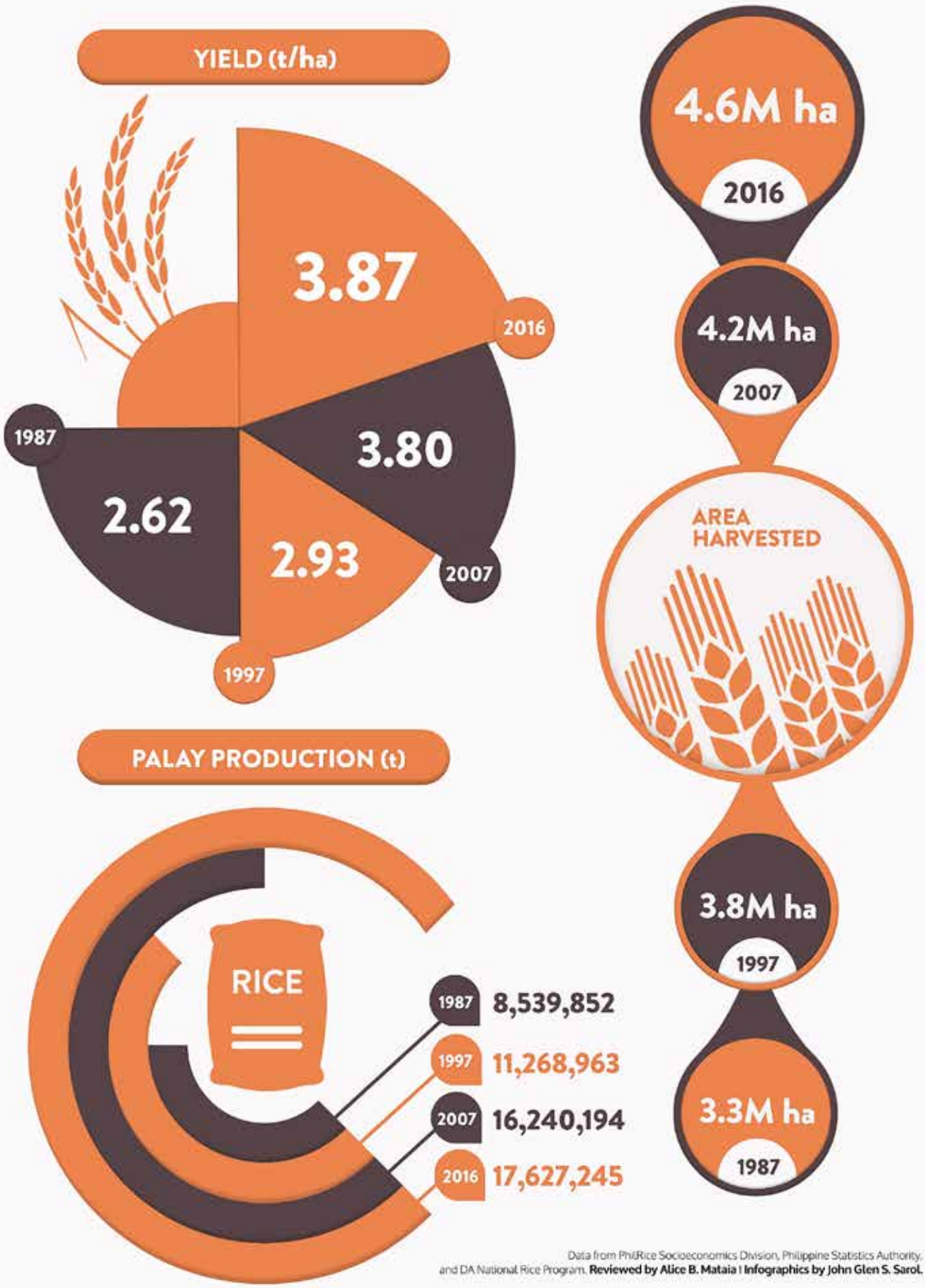
1997	71.51 M
2007	88.55 M
2016	102.72 M

POPULATION GROWTH

'90-'00	2.34%
'00-'10	1.90%
'10-'15	1.72%

RICE CONSUMPTION

1999	7,921,902 t
2008	10,744,880 t
2016	11,655,030 t



Data from PhilRice Socioeconomics Division, Philippine Statistics Authority, and DA National Rice Program. **Reviewed by Alice B. Mataia | Infographics by John Glen S. Sarol.**

LOOKING BACK MOVING FORWARD

COMPILED BY: MARY GRACE M. NIDOY

Three former Agriculture Secretaries and ex-officio Chairs of the PhilRice Board of Trustees share their lessons and visions for a rice-secure Philippines. Here, we focus the spotlight on the wealth of their experiences and learn from their insights.

PH agriculture: then and now

Philippine agriculture in the 1950s through the 60s, particularly rice, was in the doldrums. It was like a seesaw battle for existence. This, however, took a turn in the late 1960's when the government undertook steps to hasten its actual growth and development. Rice production was given priority when the government organized a system of coordination and monitoring of activities in the provincial and municipal areas. The basic foundation of the national rice self-sufficiency program — technology, inputs, credit, and price support— was established.

The National Rice and Corn Production Program (NRCPP) was launched by the Marcos leadership in selected rice-producing provinces— Pangasinan, Tarlac, Pampanga, Nueva Ecija, Bulacan, Laguna, Camarines Sur, Cotabato, Iloilo, and Zamboanga del Sur— that collectively produced at least 12M cav of *palay* per season. The NRCPP organized field implementation units composed of provincial directors supervising teams of rice production experts and extension workers. The program started with only 100,000 ha due to lack of certified seeds.

DOMINGO F. PANGANIBAN
JAN. 2001, JULY 2005 – OCT. 2006

IRRI then provided 200 bags of IR8 seeds to start the production of certified seeds that, in just one season, produced enough seeds to cover 100,000 ha in 10 more provinces. By 1969, the country appeared to have achieved rice self-sufficiency.

Following poor rice harvests due to adverse weather conditions in

> Leadership in agriculture should focus on rice and corn as these concerns are not only farmer-led but by all.
>
> -DOMINGO F. PANGANIBAN

1971 and 1972, *Masagana 99* was launched using new rice varieties and adopting the same guidelines of the NRCPP. *Masagana 99* intensified crop management and input use, together with irrigation development, agrarian reform, agricultural credit, price, and marketing support. It put to action a national extension force on rice production technology and program coordination and monitoring. Thus, in 1978-1980, the country restored its rice self-sufficiency.

Rice program for 2017 onwards

Lessons learned in rice production show the need to follow similar norms to achieve an efficient system of production and marketing. Government production programs have to involve technologies that harness farmers' efficiency.

And farmers can achieve efficiency if they have (1) adequate land in clusters of 3-5 ha for better production planning and operations, (2) adequate irrigation for year-round plantings, and (3) sufficient credit to finance their operations. An important component now will be farm mechanization. These would need to be complemented by capable extension and marketing support to assure farmers with reasonable returns of their investments.

In conclusion, I feel obliged to project a positive growth in agriculture given the above systems of achieving rice self-sufficiency. I am also assuming that leadership in agriculture should focus on rice and corn as these concerns are not only farmer-led but by all.

Food security vs food self-sufficiency

Findings in the 2016 Global Food Security Index (GFSI) reveal that being food-secure does not equate to having enough local production of a certain staple for a country's population. Food security or being food-secure is not the same as being self-sufficient in food.

In the Philippines, food-self-sufficient may refer to being able to produce enough rice to feed the population. But in reality, that simply means being self-sufficient in rice.

Let me quote the GFSI report that will give readers a better insight on the importance of food security.

On the aspect of availability, a food-secure nation must be able to provide not only sufficient supply but also ensure its ease of accessibility. This includes sound infrastructure investments and sizable public spending on research and development to produce climate-resilient crops and avoid environmental degradation.

Stated in the Key Findings section, this statement is even more compelling: "Developing economies that prioritize investment in agricultural storage and transport infrastructure increase their capacity to ensure food security for burgeoning populations."

Philippine postharvest losses in vegetables range 15-25% because of the lack of cold storage facilities and trucks among traders and farmers alike. In rice farming, postharvest losses can reach up to 20%.

When it comes to rice, the government's National Food Authority

WILLIAM D. DAR
JULY 1998 – APRIL 1999

can only store 33.42% based on July 2016 Rice and Corn Inventory reports of the Philippine Statistics Authority. Commercial establishments held 30.68% and households 35.90%. Rice stored in private hands can be vulnerable to hoarding.

Worse, the present road networks are still inadequate to link food production centers to major urban markets, thus causing high spoilage and rejects that eventually result in higher prices of commodities.

The business of transporting food around the Philippines must be balanced, with government providing strategic investments for the common good vis-à-vis private sector's motivation for profit. Farmers must be given their fair share and allowed to operationalize win-win marketing arrangements, starting with transparent farmgate prices. Extremely poor

farmers hardly have enough money to eat three meals a day or secure a balanced diet.

The reports concluded that the quest to improve food security requires economic growth as an essential ingredient. When poor countries are developed and income increases, the food system and institutional infrastructure are built, and food security improves. Inclusive economic growth provides the impetus to raise farmers' income and "improve their ability to gain access to food, health, and education while providing governments with the cash needed to make development more equitable."

I am not saying that the country abandons its rice self-sufficiency program. But let us offer viable alternatives to help our poor farmers increase their incomes to give them the purchasing power to afford and access quality and nutritious food, at all times. Growing high-value crops that have revenue potential—such as palm oil, rubber, cacao, coffee, mangoes, pineapple, soybean, and cassava — must be pursued with a clear roadmap and assured investment support. That way, farmers do not limit farming to subsistence but handle it as a business to grow and nurture.

Will the Philippines pursue food sufficiency over food security? The answer maybe lies on a policy shift. Instead of targetting the entire population, focus must be given on the poor and vulnerable groups. Agricultural investments to bring new technologies to improve planting and processing climate-resilient crops that give a high source of protein, such as millet, chick pea, and peanuts must be encouraged. By providing affordable and accessible healthy foods to deter malnutrition that will somewhat avoid the crowding-out on health and education budgets, the country's political stability is secured.

ARTHUR C. YAP
AUG 2004 – JUL 2005
OCT 2006 – MAR 2010

Benchmarking rice self-sufficiency through income sufficiency

Many times I have been asked whether rice self-sufficiency is nothing more than a pipe dream or a distinct possibility.

Almost always, my answer is: "The correct question is: Are Philippine farmers producing rice competitively?" "Are they making money by planting rice or are they better off planting another crop?"

I have always opined that for rice or any agricultural commodity, our concern should never be on its volume or quantity, but on its "profitability" for the planter. If the planting activity yields the proper or commensurate financial gain, then we do not have to worry about the volume of production. That will necessarily follow. And for rice, that will spell whether we stay an importer or a food-secure nation.

When farmers make money from agriculture, they will continue to stay on our farms to plant instead of hectoring their children to leave our farms to venture abroad, to become slave laborers for foreign races and cultures.

Preserving what we are harvesting

If we are serious in this business of securing the food of our nation, we can begin not by planting more, but by making sure that we waste less of what we are already producing. Today, we are losing about 15% of what we produce because of inadequate drying, storing, and milling capabilities.

If we can just halve that loss to 7.5%, then we can at least add about 800,000 mt annually to the local market. This can be done by distributing compact and smaller drying and milling machines that can service at least a compact production area of 50 ha as one postharvest cluster. Depending on the size of the production area, the cluster's milling and drying capacity can be adjusted commensurately.

Maximizing irrigated rice land production through better seeds and location-specific interventions

The next area for upgrading is the planted area for rice today. I will not even consider all the lands planted to rice today, let us just consider the "Operational Service Areas", which the National Irrigation Administration has pegged at about one million ha (642,409 ha for National Irrigation Systems and 411,533 ha for Communal Irrigation Systems). These irrigated areas are producing an average of 160 cav/ha. With the proper seeds (certified and hybrid) and location-specific inputs for the soil in consideration, let us just take a baby step of adding just 1 t/ha per planting season, and that will result in an additional 2 t/ha for two cropping seasons per year. That means a possible

> If we are serious in this business of securing the food of our nation, we can begin not by planting more, but by making sure that we waste less of what we are already producing.
>
> - ARTHUR C. YAP

two additional tons of *palay* harvests per year, or about 1 M mt of rice even with the 15% losses.

Repairing non-operational irrigated service areas

These areas stand at about 289,000 ha. Even if we just repair 20% of that area, or 57,800 ha on the first year, we would have capacitated that area to harvest rice twice a year. Even at just 160 cav of paddy harvested per year from this area, the additional *palay* yield would reach about 924,800 mt. At a 65% milling rate even with 15% losses, that would add the volume of about 510,000 mt of rice into the market.

I believe we owe our farmers support for access to water for food production. But farmers must also counterpart with their work and sweat equity to maintain the basic cleanliness of their service areas, and set aside community funds to make basic maintenance repairs for their areas.

The challenge of climate change

Climate change is inarguably transforming the lives of our farmers and adaptation remains a daily challenge.

From 2010 to 2015, DA pegged consolidated losses at a staggering P190 billion. When these damages were inflicted on our farmers, they did not have the security of savings nor insurance to mitigate their impact upon them. Payouts merely reached P3.6 billion, not even 2% of the crop damages. This leads us to another major issue –the unpopularity of crop insurance in the Philippines. Despite the creation of the Philippine Crop Insurance Corporation (PCIC), the unreasonably high premium prices for crop insurance leave our farmers and fisherfolk disinterested.

Index-based insurance is an innovative and technically sound approach to manage risks especially for our poor and highly vulnerable farmers in the Philippine rural areas. Instead of being peril or indemnity-based, we can opt for a Weather Index-Based Insurance.

The United Nations Development Program (UNDP) together with the PCIC are pioneering Index-Based Weather and Crop Insurance Policies in Mindanao with great success rates. The Agriculture Guarantee Fund Pool, established in Land Bank in 2008 at less than P4 billion, has grown to more than P6 billion to date and has helped thousands of farmers along the way.

Bills have been filed in Congress regarding these two measures, and are awaiting Committee approvals.

A positive development is the approval of the Committee on Banks of the "Secure Transactions Bill" or a new law governing collateralizing movables or personal property. In a nation of small and medium-sized enterprises, a strong legal framework must exist so small businesses, rural and urban-based, can leverage receivables, equipment, inventories, raw materials, crops, livestock, standing produce, stored commodities and personal possessions, for financing. An electronic registry and system where ease of transaction, economy of steps, verifiable data, protection for lenders and borrowers can all capacitate, motivate, and incentivize mainstream lenders. Hopefully this bill, awaiting its Senate counterpart, can be enacted into law in 2017.

No single silver bullet can hit food security

Agriculture, whether we are dealing with rice or other commodities, like competing in a championship sporting event, needs the convergence of many disciplines, consistency, training, and technology. The ability to approach farming scientifically with the discipline and eye to producing efficiently requires constant training and technology. Here, the local government units and the different national agencies dealing with agriculture and agronomy must invest in getting the technology down to our farmers, women's groups, cooperatives, irrigators, and many more. Science, agronomy, and technology must not only be at a farmer's fingertips to help him maximize productivity, but, given the challenge of increasing population and diminishing farm sizes, must also allow them to profit from other farm activities like growing livestock and poultry, vegetables, fruits, and even cut-flowers and fresh-water aquatic food sources.

Awesome are their insights. They unleash what these former top officials know and think. Those of our present officials' are not at all inferior. All of them are not singing out of tune. In the meantime, our farmers, and all others who swear they are after a well-fed country, are listening, waiting for the right time to join in singing this inspiring song. ●

VOX POP

COMPILED BY: CHRISTINA A. FREDILES

What should the government's priorities be for the rice industry two decades from now? Farmers, millers, extension workers, and consumers articulate their hopes and wishes for the rice industry.

Rajak Kaisar, 42, farmer in Tawi-tawi

Government should also reach the farmers in far-flung and unfavorable areas, Kaisar hopes. The breakthroughs and modern technologies are of no use if these are not brought to the people who mostly need them.

In his entire farming career, his only training was in 2013 with the Japan International Cooperation Agency on vegetable production.

Diosdado Iranon II, 43, farmer and barangay official in Laguna

Production of brown rice be increased, he wishes, because it will remain relevant as rice consumers are now health-conscious.

Any rice, traditional or modern, hybrid or inbred, could be milled, cooked, and eaten as brown rice or unpolished rice. It has high amounts of nutrients, such as vitamin B complex, minerals, protein, fiber, and other phytochemicals.

Regular eating of brown rice can help reduce the incidence of chronic diseases, such as cancer and cardiovascular ailments.

Rice exportation is the way to go with the onset of free trade. Thus, Philippine rice should be export-quality.

> Some rice traders are taking advantage of our inability to sell our produce during the lean season for higher *palay* price. This is because we don't have any storage facility. Hence, we are forced to sell our produce even at lower price.
>
> - ROLLY DANTE GALULA

Rolly Dante Galula, 40, farmer in Bukidnon

Low price of *palay* is one of the farmers' common problems. He hopes that farmer-friendly policies on price regulation, rice trading, and marketing be crafted.

Costs of farm inputs are continuously increasing but the price of their produce is still low. This makes them empty-handed even after selling their products.

"Some rice traders are taking advantage of our inability to sell our produce during the lean season for higher *palay* price. This is because we don't have any storage facility. Hence, we are forced to sell our produce even at lower price," he narrates.

He also suggests to standardize farm labor cost from P120 to P150 at least. He also hopes that the government looks into the prices of farm inputs like fertilizers.

Ozanne Ocampo, 26, extension worker in Pampanga

She hopes that the services of the local government units be increased, supported, and well-implemented. By doing this, more farmers will benefit from national and local projects of the government.

"Political issues should be set aside. What matters is we should really serve the farmers to ensure that there's always food on every Filipino's table."

Also, Ozanne says that young extension professionals should be highly engaged in the agricultural sector to ensure sustainability in the implementation of agriculture-related research and services.

Sonny Gallos, 56 rice miller in Iloilo

He has sentiments on the unavailability of *palay* months after harvesting. He has to buy *palay* from nearby provinces to sustain his business.

He hopes the government would also offer soft loans to millers, as farmers prefer cash immediately after selling.

He also supports the use of machines in the rice field to reduce labor costs and make rice affordable among consumers.

Lito Calderon, 46, and Reynaldo Manuel, 47, farmers in Bulacan

They hope that the government will help them by providing seed subsidy and machines.

"Seed subsidy is a big help in reducing our input cost," says Calderon.

Calderon and Manuel hope there will be less corruption in government for them to realize that it really cares for them through its programs, projects, and services. ●

COMPETITIVENESS THROUGH THE IP'S LENSES

JAIME A. MANALO IV

Competitiveness in rice is often seen in terms of volume, big numbers to crunch, or graphs to interpret. We can all get ourselves busy with these things to the point that we gloss over its other facets.

Our indigenous peoples (IP) have plenty to say about competitiveness in rice. From watershed conservation, values, to producing goods that meet world standards—they can surely share a thing or two.

Heirloom rice

One recent attraction is heirloom rice (although work on it has started a long time ago). This rice has been handed down to us from our great, even forgotten, ancestors.

The DA and several private entities have supported efforts to export heirloom rices, particularly to the United States.

Close to 100 tons of Mountain Violet (Mt. Province); Unoy, Jekot, and the Ulikan Red grains (Kalinga); and Tinawon, fancy rice, and Diket (Ifugao) varieties were exported in 2013.

"There has been a sharp increase in the demand for heirloom rices in our province," said Melanie Lagasca, municipal rice coordinator in Bauko, Mt. Province.

In 2014, the DA opened the Trading Center in Bauko, which has since attracted locals and walk-in buyers to patronize heirloom rices. On average, more than 1,000 kg of ready-to-cook heirloom rices are being sold monthly in this facility.

The DA-Cordillera Administrative Region (CAR), along with other organizations, massively promotes heirloom rices. "We find it difficult to meet the demand as people have already been made aware of the nutritional benefits of heirloom rices," said Ely Rose Payacda, agriculturist in Bila, Bauko.

While heirloom rice has certainly created a demand, its high price, which is more than double the price of white rice, limits poor people from buying it.

"I buy heirloom rice because it's from here, but I surmise it's rather expensive," said Assoc. Prof. Jimmy Fong of the UP Baguio.

Limited number of milling machines is among the culprits for its high price, according to Payacda. For instance, in Bauko, 300 farmers take turns in using

one milling machine. "There are more than 2,000 heirloom rice farmers in Bauko," Lagasca calculated.

Watershed conservation

The discourse on competitiveness in rice can unintentionally shroud other aspects that are important in sustaining the rice industry, like the watershed. Time and again, experts have warned on the looming, or in some areas already felt, water scarcity that can threaten food production efforts worldwide.

In Ifugao, the *muyung* system has addressed this issue long before it surfaced in academic journals. *Muyung* is a forested area that may be "horizontally aligned with rice paddies". It serves as a watershed of the community. A *muyung* can either be family or community-owned.

Authored by faculty members of state universities and colleges in the Cordilleras, the book "Voices from the Cordilleras: Guardians of the forest, stewards of the land" documents how this practice has enabled continued supply of water in Ifugao rice areas.

Close to 69,000 ha of farmlands or 36% of the total irrigable areas in CAR and neighboring regions source out water from CAR's 13 major river basins. These watersheds are extremely important in Northern Luzon, especially during the dry season. They make the Cordillera mountains get dubbed as the "Watershed Cradle of the North".

Forest denudation and conversion of these watersheds to industrial and other purposes, however, have been among the pressing concerns in recent years.

Value in research

PAGASA maintains that some 20 typhoons land-fall in the Philippines yearly, aside from the increasing occurrences of extreme weather events, such as drought and flood.

PhilRice therefore explores traditional rice varieties (TRV) as breeding materials for drought, heat, and salinity tolerance in inbred and hybrid rices.

"TRV have enormous amounts of genes for tolerance/resistance, and they are very unique because they have been in the field for a long time adapting to many adverse conditions," said PhilRice Scientist Dr. Norvie Manigbas who works on heat tolerance.

Manigbas said local modern rice varieties do not have heat tolerance traits, hence his group is working on how TRV with such genes can enhance these modern varieties.

Our Genetic Resources Division has, thus far, found 37 TRVs with drought and salinity tolerance from its pool of accessions.

Bayanihan

At a time when almost everything has been commodified, there remain some communities where people are ready to help others free of charge.

"More than 30 of us came to the field earlier to plant as the landowner had to attend to his sick relative," said Demetria Agluya, 50, of Otucan Norte, Bauko.

On average, hired labor cost constitutes 35% of the total expenses in rice farming, which conspires to make our rice as among the most expensive in Asia.

It's probably high time we listen to our indigenous peoples and heed their lessons on competitiveness in rice. | *With reports from Anna Marie F. Bautista* ●

JAYSON C. BERTO

AGRI PROGRAM TO FEED MILLIONS

ANDREI B. LANUZA

The fresh attempt at rice self-sufficiency and food security is far from won. Tripping on hurdles delays the government, hence agriculture programs are being revisited under Pres. Duterte's administration.

"We must strive hard to achieve food sufficiency, especially for our basic and staple food commodities, such as rice, white corn, meat, poultry, fish, and marine products. To make food affordable, the cost of production must be brought down while the income-earning capacity of the people must be raised," Agriculture Secretary Emmanuel Piñol stated.

Going back to the basics is the way to go to address both food insecurity and poverty, according to Piñol. Rice and corn are the priorities of DA.

ASHLEE P. CANILANG

Rice self-sufficiency?

Piñol is faced with two major challenges concerning rice: self-sufficiency and the highly probable lifting of the quantitative restrictions (QR) on rice by July 2017.

Addressing self-sufficiency, Piñol had initially proposed the program *Rice Productivity Enhancement* but budget limitations did not allow it to prosper. Still, adjustments are being made by DA to sustain the rice sufficiency target by 2019.

Piñol also buys some time to implement programs that prepare farmers in competing against cheaper imported rice as the PH Senate and Congress still need to amend local laws to fully implement the lifting of QR. Piñol is pushing for a public-private farming scheme called "Local Government Unit Corporate Farming" that involves the DA, LGUs, and the Land Bank of the Philippines (LandBank). It aims at directly linking farmers with corporate buyers.

The LGUs are to enter into contract rice-growing agreements with farmers to purchase their harvest. The DA helps farmers access high-quality rice seeds and fertilizers. It also provides technical assistance, and machines. LandBank extends soft loans and other financial assistance. The scheme is being pilot-tested in selected provinces nationwide.

Redux Masagana

Piñol is crafting a new rice production program called *Masaganang Ani 6000* that aims to increase the country's average rice yield to at least 6 t/ha (120 cavans) in highly favorable areas. It offers quick-gestating irrigation projects like solar-powered water pumps, and promotes hybrid rice seeds, fertilizers, and mechanization.

PHILRICE PHOTOSTOCKS

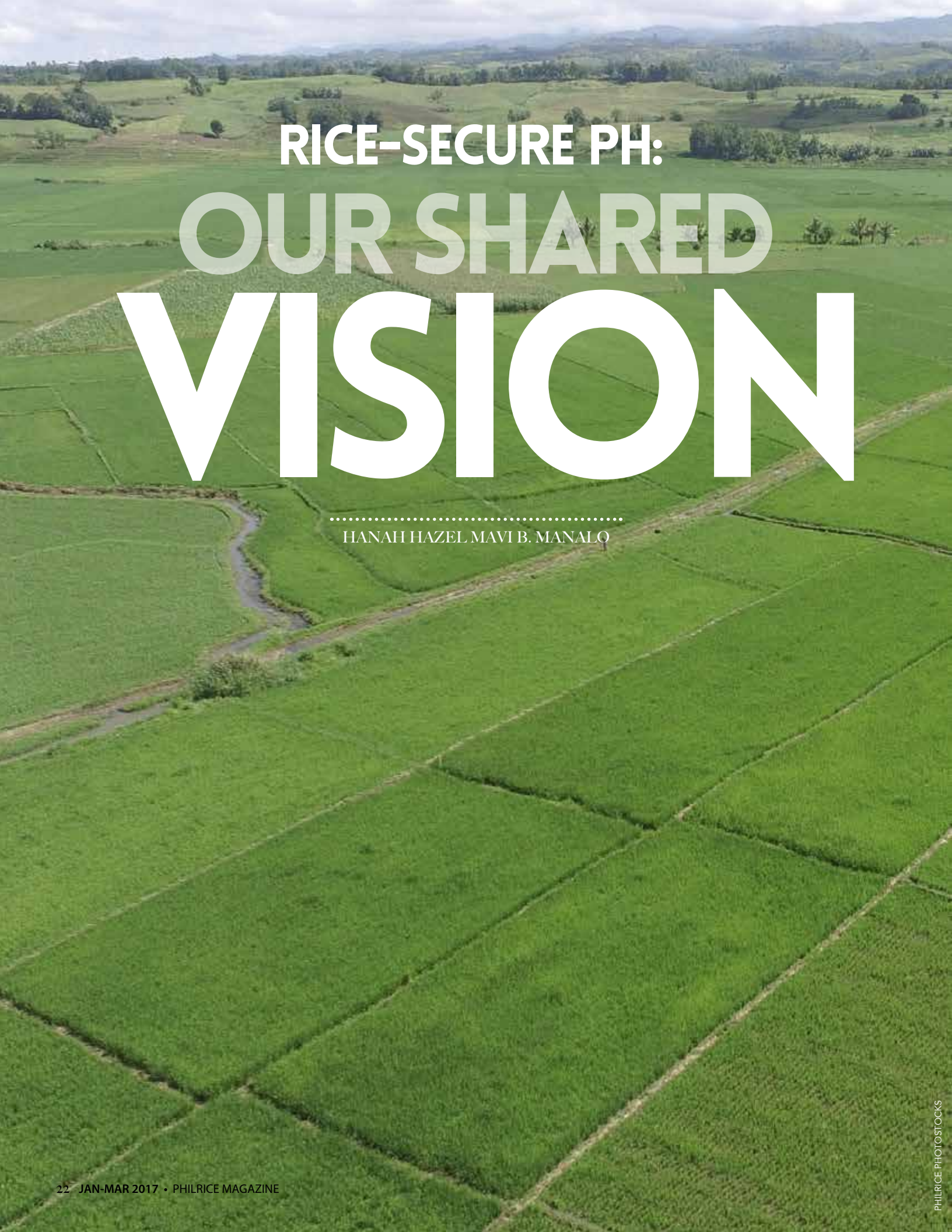
One major tool of *Masaganang Ani 6000* will be the recently launched color-coded national agricultural map derived from combining factors affecting agri-fishery production, such as soil properties, water availability, climate topography, and regional economics and demography.

Making food available and affordable is DA's vow for more than 100 million Filipinos. ●

> "To make food affordable, the cost of production must be brought down while the income-earning capacity of the people must be raised.
>
> - DA SEC. EMMANUEL 'MANNY' PIÑOL

RICE-SECURE PH:
OUR SHARED VISION

HANAH HAZEL MAVI B. MANALO



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Let's begin by imagining a Filipino father of three eating a riceless meal. He desperately realizes that rice has become so near yet so far, as though rice were only for the rich. His wife reiterates to him that their remaining money isn't for rice alone. He finishes his fourth boiled banana. Meal over. At least, he saw his wife and kids enjoy the available "lugaw". Now, back to reality.


PHILRICE PHOTOSTOCKS

Cognizant of this reality, "PhilRice and its partners envision a rice-secure Philippines. This vision is well-communicated in the Board of Trustees-approved PhilRice 2017-2022 Strategic Plan," Acting Executive Director Sailila E. Abdula asserts.

The plan defines rice security as the availability, affordability, and accessibility of high-quality and nutritious rice at all times.

> We believe that the most sustainable pathway to realizing rice security is to domestically produce sufficient rice at a competitive cost.
>
> - ACTING EXECUTIVE DIRECTOR SAILILA E. ABDULA

This is a shared dream with the Department of Agriculture (DA) that also envisions a "food-secure society where farmers enjoy decent and rising standards of living".

"We believe that the most sustainable pathway to realizing rice security is to domestically produce sufficient rice at a competitive cost," Abdula declares.

Under the Plan, PhilRice will focus its research for development (R4D) efforts on achieving seven outcomes: (1) increased productivity, cost-effectiveness, and profitability of rice farming in a sustainable manner; (2) improved rice trade through efficient postproduction, better product quality, and reliable supply and distribution system; (3) enhanced value, availability, and utilization of rice, diversified rice-based farming products, and by-products for better quality, safety, health, nutrition, and income; (4) science-based and supportive rice policy environment; (5) advanced rice science and technology as continuing sources of growth; (6) enhanced partnerships and knowledge management for rice R4D; and (7) strengthened institutional capability of PhilRice.

Producing and earning more

To accomplish these outcomes, PhilRice will take the lead in pursuing research to increase yields by 1.0 t/ha (irrigated) and a minimum of 0.5 t/ha (rainfed) in our target areas.

It will narrow the gap between experimental and on-farm yields by increasing the attainable yields of varieties with improved resistance to many stresses. The Institute will particularly support varietal improvement through the acquisition, preservation, characterization, evaluation, documentation, and distribution of genetic resources.

Reducing cost of rice production from the national estimate of P12/kg to P7-8/kg will also be given greater premium.

Technologies will be made to address labor intensity, investment costs, and accessibility of inputs or efficiency of input use. Work on water scarcity will be intensified. Pest management diagnostic tools and decision support systems, and user and environment-friendly fertilizer and soil management and information support systems will be developed to reduce production cost.

"There is an urgent need to improve the competitiveness of Filipino farmers by boosting their productivity and reducing costs to pre-ASEAN integration levels," says Flordeliza H. Bordey, PhilRice's acting deputy ED for development.

Improving rice trade

Efficient postproduction, better product quality, and reliable supply and distribution system will optimize rice trade.

> There is an urgent need to improve the competitiveness of Filipino farmers by boosting their productivity and reducing costs to pre-ASEAN integration levels
>
> - DR. FLORDELIZA H. BORDEY

The Institute will help reduce postproduction losses incurred in harvesting, piling, hauling, threshing, drying, and milling from 16% to 10%. It will work harder to increase milling recovery to the ideal 65-70% through improved milling machines.

Adding value to rice

In 2015, the International Food Policy Research Institute reported an alarming global level of hunger.

PhilRice will help reduce hunger and malnutrition, and enhance income through value-adding and increased accessibility and use of rice, and diversified rice-based farming products and by-products.

These products include pigmented rice with high amounts of antioxidants, and micronutrient-dense rice with iron or pro-vitamin A. Research on value-adding technologies will be pursued to improve quality in terms of shelf-life, nutrition, safety, and market value.

Creating supportive policies

Our rice industry will grow under a science-based and supportive policy environment both at the national and local levels. PhilRice and partners will vigorously conduct policy research and elevate their advocacies to influence legislative agenda that will improve efficiency of the rice value chain – from the input sector to production, processing, marketing, and the consuming public.

Farmers' access to high-quality, high-yielding, and climate-resilient rice varieties, with tolerance to stresses and better nutritional and eating qualities will remain as a priority concern.

The PhilRice StratPlan acknowledges that labor cost accounts for 35-40% of total rice production capital. The Institute will help lower this cost by promoting mechanized rice farming while creating safety nets for displaced laborers.

Yield gaps across rice-producing provinces will not be left to widen, to say the least. We will pay closer attention to the uniqueness of the location-specific physical environment, technical and socio-economic preparedness of farmers, and the local rice economy of our target sites. We will endorse pro-farmer policies on credit and insurance.

Rice S&T for sustained growth

Benefits of advanced rice S&T will be optimized as continuing sources of growth. The application of space and information technologies, bioinformatics, automation, robotics, alternative energy, and biotechnology will help better manage the rice crop, increase input-use efficiency, reduce production costs, and limit our carbon footprints.

Partnerships and knowledge management

As an R4D institution, PhilRice highly values partnerships with state universities and colleges, private and civil society organizations, international agri-research institutions, and LGUs especially at this time when R&D is not being given much priority.

A 2014 working paper of the Asian Development Bank stressed that agricultural R&D funding decreased in 1976-2000 owing to the belief that the problem on inadequate food supply has already been solved.

PhilRice's annual budget had been fluctuating until it stabilized to about P200 M in the mid-2000s. The DA-Rice Program's budget for R&D has also been unstable.

These circumstances urge PhilRice to strengthen and widen its network of partner-institutions and further intensify its initiatives in all areas of rice science. It also needs to ensure its responsiveness to their needs.

Strong capability

Competent human resources and enough physical resources will enable us to achieve the outputs, outcomes, and impacts set forth in our strategic plan.

The organization needs a stronger structure supported by a bigger workforce deployed in all its areas of operations. This workforce must be provided with modern tools like ICT-aided operational systems to fulfill their tasks.

Creating impacts

Scientific outputs must be translated into development outcomes. A mechanism dubbed as "rice hub" is needed where we could create impacts on the ground. The rice hub will support farmers in addressing issues from production, to processing and marketing in a resilient and sustainable manner.

Even with hands so full, PhilRice keeps on dreaming big for the country and making them real.

"At PhilRice, we start and end the day with thoughts on how else can we push the Philippine rice industry forward. The 2017-2022 StratPlan serves as our roadmap toward achieving our vision of a rice-secure Philippines" Abdula concludes. ●

CARLO G. DACUMOS

SHARING THE RICE SECURITY VISION

ATI BRINGS EXTENSION TO THE NEXT LEVEL

ANNA MARIE F. BAUTISTA

Research results could be stuck in offices. Piles of scientific reports could collect dust. Researchers will age and die with their untapped knowledge. Breakthroughs and modern rice technologies could never ever reach the rice farmers, without the government spearheading extension services.

If truth be told, our rice extension delivery system is being confronted with recurring issues of fragmentation and decentralization of extension workers. The 13,285 extension workers who are 43 years or older, are too few to cater to the needs of more than two million rice farmers, recent studies attest.

The whole picture calls for specific strategies in bringing the delivery system to the next level to help complete the rice-security puzzle.

Capacitating farmers

In 2016, the DA launched the National Extension Agenda Program (NEAP) and the 2017-2022 Agriculture and Fisheries Extension (AFE) strategic plans in pursuit of the Agriculture and Fisheries Modernization Act.

NEAP mandates the Agricultural Training Institute (ATI) as DA's extension arm. ATI Director Luz Taposok said while the NEAP and AFE plans guide the Institute's policies, the strategies in fulfilling the vision of a rice-secure Philippines are not cast in stone.

The strategies can be boosted by good practices in the rice extension delivery system that can be continued and by reforms that have yet to be instituted to directly address the needs of rice farmers in the coming years.

"In the past, various training programs were conducted for agricultural extension workers (AEWs). Now, the Institute prioritizes the capacity enhancement of farmers. After all, they are the key players in rice production," said Taposok.

Since the Institute seeks to enhance rice farmers' access to knowledge products


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> Now, the Institute prioritizes the capacity enhancement of farmers. After all, they are the key players in rice production.
>
> - ATI DIRECTOR LUZ TAPOSOK


JAYSON C. BERTO

and services, ATI will optimize the use of tri-media to inform more farmers at a faster pace.

"At present, print, radio, and television are still considered the most effective forms of media in reaching the farmers especially those in the rural areas. These will be complemented by the new information systems and methodologies that the Institute is currently exploring," Taposok added.

ATI will also continue localizing, reproducing, and distributing information materials that aim to increase the level of knowledge of rice farmers. It is hoped that increase in knowledge will translate into increase in yield and income.

"At present, the goal of DA to increase our rice production heeds the call for farmers to plant certified seeds. ATI will foster this initiative by training farmers to plant seeds of recommended varieties and hopefully by providing seed starter kits that they can plant," Taposok explained.

The Institute will also intensify its dissemination of other government interventions that can help sustain a competitive and resilient rice production. Details of programs and projects on irrigation systems, financial interventions, and crop insurance must be simplified so that farmers can fully understand and avail themselves of these services, Taposok elaborated.

ATI is pushing for an intensified collaboration with PhilRice and other agencies to identify technologies and innovations that farmers can optimize.

Harmonizing extension services

While the training and education support will shift, ATI will also attend to other needs of AEWs. Dr. Taposok said they are pushing for the increased compensation of AEWs and provision of their proper field equipment. The Institute is likewise addressing their decentralization.

Meanwhile, Renato Dela Cruz, chief of ATI's Partnerships and Accreditation Division, said the Institute recognizes the need to harmonize and coordinate with agencies conducting extension support, in response to the fragmented and pluralistic nature of the delivery system.

"The recently created Agriculture and Fishery Extension Network (AFEN) is composed of the different agencies that have extension functions, including the DA line agencies and bureaus. The regional AFEN consists of the DA-Regional Field Offices, local government units, state universities and colleges, non-government organizations, and private extension service providers," Dela Cruz clarified.

Admittedly, making the country rice-secure is easier said than done. Still, players in the rice extension delivery system are up to juggle strengths and opportunities to raise the bar and effectively bring scientific knowledge and technologies to the ground. ●

PHILRICE PHOTOSTOCKS

BEYOND LABS AND EXPERIMENTAL FIELDS

MYRIAM G. LAYAOEN

Farmers wearing their sweetest smiles after a bountiful harvest bring researchers and development workers back to life, inspiring them not only to develop but also bring more life-changing breakthroughs to the ground.

Through the years, PhilRice has lived up to its commitment to ensure that its products and services rightfully reach their target beneficiaries in partnership with other agencies handling the agricultural extension system like the Agricultural Training Institute. While it proactively develops technologies for farmers, PhilRice plays its part in the rural transformation loop.

Beginnings of R4D

The development initiatives in rice research for development (R4D) during PhilRice's early years (1987-1992) focused on establishing a network of rice trainers. The Local Government Code of 1991 had then just devolved agricultural extension services to the LGUs.

"PhilRice then had no rice production technologies of its own to promote. So, we partnered with DA, IRRI, and state colleges and universities," recalled Dr. Karen Eloisa Barroga, one of PhilRice's pioneer development staffers and former program leader for technology promotion and knowledge management.

Continuing progress in the rice research sector later demanded for on-farm demonstration of certified seeds of newly released varieties and their management, activating the network of rice trainers. Then began

CARLO G. DACUMOS

in 1998 the flagship program of the national government on hybrid rice commercialization.

"With a huge task at hand, we strengthened and tapped our branch stations, and defined their geographical areas of coverage to avoid overlaps in efforts. Each branch station developed its own modalities and strategies deemed appropriate to the culture in the area and the problem at hand," Barroga added.

Dr. Aurora Corales, a community development specialist who was one of the area-based technology promotion project leaders and now interim program leader of rice hub establishment, also recalled, "We used a map to visualize the resources and plan the interventions in our areas of operation. We also pursued strategic partnerships with organized groups of farmers and various stakeholders." Corales was a Civil Service Commission Pag-asa awardee in 2007.

Briefings in the form of rice science and technology updates, training by request, knowledge products, among other tools, were used to support our technology promotion work.

With the voluminous data piling up as products of research in the early 2000s, knowledge had to be managed. The advent of information and communications technology (ICT) created new options for development interventions and hastened knowledge processing, packaging, dissemination, storage, and retrieval.

"ICT as a platform became an integral part of knowledge management and technology promotion. We took advantage of the technology to provide multi-faceted access to information on rice. PhilRice developed its own knowledge bank, introduced the text center as an SMS-based interactive information source, and conducted web-based training through e-learning," said Barroga.

The realization that rice alone may not be sufficient to provide and sustain farmers' needs brought about the two-pronged location-specific technology development for rice (PalayCheck) and rice-based (Palayamanan) production system, providing farmers additional income from livestock and other crops.

Paradigm shift

The more recent and complex challenges confronting the rice industry necessitate significant adjustments in development work. More mouths are to be fed, many of them hungry and malnourished. Climate change and trade liberalization threaten production and marketing. Transformation, not merely transmission, together with a shift to entrepreneurship and diversification, has been the battle cry of the greater agricultural extension agenda.

"This calls for new and more partners – consumers, youth, and other intermediaries from the private sector and academe, among others. We also recognize not just the farmer but the farming community," added Barroga.

The focus now shifts from being production-intensive to a more holistic development of the rice industry to include cultivation, commerce, consumption, and competitiveness in

GERLY D. MARTIN

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RENZ C. DE JOYA

the picture. Development in this facet means human-centeredness, with the farm community's competitiveness, sustainability, and resiliency at the heart of an integrated initiative.

"We are moving toward achieving rice security in the country. That is a very big challenge. We are now attempting to put our efforts together to know our impacts on the lives of our farmers. Each stakeholder must know his/her contribution and give meaning to it," explained Corales on the crafting of new development models and strategies.

Tip-offs

As two of the first persons to get involved in rice R4D, Barroga and Corales could only express optimism on the development framework that PhilRice is now embarking on.

"Development and extension work can easily discourage the faint-hearted because of so many challenges. But a strong sense of mission toward farm community transformation helps you focus," said Barroga.

Meanwhile, Corales regarded commitment as the most important character a development worker should possess.

"When I go to a community, I give myself to it. That's development work. As workers in the ground, we should take the challenge of our job while exploring all avenues to help those in need," declared Corales.

Both lady workers agree that integration of efforts through strategic and transformative partnerships, internally and externally, is vital to achieving more and better results with same or less resources.

With the numerous constraints in our agricultural system, our tall challenge remains: to translate scientific outputs into practical solutions that will benefit humanity. It is not right to allow our R4D-based written outputs to remain forever unread and unmourned. ●

KURU-

IBINAHAGI KAY JAYVEE P. MASILANG

WAGING-WAGI SA TCP

KWENTO NI JALALI "JAL" ISA, 48, MULA SA BONGAO, TAWI-TAWI

Ang pagsasaka ay hindi lamang hanapbuhay. Ito ay isang makabuluhang pag-aaral na talagang hango sa tunay na buhay. Sa hamon ng pabagu-bagong klima at mga magagandang pangako ng mga makabagong teknolohiya, talo ang hindi marunong makipagsabayan.

Simula noong ako'y 20 taong gulang, namulat na ako sa pagsasaka dahil ang aking mga magulang ay mga magsasaka. Pagtatanim ng kamote ang aming ikinabuhay noon sa aming bayan sa Kabasalan, Zamboanga Sibugay. Hindi naglaon ay nakipagsapalaran akong lumipat sa Bongao noong 1990. Sa Tawi-Tawi na ako bumuo ng sarili kong pamilya.

Taong 2000 nang magsimula kaming magtanim ng *cassava* at saging ng aking maybahay sa lupang bahagi ng Sanga-Sanga Airport na ipinahihiram lang sa amin. Sadyang mahirap ang pagsasaka noong una dahil kami ay nangangapa pa. Dahil dito nagkasakit ang aming mga tanim at nasalanta ng mga peste.

Simula ng pagkatuto

Noong 2013, ako ay napabilang sa Technical Cooperation Project (TCP 5) ng Japan International Cooperation Agency (JICA) sa tulong ng PhilRice at ng lokal na gobyerno ng Tawi-Tawi. Sa pangunguna nina Sherwina Lukman at Zaldy Amilassan, mga *agricultural development officers*, natuto kaming magtanim ng *cassava* at mga gulay nang tama at mag-alaga ng mga hayop.

Sabik talaga akong matuto kaya sinubukan ko agad ang bawat itinuro sa amin sa TCP 5. Tumatak sa isip ko ang itinuro tungkol sa tamang pagpapataba dahil ito ay isa sa mga hindi ko pa nasubukan noon. Nakita kong gumanda ang tubo ng aking mga tanim dahil sa tamang pagpapataba. Sa ngayon, gumagamit pa rin ako ng 14-14-14 o *Complete* para sa aking mga pananim dahil sa magandang resulta nito.

Natutuhan din namin ang mga natural na paraan ng pamamahala ng mga peste sa bukid. Nasubukan naming magdikdik ng sili, sulasi (*basil*) at tanglad. Ihinalo namin ito sa tubig na may sabon at inispray sa mga dahon at bunga ng aming mga tanim. Masasabi kong mabisa ang paraang ito. Madalang na akong makakita ng mga pinesteng pananim ko.

Bunga ng pagkatuto

Maituturing na biyaya ang pagkakaroon ng dagdag na kaalaman. Habang ang mataas na ani at kita ay sobra-sobrang biyaya na dapat talagang ipagpasalamat. Dati, ako ay kumikita ng P5,000 kada anihan sa *cassava*. Ngayon, mahigit P10,000 na. Mula naman sa inaani kong pechay, kumikita ako ngayon ng P15,000 mula sa P5,000. Sa ampalaya naman ay kumikita na ako ngayon ng dagdag na P20,000 kada anihan sa aking dating kita na P10,000.

Mula sa proyekto, nabigyan kami ng alagang hayop na hanggang ngayon ay aming napakikinabangan. Noong una ay nabigyan ako ng dalawang kambing at 2 manok. Naparami ko ang mga ito at ako'y may limang kambing na at mahigit na 30 manok. Nabigyan din ako ng isang baka na nagkaroon ng isang anak. Naibenta ko ang isang baka kamakailan lang sa halagang P30,000.

SAKA

Lubos ang aking pasasalamat sa magandang kita. Malaki ang naitulong nito sa aming pamilya. Dahil dito, nakapagpatapos na ako ng isang anak sa pagkaguro samantalang nasa Grade 10 naman ang aming bunso.

Nakapagpatayo na rin kami ng sarili naming bahay. Nakabili rin kami ng *tricycle* na pinangsusundo at pinanghahatid namin sa aming anak sa paaralan. Pinampapasada rin namin ito kapag walang masyadong gawain sa bukid. Dagdag kita rin ito habang hinihintay namin ang anihan.

Waging-wagi talaga ako sa TCP 5. Marami talaga akong dapat ipagpasalamat ngunit ang pinakamagandang nangyari sa aking buhay ay napagtibay nito ang aking pamilya. Sama-sama kaming gumagawa ng mga gawaing bukid. Ang aking maybahay ay naglilinis sa bukid samantalang ang aking dalawang anak ang nakakasama ko sa pagpapataba at pamamahala ng peste.

Patuloy na pag-aaral

Hindi natapos sa TCP 5 ang aking pag-aaral. Laking pasalamat ko rin ang pagpili sa akin bilang *farmer-cooperator* dito sa aming lugar. Nagagawa kong ituro sa kapwa ko magsasaka ang mga magagandang naidulot sa akin ng TCP 5. Nagsasagawa rin kami ng mga seminar dito mismo sa aming bukid upang maibahagi sa ibang mga magsasaka ang mga pamamaraan at teknolohiya na angkop sa aming lugar.

Mula sa aking karanasan sa TCP 5, dinala ako sa isang napakaluntiang tanawin ng aking mapagtanong at bukas na kaisipan. ●

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KURU-

IBINAHAGI KAY ASHLEE P. CANILANG

MATAAS NA ANI HATID NG LSTD

SALAYSAY NI RICARDO GONZALES, 59, TAGA CASIGURAN, AURORA

Kuntento na ako dati sa kung ilan ang maani ko sa aking tatlong ektaryang palayan. Basta mabawi lang ang puhunan at may matirang pangkain at panggastos sa bahay, ok na sa akin. Pero mas madalas hindi ito naging sapat.

Nakasanayan ko nang umani ng 50-60 kaban sa isang ektarya sa Brgy. Calantas; 70-80 kaban sa Brgy. Culat; at 50 kaban sa Brgy. Esperanza. Mula sa kaunting ani at malaking gastos sa pagsasaka, kulang talaga ito para itaguyod ang aking pamilya.

Para sa pamilyang salat sa yaman, isang sugal ang baguhin ang mga nakagawian lalo na sa pagsasaka sa loob na ng 40 taon. Naging bahagi ako ng Location-Specific Technology Development (LSTD) Program ng PhilRice at ng lokal na Kagawaran ng Agrikultura sa Casiguran. Hinikayat kaming mga magsasaka na sundin ang *PalayCheck System* noong 2010 pa, pero hindi naging madali ang pagtanggap namin nito. Sa kabila ng aking agam-agam, sinubukan ko pa rin ang *PalayCheck* sa aking sakahan sa Calantas. Ikinagulat at ikinagalak ko ang naging resulta ng pagsunod ko sa *PalayCheck*— nakatipid ako sa gastos at oras. Hindi ko ito pinagsisihan.

Gawaing uulit-ulitin

Isang malaking *check* para sa *PalayCheck*. Naitama nito ang mga maling nakagawian ko sa pagsasaka.

Noon, ok na sa akin ang mga naitabi kong binhi noong nakaraang anihan. Kung kinulang naman ako sa binhi, hihingi lang ako sa mga kapwa ko magsasaka. Pare-pareho ang mga gawain namin.

Dahil sa *PalayCheck* at sa tulong ni Mark Angelo Abando, isang *rice sufficiency officer* ng PhilRice, nalaman ko na mas mainam gumamit ng *certified seeds*. Batid ko na mas mahal ito kaysa sa dati kong ginagamit na mga binhi subalit dahil sa mataas na kalidad nito, walang lugi. Sulit pa rin.

Maliban sa pagpili ng binhi, nabago ko rin ang nakagawian ko sa paghahanda ng punla. Dati, inaabot kami ng isang buwan bago itanim ang mga punla sa sakahan. Kahit pala 16 na araw lang ang gulang ng punla o mas bata nang kaunti, mas mainam pa rin dahil naging mapipintog ang mga ito kapag lumaki. Marami pang suwi.

Dati-rati, ang *topdressing* (huling pag-aabono) ay ginagawa ko 60 araw pagkatanim. Pero ngayon sinusunod ko na ang payo ng *PalayCheck* na mag-*topdress* 30 araw pagkatanim. Nakatipid na ako sa oras at sa pagpapatrabaho, may naitatabi pa akong ekstra na pera.

Sinuwerte sa LSTD

Bunga ng aking masigasig na pagsunod sa lahat ng aking mga natutuhan mula sa LSTD program, tumaas ang ani ko. Umaani na ako ngayon ng 80-100 kaban sa Calantas, 100 kaban sa Esperanza, at 100-120 kaban sa Culat.

Bagamat medyo mababa ang presyo ng palay dito sa Casiguran, bawing-bawi

SAKA

> Naniniwala ako na kapag ipinagpatuloy at ipinag-ibayo ko ang aking ginagawa ngayon sa pagsasaka, makakayanan kong maitaguyod ang pag-aaral nilang dalawa. Sisikapin kong bigyang katuparan ang aking mga pangarap na nagsimula lamang sa pagsali ko sa LSTD Program.
>
> **- RICARDO GONZALES**

pa rin ako sa kita dahil sa pagtaas ng ani ko. Napagtagumpayan ko ang pagtaas ng aking ani dahil sa LSTD ngunit wala nang hihigit pa sa tagumpay na mapaaral ang mga anak ko. Napagtapos ko sa kolehiyo ang tatlo sa siyam kong anak. Ang dalawa sa kanila ay may magagandang trabaho sa Maynila. Mayroon din akong anak na naging guro. May dalawa pa akong pinag-aaral ng high school.

Naniniwala ako na kapag ipinagpatuloy at ipinag-ibayo ko ang aking ginagawa ngayon sa pagsasaka, makakayanan kong maitaguyod ang pag-aaral nilang dalawa. Sisikapin kong bigyang katuparan ang aking mga pangarap na nagsimula lamang sa pagsali ko sa LSTD Program.

Ngayon ay aktibo akong nakikilahok sa iba't-ibang pagpupulong ng mga magsasaka sa aming bayan. Hindi ako mapapagod matuto at magbahagi ng aking karanasan at natutuhan sa ibang mga magsasaka dahil sa paraang ito, napasasalamatan ko ang gobyerno sa kanilang tulong na mapaganda ang aking buhay. ●

ASHLEE P. CANILANG

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